TWO ASPECTS OF EMPATHIC AWARENESS IN YOUNG CHILDREN: AFFECTIVE AND COGNITIVE ROLE - TAKING

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ABSTRACT

TWO ASPECTS OF EMPATHIC AWARENESS IN YOUNG CHILDREN: AFFECTIVE AND COGNITIVE ROLE-TAKING

By

Lisa Bernadette Partyka

The present study was concerned with the phenomenon of empathic awareness as it is exhibited by young children. Affective and cognitive role-taking were proposed as two components of empathic awareness and were defined respectively as the ability to identify the affective reaction of another and the ability to explain the reasons for the affective reaction. The Affective-Cognitive Role-Taking Task and the Cognitive Inference Task were designed by the author to measure affective role-taking and two levels of cognitive role-taking (simple and complex). Hypotheses concerned the relationship of empathic awareness to age and intelligence, the possibility of sex differences, intercorrelations among the measures, and the effects of type and appropriateness (to the situation) of affects on affective role-taking.

Sixty-seven children between the ages of 3 and 6 who were American born and who had English as the only language spoken in their home were administered the role-taking tasks and a picture

vocabulary test. Statistical analyses demonstrated the expected positive correlation between age and all three measures of empathic awareness. When the total sample was considered, intelligence (defined as mental age level) was positively related to all three measures, thus supporting the hypothesis. However, when age groups were examined separately, the correlations decreased and presented a variable pattern: affective role-taking was not significantly correlated with intelligence for any of the age groups, simple cognitive role-taking was positively related to intelligence for the 3 year olds, and complex cognitive role-taking correlated positively with intelligence for the 4 and 5 year olds. While no sex differences were expected for any of the measures nor for intercorrelations among them, females performed better than males on the simple cognitive role-taking measure and males showed a stronger correlation between age and the complex cognitive role-taking measure.

Intercorrelations among the measures revealed significant correlations between affective and simple cognitive role-taking for the 3 and 4 year olds, a significant relationship between simple and complex cognitive role-taking for the 4 and 5 year olds, and non-significant correlations between affective and complex cognitive role-taking for all age groups. These results provided partial support for the proposed hypotheses. Tests on the type and appropriateness of affect dimensions of the affective role-taking measure demonstrated easier identification of positive affect (when compared to negative affect) and no difference in the identification of affects that were

common to the situation and those that were uncommon; these results supported the relevant hypotheses.

The findings were interpreted as demonstrating non-egocentric qualities in the young child's ability for empathic awareness. That is, the young child was found to exhibit an awareness of the different affective reactions of others; difficulty in identifying and explaining feelings seemed to come from unfamiliarity with the type of affective reaction rather than from the egocentric stance that others react as the self does. The role that language ability has played in measuring egocentrism in past studies of interpersonal role-taking was discussed and the need for a more precise definition of egocentrism was emphasized. Overall, the results were thought to uphold the notion of decreasing egocentrism in the 3 to 6 year old period since empathic awareness increased steadily over this age range. The instruments used in the study were evaluated and ideas for future research were proposed.

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By

Lisa Bernadette Partyka

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To Mom and Dad

For your encouragement throughout the years

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INTRODUCTION

The present study focused on the phenomenon of empathic awareness as it is exhibited by young children. Empathic awareness can be defined as a sensitivity to the feelings and thoughts of another. This sensitivity includes recognition and understanding of the thoughts and feelings of another so that the empathically aware child can be said to "know" and sometimes "feel" the emotional states of others.

This study was aimed at investigating two aspects of empathic awareness in the young child. These two aspects were defined as two types of role-taking ability and were labeled (by the author) affective and cognitive role-taking respectively. Affective role-taking was operationally defined as the child's ability to identify the affective reaction of characters in stories, while cognitive role-taking was defined as the child's ability to explain the reasons for the character's affective reaction. The study used the term "role-taking ability" because the capacity for empathic awareness is thought to depend upon the child's ability to take the role of the other both affectively and cognitively within an emotion producing situation.

This study explored the developmental changes and possible sex differences in these role-taking abilities across the 3 to 6 year age range. Also, intercorrelations between these two types of role-taking abilities and a possible relationship with intelligence were part of the investigation. In short, the quality and degree of

empathic awareness in the child as related to age, sex, and intelligence were the main objects of inquiry.

Research on Empathic Awareness in Children

A child's sensitivity to the feelings of another has been investigated under a variety of labels: empathy (Borke, 1971, 1973; Burns and Cavey, 1957; Cohen, 1973; Dymond, et al., 1952; Feshbach and Roe, 1968; Walton, 1936); apperceptive reaction (Amen, 1941); awareness of affect (Brandt, 1972; Gilbert, 1969); emotional sensitivity (Cheyne and Jahoda, 1971); social sensitivity (Rothenberg, 1970); social perception (Gates, 1923); and interpersonal perception (Borke, 1971).

This diversity of labels reflects the differences in focus and methodology which characterize the research. However, all of the studies have investigated some aspect of the child's interpersonal sensitivity. The majority of studies have limited themselves to measuring the child's ability to label emotional states produced either in himself or in a stimulus character within stories, pictures, or dialogue (Borke, 1971, 1973; Brandt, 1972; Burns and Cavey, 1957; Cheyne and Jahoda, 1971; Cohen, 1973; Dimitrovsky, 1964; Feshbach and Roe, 1968; Gates, 1923, 1927; Rothenberg, 1970; Ruckmick, 1922). Several studies have gone further in assessing the child's understanding of the reasons for the affective state (Dupont, 1959; Dymond, et al., 1952; Flapan, 1968). The present study incorporated both aspects of past research in that the child was asked to identify and explain the reasons for the affective state produced in story characters.

The kinds of stimuli which have been used in past research are illustrated by the following variations. Some of the earliest studies (Gates, 1923, 1927; Ruckmick, 1922; Walton, 1936) used the identification of emotion in faces as an index of affect awareness. Later studies presented pictures of situations in which affect was either clearly or ambiguously portrayed by the character and implied by the elements of the situation (Amen, 1941; Burns and Cavey, 1957; Dymond, et al., 1952; Feshbach and Roe, 1968). Still another method was the verbal description of situations through prose or dialogue, either alone or accompanied by a picture (Borke, 1971, 1973; Feshbach and Roe, 1968; Rothenberg, 1970). The detection of emotion in voices was likewise researched (Cheyne and Jahoda, 1971; Dimitrovsky, 1964; Gates, 1927). Two additional procedures were the use of affect rating scales and affect tests (Gilbert, 1969) and the pairing of emotion adjectives to lines (Walton, 1936).

An overall analysis of the methods used to assess affect identification shows that studies have generally differed in their emphasis on visual and auditory perception or on conceptualization. Subjects have been exposed to such perceptual cues as facial expression, body posture, tone of voice, and action in a situation. In other studies, subjects have been asked to comprehend a verbal description of a situation. The differences in methods point to two facts: first, that different cognitive processes are being used (perceptual or conceptual), and second, that the results of the studies are influenced by the ease with which different cues can portray specific affective states. In the present study, both perception and conceptualization

were used; subjects listened to stories and were aided somewhat by the perceptual cues provided by the pictorial scene, by the tone of the dialogue, and by the body posture of the characters in the scene. However, performance relied most heavily on comprehension of a verbally described situation since direct perceptual cues were minimal.

Another variation in past research is shown by the several different ideas about the nature or essence of empathy. Some researchers have used the words empathy and affect awareness interchangeably, while others have held clearly to a distinction. There have been primarily three different ways in which empathy has been conceptualized. First, empathy has been argued to exist only when there is a vicarious emotional response. Feshbach and Roe (1968) hold to this idea and argue that social comprehension may be a prerequisite for empathy but it is not a sufficient condition for empathy. The second view regards empathy as an awareness of the affective state of another without sharing the same emotion. Most of the research falls in this second classification despite the semantic label used. The present study also falls in this second category since the subjects were asked to identify the feelings of story characters. A third view considers empathy to be primarily a cognitive ability to predict someone else's responses on a test instrument. Dymond (1948, 1949, 1950) defined empathy in this cognitive sense and related its presence in an individual to certain personality traits.

Past research on empathy has been predominantly concerned with age changes in this ability and with correlations with other personality characteristics. Consistently, a positive relationship between age and

empathic ability has been demonstrated for children in the 3 to 14 year old age range. Gates (1923, 1927), Amen (1941), Burns and Cavey (1957), Gilbert (1969), Borke (1971, 1973), and Cohen (1973) included children as young as 3 or 4 in their studies and observed an increase in empathic ability with increasing age. Dymond, et al. (1952), Dupont (1959), Rothenberg (1970), and Cheyne and Jahoda (1971) used children somewhat older (range of 5 to 14) and also found an increase in empathy with age. In the present study using young children, degree of empathic awareness (both affective and cognitive role-taking) was expected to increase with age.

The findings for sex differences in empathic ability have been contradictory. Some studies have shown girls to be more empathic than boys (Borke, 1973; Cohen, 1973; Dimitrovsky, 1964), while other studies have found no sex differences (Borke, 1971; Cheyne and Jahoda, 1971; Rothenberg, 1970). An interaction of sex of subject with sex of stimulus was noted by Feshbach and Roe (1968) and an interaction of sex and age of subject was demonstrated by Gates (1923) and Gilbert (1969). The subjects for the present study came from a nursery school and kindergarten population; since the socialization and educational experiences provided by these institutions may tend to eradicate sex differences, no sex differences in empathic awareness were expected.

Empathic ability has shown a positive correlation with intelligence in most studies. The recognition of emotion in a voice was positively related to both verbal and non-verbal intelligence in Cheyne and Jahoda's (1971) study, but the correlations decreased with age. At the 6 year old level, the investigators found nonverbal intelligence to

be more highly correlated to success on the empathy task than was verbal intelligence. However, Dimitrovsky (1964), originating the method that was later used by Cheyne and Jahoda, found that empathic ability was positively related to verbal intelligence in children of this age (6 years). Rothenberg (1970) detected an age and I.Q. interaction in her sample such that for 3rd graders nonverbal intelligence correlated with social sensitivity and for 5th graders verbal intelligence was positively related to this measure. Gilbert (1969) found no correlations between affect awareness and either an estimated I.Q. or verbal concept score from the WISC Vocabulary subtest. In the present study, both affective and cognitive role-taking were expected to correlate positively with intelligence. This correlation was expected because the intelligence measure that was used is also an assessment of receptive language and is thought to give some indication of the child's ability to understand words that are frequently used in social communication--a skill that may be closely related to the ability to understand the thoughts and feelings of another.

Empathic ability has also been found to correlate positively with interpersonal adjustment (Rothenberg, 1970), active consideration for others in boys (Cohen, 1973), social insight (Dymond, et al., 1952), and such personality traits as maturity, expressiveness, and imagination (Gilbert, 1969). Class (confounded with ethnic) status was related to affect awareness in Gilbert's study (1969); middle class (Jewish) children were more aware of affect than lower class (Gentile) children. Gilbert also demonstrated an interactive effect of class with ordinal position in family; in her Jewish sample first-borns were more aware of

affect than later-borns. Stotland, et al. (1971) have proposed that the relationship of the observed person to the subject who is empathizing has an effect on the subject's ability to empathize. For example, they noted that later-borns (when compared to first-borns) tend to empathize better with persons who are similar to themselves or who have interacted with them.

Piaget's Concept of Egocentrism

Most studies on the development of empathy in children have merely concluded that social awareness increases with age. However, several have been explicit in linking the relatively poor interpersonal skill of the young child (when he is compared with the older child) to the egocentric quality of the young child's thinking during this age period (Burns and Cavey, 1957; Gollin, 1958; Flapan, 1968). The young child has been described as unable to put himself in the shoes of the other and as consequently deficient in understanding and communicating the perspective (thoughts, feelings, ideas, etc.) of the other.

Egocentrism is a quality of thought that is said to exist throughout childhood (Flavell, 1963), and perhaps during the entire life span (Looft, 1972). Simply stated, egocentrism is an "embeddedness in one's own point of view." While the nature of the embeddedness is different with each new intellectual stage, egocentrism manifests itself as lack of differentiation in some area of subject-object interaction (Elkind, 1970). Although its existence is perennial during childhood, it is also proposed to ebb and flow with passage from one developmental stage to another. That is, there is a surge of egocentrism at the beginning of each new intellectual stage and a decline as the stage is

being traversed and another stage is being approached. At the following transition point, there is again a burst of egocentrism, but of the kind that is to characterize the new developmental stage.

Since egocentrism changes character with each stage of intellectual development, it will be discussed as it is manifested in each stage. In the sensory-motor stage of intellectual development (0-2), the infant does not differentiate between the object and his experience of it. That is, he does not think the object exists when it is out of his view--when he is not experiencing it. The major cognitive task of this stage (as described by Elkind, 1970) is the conquest of the object. By use of the symbol (or mental representation), the infant realizes that the object has an existence of its own. The object is seen as existing externally to and apart from the infant when it can be kept in his mind by a mental representation.

The major cognitive task of the pre-operational period (2-6) is the conquest of the symbol. While the child entering the pre-operational stage is capable of using the symbol, he fails to differentiate between the symbol and its referent. He thinks that the name (symbol) inheres in the object (referent) and that the symbol does not have an existence apart from that referent. At this stage the child thinks that an object cannot have more than one name, i.e., an object cannot belong to more than one class of things. Also, the child assumes that words carry much more information than they actually do, so his explanations of situations, objects, etc. are often vague and imprecise. It is for this reason that the child is said to be unable to take the view of another; he does not seem to take into account the perspective of the

other and to give adequate information to the other. An additional characteristic of this period is the dominance of perceptual processes over conceptual ones. The child remains fixed on single (salient) perceptual characteristics of an object or situation and does not notice, or at least does not consider, other less salient characteristics which would provide a more accurate understanding of the object or situation. Toward the end of this intellectual stage, the child becomes capable of holding two perceptual properties in his mind at the same time and of attempting to reason about the nature of what he is seeing or experiencing, e.g., conservation tasks. It is the egocentrism of the pre-operational period that was of interest in the present study.

During the concrete operational stage (7-11), egocentrism manifests itself as a lack of differentiation between assumption and fact. While the concrete operational child can formulate hypotheses and explanations, he fails to distinguish between what he thinks and what the empirical facts are. While the major cognitive task of this period is to master classes, relations, and quantities (according to Elkind, 1970), it would also seem that the concrete operational child still needs to differentiate between the factual evidence and hypotheses.

The major cognitive task of the formal operational period (11-15) is the conquest of thought. The early adolescent is capable of conceptualizing his own thought and of creating contrary-to-fact propositions. Flavell (1963) uses the term "naive idealism" to describe the early adolescent's tendency to reshape and rethink reality without

proper regard for the impracticability of his proposals and for the powerlessness of his thought to effect such changes. The egocentrism of the formal operational period is manifested most blatantly by a failure to differentiate between what others are thinking and what the early adolescent is concerned with. For example, it is typical for the early adolescent to think that others are as preoccupied with his appearance and behavior as he is himself.

Borke's Challenge

The concept of egocentrism with regard to the pre-operational child was challenged by Helene Borke (1971, 1972) when she found that children as young as 3 or 3½ could correctly identify the affective reactions of children in stories at better than chance expectancy. Borke presented 3 to 8 year old subjects, divided into 6 month groupings, with stories in which child characters were made to feel happy, sad, angry, or afraid. The subjects were asked to predict the affective reaction of the characters by pointing to faces depicting the four emotions. Borke found that 3 to 3½ year old subjects could accurately predict the emotions of "happy," "sad," and "angry" at better than chance expectancy, while it was not until 3½ to 4 that subjects met this criteria for the afraid feeling. Borke questioned the notion of the total egocentrism of the child at this age since even her youngest subjects showed an awareness of the affective reactions of others.

Borke's challenge to the notion of egocentrism in the young child did not go unanswered; Chandler and Greenspan (1972) published a reply in the same journal a year later. These authors criticized Borke's study on the grounds that she did not make a clear distinction

between non-egocentric and egocentric thought. They defined non-egocentric thought as the "ability to anticipate what someone else might think or feel precisely when those thoughts and feelings are different from one's own" (p. 105). They suggested that Borke's study might have been measuring egocentric thought in that the subjects may have been giving their own affective reactions to the stories and that projection or sterotyping may have produced the correct results.

The controversy between Borke and Chandler and Greenspan raises some interesting questions about the nature of egocentrism for the pre-operational child. Also, it highlights the question of how to measure egocentrism for the child of this age.

While egocentrism is primarily a quality of thought, it is said to pervade all areas of the child's functioning, so that the child thinks, speaks, perceives, behaves and perhaps feels egocentrically. The child is said to be tied to his own point of view; thus he operates purely from his own perspective. Flavell (1963) has described this state and stage of egocentrism in the following words:

> The young child is . . . the unwitting center of his universe. Only his own point of view--his schemas, his perceptions, etc.--can really figure in his various activities, since he is unaware that others see things differently, i.e., that there are points of view of which his is only one (p. 274).

Further, Flavell (1963) adds that it is social interaction which provides the impetus for overcoming egocentrism:

> One of Piaget's firmest beliefs, repeated over and over in scores of publications, is that thought becomes aware of itself, able to justify itself, and in general able to adhere to logical-social norms of noncontradiction, coherence, etc., and that all these things and more can emerge only from repeated interpersonal interactions (and especially those involving arguments and disagreements) in which the child is

> actually forced again and again to take cognizance of the role of the other. It is social interaction which gives the ultimate coup de grace to childish egocentrism (p. 156).

From Flavell's words it would seem that the pre-operational child is limited both by his immature cognitive capacities and by his lack of social experience. Thus, he is egocentric. As mentioned previously, this egocentrism manifests itself in all areas of the child's functioning (since they are based on the child's thinking)--perceptual, conceptual, and affective. Questions raised by Borke's and Chandler and Greenspan's argument with regard to the egocentrism of this age child are: How is egocentrism manifested in each of these areas separately, i.e., perceptual, conceptual, and affective? Further, is the child equally egocentric in all of these areas, or is the child more capable of taking the role of the other in one or another of these spheres? Finally, is it reasonable to make the blanket statement that a child is or is not egocentric without qualifying the degree of egocentrism in each of the areas?

Before these questions can be answered, it is necessary to decide upon the criteria for non-egocentrism. The query becomes: What thoughts, behaviors, etc. must be manifested by a child before he is said to have successfully overcome egocentrism and to show non-egocentric functioning? In short, when is a child non-egocentric? This question is relevant to deciding upon the best possible measure for differentiating egocentrism from non-egocentrism. Also, it is essential to answering the controversy posed by Borke and Chandler and Greenspan.

When Chandler and Greenspan responded to Borke's challenge, they included a study of their own which purported to uphold the concept of

egocentrism in the pre-operational child. Chandler and Greenspan asked their subjects (6 to 13 years of age) to view three cartoon sequences involving a character in an affect-producing situation. The subjects were then requested to identify the resultant affect in the character. Sequels to the initial cartoon sequences were next presented. In these sequels, the character, having been joined by a second child, was depicted as behaving in a way that was congruent with his previously induced affective state but which was incomprehensible to the late-arriving child who had not witnessed the earlier preceding situation. The subjects were then asked to relate the story first from their own viewpoint and then from the viewpoint of the second child. As expected, almost all children correctly identified the affective state of the first character but they varied according to age in their ability to differentiate their own point of view from the viewpoint of the late-arriving child. The authors cited an 85% error level in 6 year olds and a 4% error level in 13 year olds.

In order to perform successfully on their cognitive egocentrism task, Chandler and Greenspan's subjects had to put aside information from their own viewpoint and to shift to the perspective of the late arriving child who had less knowledge than they. The task truly seemed to create a situation in which the salience of the child's own viewpoint was put to the test. If egocentrism is defined primarily as an inability to make this kind of shift, and if the criterion for non-egocentrism would be success in making this type of perspective change, then the pre-operational child would definitely be called egocentric. Accordingly, the answer to the earlier questions posed would be that while the child

may show increasing and varying ability in the perceptual, conceptual, and affective spheres during the early preschool years, his functioning is still predominantly egocentric. However, contending that the child remains egocentric until well into the middle childhood years does not rule out the value of investigating the process of decreasing egocentrism (or growth toward non-egocentrism). Also, it does not rule out the possibility that the child can make perspective shifts (or efforts toward them) in the perceptual, conceptual, and affective spheres. The complexity of the shift would seem to determine success in making it.

Chandler and Greenspan's task was more complex than Borke's. Thus, taking the role of the other was more difficult in Chandler and Greenspan's experiment than in Borke's. From this fact alone, it may be concluded that children were quite capable of the skill measured in Borke's study while they were still developing the ability that was of interest to Chandler and Greenspan.

Looking at the two studies more closely, it becomes evident that Chandler and Greenspan included a shift in perspective and measured the child's ability to state this perspective difference verbally. In contrast, Borke did not build in a necessary perspective change and she measured the child's understanding by a nonverbal method of pointing to the correct answer. Even though children in Borke's study may have used the words happy, sad, angry, or afraid to state their answer, this process of labeling is not as difficult as Chandler and Greenspan's requirement of giving verbal descriptions of another's viewpoint.

Rationale for the Present Study

The difference in Borke's and Chandler and Greenspan's methodologies, and in their resultant controversy, points to the fact that these investigators were assessing skills that differed in their complexity and which therefore would be expected to have different developmental timetables. Also, the studies reveal that the young child may be capable of early non-egocentric interpersonal skills that precede the complete passage of egocentrism.

Traditionally, studies on egocentrism have used subjects in the middle childhood range, since the younger child was thought to be pervasively egocentric, and it was during middle childhood that he showed a marked change in this quality. However, more recently, several researchers (Selman, 1971; Shantz and Watson, 1971) have turned their attention to the preschool era and have attempted to assess the degree of egocentrism and the process of decreasing egocentrism during this time. Borke's study could also fall in this category since she investigated an interpersonal skill that indicated some degree of perspective awareness.

The issue of the young child's capacity for role-taking (as a measure of egocentrism), which was highlighted by Borke's and Chandler and Greenspan's controversy and by the more recent studies using preschool children, was at the heart of the present study. The research design to be presented was aimed at investigating the young child's capacity for role-taking in the affective sphere (labeled empathic awareness). The study contained several unique features which are proposed to correct criticisms of past research and to present a

methodology which is appropriate for studying role-taking in the 3 to 6 year old child. (These features will be described briefly at this point and will be explained in more detail in the next two sections of the introduction when related hypotheses are presented.)

The present study proposed affective and cognitive role-taking as two aspects of empathic awareness. Affective role-taking referred to the child's ability to understand the affective reaction of another, while cognitive role-taking reflected his ability to state the reasons for the affective reaction. The affective role-taking measure was identical to Borke's task. That is, the child was presented with a story of a character in an affect-producing situation (accompanied by a picture) and was asked to indicate the affective reaction of the character by pointing to a happy, sad, angry, or afraid face. The cognitive role-taking measure was somewhat similar to Chandler and Greenspan's task in that the child was asked to state the reasons for the affective reaction (the viewpoint) of the character. Both of these measures were included because they were thought to represent two slightly different levels of complexity, viz. understanding and expression, in cognitive role-taking skill. Also, they incorporated both of the skills measured separately by Borke and Chandler and Greenspan.

The present study also included another feature which was aimed at correcting for Chandler and Greenspan's criticism of Borke's study. That is, a shift in perspective was built into the present tasks so that a subject was asked to identify and explain two different affective reactions (of two characters) within the same scene. Initially, the child was requested to give his own affective reaction to the situation

(so that his own reaction could become salient) and then he was presented with the different affective reactions of two characters. This shift in perspective was incorporated to measure the child's ability to identify and explain a reaction different from his own. Chandler and Greenspan criticized Borke's study on the grounds that the child might have been giving his own reaction. Further, they stated that egocentrism can only be measured when the perspective of another is different from one's own. Overall, the inclusion of this shift intended to present a task that more accurately measured role-taking skill (and level of egocentrism), since the ability to make a perspective shift is the essence of role-taking.

The Concept of Decreasing Egocentrism

As mentioned above, several studies, focusing on the role-taking ability of the preschool age child, have attempted to delineate the process by which the yound child progresses on the road toward non-egocentrism. These studies have described the steps of decreasing or waning egocentrism (each step itself being a measure of egocentrism).

From studying perceptual and conceptual role-taking in 4, 5, and 6 year old children, Selman (1971) proposed a 4 level progression in the manifestation of this skill over this age range. He maintained that initially the child is not aware of perspective differences. The child then realizes that differences exist but does not think that he can know another's perspective. The next step is also a realization of a difference, but the child attributes his own perspective to another by reasoning that the other thinks as he does. Finally, the child makes an attempt to predict the different perspective of the other while

simultaneously realizing that he may be in error. Selman added that his subjects were more successful at perceptual role-taking than at conceptual role-taking, suggesting that skill in these two areas may not develop commensurately.

Shantz and Watson (1970, 1971) also proposed a step-wise process in the development of accurate perceptual role-taking. Their steps are quite similar to Selman's. Initially, the child has no awareness of visual perspective differences. Then the child recognizes that things look different from different positions, but he has no specific expectancies as to how they should look; they are merely same or different. Thirdly, the child can predict one-to-one spatial relations but he does not organize objects into an integrated spatial framework until he has reached the next stage of development.

Just as Selman's and Shantz and Watson's studies attempted to delineate the perceptual and conceptual role-taking capacities of the young child, so too the present study focused on an assessment of the capabilities of the young child with regard to affective and cognitive role-taking (as components of empathic awareness). Rather than ask a blanket question as to whether the young child <u>is</u> or <u>is not</u> empathically aware, a more reasonable inquiry would be to ask in what ways is he empathically aware or how empathically aware is he. Specific to the present study were such questions as: Is the young child merely aware in the sense of being able to identify (label) the affective reaction of another? Or is he aware also in the sense of being able to understand and in addition explain the reasons for the affective reaction?

Both of these questions point to the two types of role-taking ability posited for investigation in this study. The first question refers to affective role-taking and reflects the child's capacity to put himself in the shoes of the other affectively and to know how the other is reacting (along this dimension). This measure was purposely limited to merely identifying the affective reaction, for some young children may be capable of comprehending feelings without being able to explain (in words) the reasons for the feelings. The analogy of an aphasic individual who understands but who cannot express himself verbally can be cited to illustrate this point. The use of a nonverbal method of pointing to the proper affective reaction (depicted by different faces) was aimed at minimizing the verbal requirements of the affective role-taking task. The second question refers to the cognitive role-taking measure which assessed the child's ability to express verbally his understanding of the thoughts and feelings of another.

Empathic awareness was divided into these two types of role-taking abilities for several reasons. First, these abilities are thought to be somewhat distinct although related. Second, it is quite likely that these abilities emerge at different times developmentally. That is, affective role-taking (as defined in this study) may be an earlier and more rudimentary ability than cognitive role-taking (also as defined in this study). Third, studies of interpersonal role-taking have traditionally relied heavily on language ability and it is thought that this emphasis has confounded interpersonal awareness or understanding with verbal expression and has not allowed for an assessment of the young child's more primitive role-taking capabilities in the interpersonal

sphere. The division into the two types of role-taking ability in the present study was thought to provide a method and conceptualization which are more suitable for assessing the capabilities of the young child than has been possible in many previous studies on interpersonal role-taking.

While affective and cognitive role-taking, as defined in this study, were distinct abilities, the were related. Both were based on an understanding of the thoughts and feelings of another. They required different language functions in that cognitive role-taking demanded facility with language expression for successful performance. In contrast, affective role-taking relied only on receptive language since the subject was required to merely point to his answer (the affective reaction).

This factor of language skill which differentiated the two tasks was expected to produce a modification of the relationship between affective and cognitive role-taking for the three age groups. That is, affective and cognitive role-taking were expected to be positively related for the 4 and 5 year olds, but not for the 3 year olds. It was thought that more 4 and 5 year olds would have sufficient capacity for language expression to perform equally well (or poorly) on the two tasks, while 3 year olds would show more variability in their performance. The 3 year olds with good language expression skills would probably perform similarly on both tasks, while those with poorer expressive language would probably do relatively better on the affective role-taking task. In short, when the child has good expressive language skills, his performance on the two tasks is thought to be based mostly on his understanding of the thoughts and feelings of the story character. In

contrast, when the child does not have the expressive language skills necessary for the cognitive role-taking task, his performance on the two tasks probably would be more variable and might reflect his language skill more than his understanding. This latter child may understand the thoughts and feelings just as well as the first child (one who has the expressive language skills) but he may not be able to convey this understanding as well.

The Shift of Perspective

The shift of perspective in the Affective-Cognitive Role-Taking Task was created by including two different affective reactions (of two different characters) in the same background situation. The subjects were asked to identify the two affective reactions and to explain the reasons for both. Two dimensions were included in the task to insure a shift in perspective. These two dimensions were type of emotion (positive vs. negative) and appropriateness to the situation (appropriate vs. inappropriate). The shift in perspective was accomplished by having one character with a positive affective reaction (happy) and one with a negative affective reaction (sad, angry, or afraid). Also, one of these reactions (either positive or negative depending on the particular story) was considered more common or appropriate to the situation and the other was considered less common or inappropriate to the situation.

Two hypotheses related to these dimensional qualities of the task. First, it was expected that there would be more correct identifications of positive as compared to negative affect across all ages. Past research upholds the notion of easier identification of positive

feelings (Alexander, et al., 1971; Borke, 1971; Feshbach and Roe, 1968; Rothenberg, 1970). Second, no difference was expected in the identification of affects that were considered appropriate to the situation and those which were considered inappropriate. Errors in identification were thought to result from unfamiliarity with type of affect (positive vs. negative, or specific negative affect) rather than from the appropriateness dimension. Even though Borke's study did not include a shift in perspective, it was thought by this author that Borke's findings illustrate the young child's awareness of others' affective reactions whether they are similar or different from the child's own reaction.

One study in the literature on empathic awareness did utilize a type of perspective shift for the measurement of affect identification. Burns and Cavey (1957) presented 3 to 6½ year old children with a series of pictures, two of which were considered "crucial" situations. The crucial situations, a birthday party and a doctor's office with a doctor holding a needle in his hand, were presented to the child and he was asked to state how he would feel in the situation. The child was shown the scene again, but the scene this second time included the figure of a same sex child whose facial expression was depicting an emotion discrepant from that which the situation implied, i.e., sad at the birthday party and happy in the doctor's office. The subject was then asked how the child in the picture was feeling. Burns and Cavey found more accurate descriptions of the affective state of the figure in the older age group of his subjects.

The present study is similar to Burns and Cavey's in that one of the affective reactions was different from that which is commonly shown, but this affective reaction was comprehensible in light of the dialogue and description of extenuating circumstances given in the story. Also, Burns and Cavey's task relied wholly on perceptual cues for affect identification while the present task relied most heavily on comprehension of a story.

The Role of Language Expression in Cognitive Egocentrism

The role of language ability in measuring egocentrism has been discussed briefly at two previous points in the introduction. First, it was mentioned that Chandler and Greenspan's assessment of their subjects' verbal descriptions of another's point of view was quite different in complexity from Borke's pointing method. Second, when hypothesizing that affective and cognitive role-taking would not be correlated for 3 year olds, it was mentioned that receptive and expressive language may vary in the same child so that some children may understand more than they can express verbally.

While the trend in the literature is to say that the young child's language is markedly egocentric, several more recent studies indicate that the child of this age is capable of some understanding of another's viewpoint and of adapting his speech accordingly. Maratsos (1973) studied referential communication in 3, 4, and 5 year old children. His design required subjects to describe one object from a series of arrays. The main focus in his study was on the differences in quality of communication between a normal-vision and blocked-vision condition.

The subjects were asked to describe one toy from among 3 or 4 to either a sighted experimenter or to one who put his hands over his eyes. For each age level, adequacy of description was significantly better in the blocked-vision condition, suggesting that the young child was able to take listener attributes into account when formulating his communication. Also, in the normal-vision condition, pointing to the toy rather than describing it was quite common, although pointing decreased with age. In the blocked-vision condition, there was almost a complete absence of pointing for all age levels. This aspect of the subjects' behavior suggests that the young child may have the ability for accurate verbal encoding, but that he may not use this ability unless the situation clearly necessitates his doing so, for instance when pointing is inadequate for communicating his idea.

Garvey and Hogan (1973) videotaped 15 minute play sessions of dyads of children, ages 3½ to 5. With a focus on the behavior and speech of the children within the interaction, they found a high level of mutual responsiveness between children in this age range. The children were capable of adapting their speech to the verbal and nonverbal behavior of their partner. While the results are interpreted as not contradicting the presence of egocentric speech in the child of this age, they do emphasize the contention that genuine social behavior occurs in this age group. This study seems to illustrate the concept of decreasing egocentrism in the child of preschool age.

In the two studies cited, children of preschool age did manifest some ability to take the role of the other. Success in these studies seems to reflect the level of task complexity. In contrast to these

relatively simple designs are more complex cognitive tasks like those used by Chandler and Greenspan (1971) and Feffer and Gourevitch (1960). Chandler and Greenspan's design has already been described so a brief account of Feffer and Gourevitch's will be given.

Feffer (1959) developed the role-taking task which has been used in most studies measuring interpersonal role-taking. The task was first demonstrated with children by Feffer and Gourevitch (1960). The Role-Taking Task (RTT) consists of two background scenes from Schneidman's Make a Picture Story (MAPS). The child is asked to choose at least three figures for each background from a wide assortment of men, women, children, and animals and to tell a story using the three figures. After the two stories are related, the first is read back to the child and the child is asked again to tell the story, but this time from the perspectives of each of the three characters (creating three related stories). This procedure is repeated with the second story. The four protocols from each story are scored in terms of the degree of "balanced decentering" that is evident. This decentering includes refocusing, elaboration, and change of perspective among the stories for the different characters in one background scene. Role-taking ability is reflected by the balanced decentering score since this ability is reasoned to measure the degree to which the subject can "put himself in the shoes of the other"--to think his thoughts, feel his feelings, etc.

It is noteworthy that neither Chandler and Greenspan nor Feffer and Gourevitch used children below 6 years of age in their experiments. The choice of age seems to reflect task complexity and the importance of language ability in the skills being measured. Both sets of experimenters found that interpersonal role-taking ability increased with age.

The roles of language ability and task complexity were introduced at another point in the present experimental design by the inclusion of a Cognitive Inference Task. This task was separate from the Affective-Cognitive Role-Taking Task and consisted of four stories in which a main character felt sad in a happy situation or happy in a sad situation. This contrast of feelings to the context was included to insure a shift of perspective and to maximize the role-taking requirements of the task.

The Cognitive Inference Task was similar to the cognitive part of the Affective-Cognitive Role-Taking Task in that it included a perspective shift and it required the subject to explain the reasons for the character's affective reaction. However, it differed from the Affective-Cognitive Role-Taking Task in several important ways. The most important difference lay in the greater degree of complexity of the Cognitive Inference Task. The reasons for the character's affective reaction had to be inferred by the circumstances of the stories in the Cognitive Inference Task. In contrast, the reasons for the character's affective reaction in the Affective-Cognitive Tole-Taking Task were contained more blatantly in the character's own dialogue within the story. It was thought that success on the Cognitive Inference Task would require a greater degree of reasoning and role-taking ability than would success on the Affective-Cognitive Role-Taking Task. The Cognitive Inference Task was also different from the Affective-Cognitive Role-Taking Task in that only two affects were included (happy and sad) and the subject did not have to identify the affective state of the character since this was already described and labeled in the stories.

These two cognitive role-taking tasks were used in the study to illustrate the point that young children may be capable of simple cognitive role-taking but not of more complex cognitive role-taking. The child's ability for two different levels of cognitive role-taking was thus investigated. The cognitive role-taking measured by the Affective-Cognitive Role-Taking Task was expected to be easier and within the capabilities of 3 year olds. The cognitive role-taking reflected by the Cognitive Inference Task was expected to be difficult for some 5 year olds.

Further hypotheses concerned the relationships between performance on the Cognitive Inference Task and cognitive and affective role-taking respectively. It was expected that the cognitive role-taking measure (of the Affective-Cognitive Role-Taking Task) and the Cognitive Inference Task would show a positive correlation for the 5 year olds but not for the 3 and 4 year olds. Similarly, a positive relationship between affective role-taking and the Cognitive Inference Task was expected for the 5 year olds, but not for the 3 and 4 year olds. Correlations for the 5 year olds were expected since it is likely that children at this age level would be capable of doing well on the Cognitive Inference Task, while performance at the lower ages would be poorer and more variable.

The earlier hypotheses proposed for the affective and cognitive role-taking measures were proposed for the Cognitive Inference Task. That is, performance on the Cognitive Inference Task was expected to be positively related to age and intelligence of the child and was not expected to be affected by sex of the subject.

Statement of Hypotheses

In summary, the following hypotheses were proposed for the present research:

First, affective and cognitive role-taking ability and performance on the Cognitive Inference Task would increase over the 3 to 6 year age range.

Second, intelligence would be positively related to the affective and cognitive role-taking measures and to the Cognitive Inference Task.

Third, no sex differences would result for performance on any of the measures nor for intercorrelations between the measures.

Fourth, positive affect would be correctly identified significantly better than negative affect.

Fifth, no difference would result in the identification of affects considered appropriate to the situation and those considered inappropriate to the situation.

Sixth, affective and cognitive role-taking would be positively correlated for the 4 and 5 year olds, but not for the 3 year olds.

Seventh, affective role-taking would be positively related to performance on the Cognitive Inference Task for the 5 year olds, but not for the 3 and 4 year olds.

Eighth, cognitive role-taking would be positively related to the Cognitive Inference Task for the 5 year olds, but not for the 3 and 4 year olds.

METHOD

Subjects

Subjects were obtained from two preschools and an elementary school affiliated with Michigan State University. Families sending their children to these schools were thought to be fairly homogeneous in class status since all lived in or near the East Lansing residential community and most were directly associated with the university.

Subjects between and including the ages of 3 years 0 months and 5 years 11 months were considered eligible for participation in the study if they were American born and had English as the only language spoken in their home. In calculating ages, the number of days was dropped so that ages were recorded in monthly intervals, e.g., a subject 4 years 5 months 25 days old was recorded as 4 years 5 months.

Older subjects were obtained from the Spartan Village Elementary School, while the majority of subjects came from the Laboratory Preschool, and some from Spartan Cooperative Nursery. Letters describing the research and requesting permission for participation were sent home to the parents of 34 children in the kindergarten grades at Spartan Elementary School, of 79 children attending the Laboratory Preschool, and of 13 children at Spartan Cooperative Nursery. All of these children met the criteria specified above for inclusion in the study. Copies of the letters sent to the parents of children at the preschools and at the elementary school can be found in Appendix A.

Of the 126 permission slips distributed, 90 were returned to indicate agreement for participation. One mother among the 90 asked for additional information about the study before she agreed to her son's participation; all other parents sent the slip back without questions. The final sample consisted of 67 subjects. (The age and sex characteristics of the subjects are presented in Table 1.) Fourteen children were dropped from the study after testing was attempted: 5 children (3 and 4 year olds) could not identify the faces used in the Affective-Cognitive Role-Taking Task even after repeated trials; 7 (mostly 3 and 4 year olds, but one 5 year old) did not complete the testing because of attention span difficulties or because of time demands on the experimenters, and 2 did not understand the instructions. Testing was not attempted with 8 children for whom permission slips had been returned because of time limitations at the end of the school year. The remaining child was tested but the data sheet was lost after its completion.

TABLE 1.--Age and Sex Characteristics of the Sample.

	3 year olds	4 year olds	5 year olds	Total
Males	11	7	11	29
Females	11	14	13	38
Total	22	21	24	67
Mean age	3.63	4.56	5.50	
Median age	3 yr. 8 mo.	4 yr. 7 mo.	5 yr. 6 mo.	

Experimenters

Three female experimenters administered the tasks in the present study. Two of the women were undergraduate psychology majors who had no formal training in working with preschool children but who showed a natural skill in relating to children of this age. The third experimenter was the author who holds a masters degree in psychology and who has considerable clinical experience with young children.

An attempt was made to distribute subjects evenly by age for the three experimenters. This attempt was successful for the 4 and 5 year olds, but not for the 3 year olds. The author tested twice as many 3 year olds as either of the other two experimenters. This imbalance resulted when a significant number of 3 year olds did not successfully complete the testing and more subjects in this age range were needed for the sample. Because of class schedules, the other two experimenters did not have the time to administer the tasks to these 3 year olds so the author tested these additional subjects.

To test for a possible experimenter effect, a one way analysis of variance was performed on a subset of 51 subjects matched for age. Seventeen subjects for each experimenter were inlcuded since 17 was the total number tested by one of the experimenters. The results indicated no significant experimenter effect for any of the three empathic awareness measures.

Procedure

Parental permission slips were distributed to all eligible children at the Laboratory Preschool and in two kindergarten grades at Spartan Village Elementary School. The subjects from Spartan

Cooperative Nursery consisted only of 3 year olds and were recruited when more younger children were needed to round out the sample size. After the permission slips were distributed and returned, arrangements were made to begin testing at the school facilities.

In the two preschools, experimenters spent time in the classrooms of the subjects they were to test before beginning the actual testing. This procedure was aimed at giving the subjects an opportunity to familiarize themselves with the experimenter. This initial time period in the classrooms varied, but the experimenters averaged about an hour in classrooms containing more than three subjects and about 20 minutes per subject when only one or two subjects were part of a classroom. Experimenters made an effort to engage in play or conversation with the subjects they were to test. This preliminary acquaintance period was not carried out at Spartan Village Elementary School since it would not fit well into the classroom structure and it was thought that older children would not need this preliminary period to reduce fearfulness.

In all of the classrooms, an effort was made to take children for testing at times that were not disruptive to the classroom program. The schedule of testing was requested by the teachers and followed by the experimenters in order to minimize the child's chance of missing the most important classroom activities and to maximize his motivation for completing the tasks.

The tasks were administered at several different locations in each of the schools involved. The testing sites were set apart physically from the classroom, e.g., a consulting room, empty classroom,

etc., and were generally quiet enough to avoid distractions, but occasionally the voices of children could be heard from nearby classrooms.

In initially approaching a subject for testing, an experimenter introduced herself again and said that she had some stories for boys and girls to listen to. Depending on the subject's age and demeanor, the experimenter either asked the subject if he/she would like to hear the stories or she simply stated that it was their time to listen to the stories. The experimenter added that the stories would be on a tape recorder and that she was interested in what children thought about these stories.

The experimental materials consisted of a tape recorder, cassette tapes containing the recorded stories (for the Affective-Cognitive Role-Taking Task and the Cognitive Inference Task), a series of 12 pictures and 4 faces (depicting the emotions of happiness, sadness, anger, and fear) for the Affective-Cognitive Role-Taking Task, a set of 4 larger pictures for the Cognitive Inference Task, the manual and stimulus cards from the Peabody Picture Vocabulary Test (PPVT), and an answer sheet and PPVT form for each subject. These materials had been arranged in a convenient order on a table or desk to the side of the experimenter and subject before the subject was brought to the testing room.

For all subjects, testing was begun with the Affective-Cognitive Role-Taking Task. The number of pictures administered (of a total of 12) during the initial session depended upon the attention span of the subject, but no more than 6 pictures were given to a subject in

any one session. The PPVT was administered after an appropriate number of pictures for the Affective-Cognitive Role-Taking Task were given. For all but one subject, the Cognitive Inference Task was administered last because it was thought to be more difficult than the other tasks.

Testing sessions varied both in length and number. Many subjects were tested on only two occasions since they were able to complete half of the Affective-Cognitive Role-Taking Task and the PPVT during the first session and the second half of the Affective-Cognitive Role-Taking Task and the Cognitive Inference Task on the second occasion. These subjects usually took about 70 to 80 minutes to complete all of the testing. The maximum number of sessions needed to finish the task was 7 while the average number of sessions was 3 or 4. The interval between start and finish of the testing was as brief as only one day and as long as five weeks (when one child was bedridden with pneumonia). The average interval was about 8 days. Each subject's age was recorded as of the first day of testing.

Instruments

The instruments used in the present study were the Affective-Cognitive Role-Taking Task, the Cognitive Inference Task and the Peabody Picture Vocabulary Test (PPVT). Each of the instruments will be discussed separately in a section below.

Affective-Cognitive Role-Taking Task

The Affective-Cognitive Role-Taking Task assessed both affective and cognitive role-taking by means of two different measures. An affect identification score was taken as a measure of affective role-taking and

and an assessment of the subject's understanding of the reasons for the affective reaction reflected cognitive role-taking.

The task consisted of a set of faces, a series of pictures, and a series of stories composed by the present author to accompany the pictures. As a method of measuring affect identification (taken from Borke, 1971), four faces, depicting the emotions of happiness, sadness, anger, and fear, were drawn in blue ink on a white background and placed separately on 5x5 inch pieces of white cardboard. The subject was required to point to the appropriate face to indicate his response for affect identification. These faces are similar to those used by Brandt (1972) when she studied affect awareness in 3 year old children. Duplications of these faces have been inserted into Appendix B.

A series of 12 pictures illustrating familiar background scenes such as a zoo, classroom, living room, outdoors, etc. were also drawn in blue ink on a 9x11 inch white background and placed in an acetate cover with a piece of white background cardboard for support. These pictures are contained in Appendix C. All persons in the pictures had blank faces so as to minimize these perceptual cues for the subjects.

Four different stimulus figures were made for each picture; two for these figures were females and two were males. These figures were approximately 2 to 3 inches in height and were drawn in blue ink on a white background and attached to rice paper that would adhere to the acetate when the figure was placed on the background scene. The figures had different body postures but all had blank faces. (The subject was to choose the appropriate face for the character from among the four given.) The figures were kept in an envelope glued to the back of the

picture and were placed at specific but different locations on the background picture when they were used. Female figures were used with female subjects and male figures were used with male subjects. This arrangement was created in order to eliminate a possible interactive effect of sex of subject and sex of stimulus and to heighten the chances that the subject would identify with the stimulus figure. Samples of the stimulus figures are placed within the background scenes contained in Appendix C.

Each background picture was accompanied by a brief description of the scene in the picture and by two brief stories about the two characters (stimulus figures) involved in the scene. These stories depicted characters in affect-producing situations and contained dialogue and a description of amplifying circumstances for that particular character. When the description and stories were composed, an effort was made to use situations and langauge that are familiar and comprehensible even to 3 year olds. The idea of using stories in which characters are made to feel a certain emotion was taken from Borke (1971) but the inclusion of two different characters within the same situation was the author's innovation. Since pre-testing revealed that young children are sensitive to the affective cues in a person's voice, the descriptions and stories were tape recorded by the author so as to provide a uniform stimulus for all subjects. The text of the stories is contained in Appendix D.

Subjects were initially pretrained to identify the feeling (happy, sad, angry, or afraid) depicted by each of the four faces. Pretraining was accomplished by first asking the subject to name each of

the feelings that the faces represented. If the subject did not use the correct label, he was told what the face was feeling. (It was found that the happy face was more easily identified than any of the negative emotion faces.) After the four faces were identified, the subject was asked again to name the feeling for each face. This procedure was continued until the subject could correctly and spontaneously identify the feeling of each of the faces on a single trial. Number of trials needed to name the faces was recorded, with the first trial beginning after the experimenter had named the faces. The mean number of trials was 1.2 and the maximum number for any one subject was 3. Since administration of the tasks was completed over several sessions, pretraining preceded administration for each session, but number of trials was recorded only for the initial session. Pretraining was used as a criterion for deciding if the subject was capable of understanding and completing the Affective-Cognitive Role-Taking Task. Five subjects did not succeed in correctly naming the faces even after repeated pretraining trials and were consequently eliminated from the sample pool.

After a subject successfully named the faces to be used in the Affective-Cognitive Role-Taking Task, he was considered ready to begin the formal testing procedure. (A detailed description of the testing procedure, including verbatim instructions, can be found in Appendix E.) The subject was first shown a background picture from the task and he was requested to listen to the brief description of the scene in the picture. At the end of the description, the subject was asked how he thought he would feel in the situation. After indicating his own feeling by pointing to the appropriate face, the subject was asked "How come?"

in order to elicit his reasons for his own affective reaction. These questions about the subject's own affect were aimed at involving the subject in the task and at making his own affective reaction salient for him. Also, his responses were thought to be potentially useful in determining which of the affective reactions (represented by the two later characters in the background situation) was discrepant for him. The subject's responses to questions about his own affect were also used to determine the number of "egocentric" errors (errors for the two characters that matched the subject's response about his own feeling in the situation) that the subject made.

The story for the first character was presented after these first questions were completed. The story included a description of amplifying circumstances for that particular character and contained dialogue (by the character) which was revealing of how the character felt. The subject was asked to indicate how he thought the character was feeling by again pointing to an appropriate face. If he hesitated, the experimenter coaxed him along by repeating the question. Once a response was given, the subject was asked "How come" the character was feeling that way. Again, if the subject had difficulty responding, the experimenter waited patiently and repeated the question while pointing to the face that the subject had indicated. The story for the second character followed in like manner.

After both characters and stories had been presented for the background picture, the experimenter asked the subject to rearrange the faces so that their spatial positions would be changed. This step was included in order to control for a possible position effect in responses.

The procedure described above was repeated for all 12 background pictures for the Affective-Cognitive Role-Taking Task. The pictures were presented over several sessions since administration of 12 pictures at any one time was thought to be too fatiguing for children of this age.

The child's identification of affect for the character was used as the measure of affective role-taking, while his response to the "how come" question was taken as the measure of cognitive role-taking.

In order to insure a shift in perspective (as discussed in the introductory section of the study), both a positive (happy) and negative (sad, angry, or afraid) affect were presented for each background scene. One character had a positive affective reaction in the scene and the other had a negative reaction. This positive-negative dichotomy was used in order to maximize the conditions for a shift. The combinations of affects studied were: happy-sad, happy-angry, happy-afraid, sad-happy, angry-happy, and afraid-happy. Two background scenes were used to depict each combination of affects. While the combinations of affects, e.g., happy-sad and sad-happy, seem repetitive, both combinations were included because the first affect listed was intended to be the most appropriate affect suggested by the situation itself. The study tested the hypothesis that young children do not differ in their identification of affects that were appropriate or inappropriate (to the situation) affects.

In order to control for an order effect, the 12 background pictures were arranged into three different random orders of presentation for the subjects. However, it was decided to test whether an order

effect might be produced when the affect that was considered appropriate to the situation was presented before the affect that was considered inappropriate, and vice versa. Thus, the sample was divided into those who were first presented with the character exhibiting the appropriate affective reaction and those who were first shown the character with the affective reaction considered inappropriate (or less common) to the situation. Originally it was intended to divide the sample in half; with the odd numbered sample size, a nearly even split was produced: 34 children received the appropriate (to the situation) affect first, while 33 received the inappropriate (to the situation) affect first. T tests between the means for the two groups on the affective and cognitive role-taking measures showed no significant difference in performance. Thus, the order of presentation did not produce an effect on correctness of response.

The randomization of order (3 different sequences) and the division of the sample into those who would receive the appropriate or inappropriate affect first produced 6 different arrangements of stimulus stories for the sample. In the study, the six sets of stimulus stories were evenly distributed by age across subjects. In addition, stories were recorded separately for boys and girls since gender of pronoun and type of toys needed to be changed. As a result, 12 different sets of stories accompanied the Affective-Cognitive Role-Taking Task.

Scoring for Affective Role-Taking

Two sets of scores were computed to assess affective role-taking. Both consisted of a simple dichotomous system where the response was scored as either "right" or "wrong." A score of 1 was given

for "right" answers and a score of 0 represented "wrong" answers. A subject could thus achieve a total score from 0 to 24 since two affects were presented in each of 12 background pictures.

The first set of scores reflected the subject's accuracy in identifying the affect precisely. That is, the subject had to point to the happy face for the positive emotion and to the appropriate negative face (sad, angry, or afraid) for the negative emotion. The subject had to differentiate correctly among the negative emotions in order to achieve a "right" score.

The second set of scores was more lenient than the first. That is, for the negative emotion in the story, the subject had to point to one of the negative faces, but not to the exact one. For example, if the appropriate response was sad and the subject pointed to angry, he was given a 1 for this response. However, for the positive emotion he always had to point to the happy face in order to receive credit.

Although only the first set of scores was intended to be used in the formal analysis, the second set was used to test for age differences in categorization of affects along the positive vs. negative dimension.

Scoring for Cognitive Role-Taking

The scoring for cognitive role-taking was based on the adequacy of the subject's response in conveying his understanding of the reasons for the character's affective state. The answers were recorded verbatim by the experimenters. A 4 level scoring system was used such that a higher score denoted better cognitive role-taking.

The scores of 3, 2, 1, and 0 were used to denote level of the subject's response. Criteria for placing responses in each of the levels are explained below and scoring examples for each of the 24 stories are contained in Appendix F.

Level 3: The subject gives a full explanation of the reasons for the character's affective reaction. In most stories, it is an event, i.e., getting to do something or not getting to do it, which is responsible for the character's feeling. In these cases, the subject must state that the event occurred and must state or imply strongly how the character felt about the event, i.e., whether the character had or had not wanted the event to occur. In several of the stories, where the event is not as crucial to determining the affect, but rather "liking" or "not liking" something is more important, a description of the character's "wanting" or "not liking" was placed in this level. These latter cases were discriminated when there was no implication in the story that the character was able to do something special that he otherwise might not have been able to do or that he was kept from doing something he wanted to do.

Level 2: The subject implies the reasons for the affective reaction but does not state them directly. For example, in the cases where an event precipitated the feelings, a statement of a character "liking" or "not liking" to do something (without stating that he was or was not able to do it) belong in this level. This level contains responses indicating a character's internal state (which is one element of the level 3 response when two are needed). The internal state or feelings about the event implies the occurrence of the event itself. Also falling in this level are responses which are related to the main reason but not central to it; these responses are determined by the particular story.

Level 1: The subject merely gives a statement of the action (event) in the story, e.g., "he's going outside," "he's going home," without indicating how the character felt about the event. This type of response is considered to be indicative of lower role-taking skill because it is merely describing external events without getting "inside" the character and telling how the character feels about the event. However, depending upon the story, some descriptions of events are more important and are placed in the 2 level. Responses which are tangentially related to the main reason are also categorized in this level.

Level 0: The subject shows no real understanding of the reasons for the character's affective reaction. Inaccurate information, no response, "I don't know," and a restatement of the affective state belong here. Also, responses stated in the first person, e.g., "because I like dolls," are given a 0 score because they are considered to be egocentric. (Responses stated in the second person are considered non-egocentric and are scored according to the above criteria.) In addition, responses which accompany affect identification that is in the wrong direction, i.e., a negative affect indicated when the correct response is happy and a happy response when the affect is negative, are automatically given a 0 score. It was decided to give these latter cases a 0 score because of the probability that the subject misunderstood the story and was merely repeating action or dialogue from the story.

Inter-rater reliability on the items of the cognitive role-taking measure was arrived at by computing the correlation between two scorers on half the total number of items. Since the correlation coefficient was .918, the scores from the first rater were considered valid and were used in the formal analyses. Since item reliability had been obtained, the Spearman-Brown formula (Walker and Lev, 1953) for predicting reliability when increasing the length of a test was followed and a correlation coefficient of .997 for the instrument was recorded.

Cognitive Inference Task

The Cognitive Inference Task consisted of four pictures and four stories depicting a character as feeling either sad within a happy situation or happy within a sad situation. The pictures were drawn in blue ink on a 10x12 inch white background and included four pictorial frames per picture that depicted the sequence of action in the story. Females were presented with pictures and stories of girls and males were presented with pictures and stories of boys. Faces as were used in the Affective-Cognitive Role-Taking Task were not part of the Cognitive Inference Task since the affect of the character was labeled and

depicted as part of the story and picture. However, the subject was asked to state the reasons for the affective reaction of the character and this was taken as the measure of role-taking on the Cognitive Inference Task. The role-taking required on this task was considered to be much harder than the cognitive role-taking from the Affective-Cognitive Role-Taking Task because the reasons for the affective reaction had to be inferred from the circumstances of the story and were not stated blatantly in the character's dialogue as they had been in the Affective-Cognitive Role-Taking Task.

The choice of affects, i.e., happy in a sad situation and sad in a happy situation, was included to produce a type of perspective shift for the subject. That is, the subject had to discriminate the affective reaction of the character and reasons from the affective reactions of the other children in the story who represented the more common reaction in the situation. For example, sadness occurred in the situations of a birthday party and of a class who was going to the store for ice cream cones, and happiness was set in a situation of a class not being able to go to the zoo and a class not being able to keep a bunny rabbit. The text of the stories for the Cognitive Inference Task is contained in Appendix H and the pictures are included in Appendix G.

In order to control for the possibility of an order effect, 3 different orders of presentation of the four stories were used and were evenly distributed across subjects by age. Since stories and pictures were adapted to each of the sexes, 8 pictures and 8 accompanying stories were included in the Cognitive Inference Task--4 for females and 4 for males. The stories were presented on cassette tapes so as to make the

stimulus the same for all subjects. As the stories were being presented, the experimenter pointed to each new frame on the picture at the appropriate moment in the story.

Scoring for the Cognitive Inference Task

As it was for cognitive role-taking in the Affective-Cognitive Role-Taking Task, scoring for the Cognitive Inference Task was based on the adequacy of the subject's response in conveying his understanding of the reasons for the character's affective reaction. Since the character's direct dialogue was not part of the Cognitive Inference Task, a 3 level scoring system was used to rate the response. The numbers 2, 1 and 0 were used to score the response.

A 2 response reflected the highest level of role-taking and was recorded when a clear and accurate statement of the reasons was given by a subject.

A 1 score reflected some understanding of the reasons for the reaction, but not a totally clear and comprehensive one. Responses related to the reasons but not directly explanatory of the reasons fell in this level.

A 0 response reflected a totally inappropriate response, an "I don't know" answer, no response at all, or a restatement of the question or affective state.

A more detailed explanation of the scoring system, including examples of the various levels, can be found in Appendix I.

Inter-rater reliability for the Cognitive Inference Task was arrived at by following the method outlined for the cognitive role-taking

measure. The computed correlation was .915, while the predicted reliability for the instrument was .977.

Peabody Picture Vocabulary Test

The Peabody Picture Vocabulary Test (PPVT) was used as a measure of intelligence in the present study. The test consists of an instruction manual and a set of stimulus cards which contain four pictures each. The child being administered the test is required to point to the picture (from among the four) of the word that the tester says. The test actually measures the receptive vocabulary of the child and it was specifically used in this study because it is thought that some early efforts toward role-taking may reflect a child's ability to understand another's point of view before being able to express that viewpoint verbally. Thus, a measure of receptive language, also used as the assessment of intelligence, was thought to be appropriate for the sample used. The raw score from the PPVT was used as the measure of intelligence since raw score can be considered a mental age equivalent.

RESULTS

Empathic Awareness and Age

Hypothesis 1 concerned the relationship of empathic awareness to age. It was expected that affective and cognitive role-taking and successful performance on the Cognitive Inference Task would increase over the 3 to 6 year age range.

Pearson product moment correlations between continuous age points (age in months) and each of the measures were used to test this hypothesis. The correlations, presented in Table 2, are significant ($p < .001$) for each of the measures.

TABLE 2.--Correlations Between Age (Computed in Months) and the Three Empathic Awareness Measures (df=65).

Affective Role-Taking	Cognitive Role-Taking	Cognitive Inference Task
.657***	.743***	.642***

***p < .001

In order to detect the magnitude of the differences between means for the separate age groups, 2x3 analyses of variance for unequal cell frequencies (least squares solution) and Scheffe's method for post-hoc comparisons were performed on the means. Tables 6, 7, and 8 show that age as a main effect is significant ($p < .0001$) for all three measures. Cell means for the analysis of variance tables are contained in

Appendix J. Ranges, means, and standard deviations of scores on the three measures for the three age groups are presented in Table 3.

TABLE 3.--Ranges, Means, and Standard Deviations of Scores on the Three Empathic Awareness Measures for the Three Age Groups.

Measure (Range)	Scores	3 year olds	4 year olds	5 year olds
Aff RT (0-24)	minimum	5	14	14
	maximum	18	23	24
	mean	13.05	18.76	19.21
	S.D.	3.79	2.55	2.75
Cog RT (0-72)	minimum	0	35	49
	maximum	57	62	66
	mean	29.73	50.71	57.17
	S.D.	15.85	7.18	4.48
Cog Inf (0-8)	minimum	0	0	3
	maximum	6	7	8
	mean	2.18	4.10	5.38
	S.D.	1.56	2.07	1.53

When the means for just 4 and 5 year olds are compared by Scheffe's method for post hoc comparisons, a significant difference results only for the Cognitive Inference Task ($p < .05$). However, when the means for the 3 year olds are compared to the means for the 4 and 5 year olds respectively, significant differences show up for all three measures ($p < .01$). Thus, the analyses show that the 3 year olds performed quite differently from the 4 and 5 year olds on all three measures, while the 4 and 5 year olds generally performed the same except for the Cognitive Inference Task. The comparisons reveal that for the affective and cognitive role-taking measures the variance for the main effect of age can be accounted for largely by

the difference between the 3 year olds and each of the two older age groups. The variance for the Cognitive Inference Task is more evenly distributed.

Hypothesis 1 is thus strongly supported by the data. Affective and cognitive role-taking and successful performance on the Cognitive Inference Task increased over the 3 to 6 year age range when both continuous age points and yearly intervals were considered.

Empathic Awareness and Intelligence

Hypothesis 2 concerned the relationship of empathic awareness to intelligence. It was expected that affective and cognitive role-taking ability and performance on the Cognitive Inference Task would be positively related to intelligence.

Since subjects at different chronological ages were included in the study, intelligence was defined as mental age level and was measured by the PPVT raw score. Pearson product moment correlations between PPVT score and each of the measures were used to test this hypothesis. When all subjects were considered, correlations for all three measures are significant ($p < .001$). Table 4 presents the correlations for the total sample.

TABLE 4.--Correlations Between Intelligence (PPVT Score) and the Three Empathic Awareness Measures for the Total Sample (df=65).

Affective Role-Taking	Cognitive Role-Taking	Cognitive Inference Task
.583***	.676***	.622***

***p < .001

When age is held constant, the correlations between intelligence and the three measures are generally lower and show a variable pattern. The correlations are presented in Table 5. As the table indicates, affective role-taking is not significantly related to mental age level for any of the age groups. Cognitive role-taking shows a significant correlation for the 3 year olds, and the Cognitive Inference Task is positively related to mental age level for the 4 and 5 year olds.

TABLE 5.--Correlations Between Intelligence (PPVT Score) and the Three Empathic Awareness Measures for the Separate Age Groups.

	3 year olds df=20	4 year olds df=19	5 year olds df=22
Affective Role-Taking	.275	.164	.339
Cognitive Role-Taking	.439*	.300	.136
Cognitive Inference Task	.174	.643**	.540**

*p < .05
**p < .01

Thus, Hypothesis 2 is only partially supported when age groups are considered separately, but is strongly supported when all subjects are included.

Sex Differences in Empathic Awareness

Hypothesis 3 concerned the possibility of sex differences in empathic awareness. No differences between males and females were expected for performance on any of the three measures nor for correlations between the measures.

The first part of the hypothesis was tested by 2x3 analyses of variance for unequal cell frequencies. Tables 6, 7, and 8 present the results of these analyses for the three measures. Cell means for the analysis of variance tables can be found in Appendix J.

TABLE 6.--Analysis of Variance for Affective Role-Taking as a Function of Sex and Age.

Source	SS	df	MS	F
Sex (S)	6.45	1	6.45	.65
Age (A)	519.98	2	259.99	26.26****
S X A	.50	2	.25	.03
Respondents: S X A	603.90	61	9.90	

****p < .0001

TABLE 7.--Analysis of Variance for Cognitive Role-Taking as a Function of Sex and Age.

Source	SS	df	MS	F
Sex (S)	536.02	1	536.02	5.11*
Age (A)	9024.80	2	4512.40	43.04****
S X A	91.48	2	45.74	.44
Respondents: S X A	6395.24	61	104.84	

*p < .05
****p < .0001

As Tables 6 and 8 indicate, the main effect of sex is non-significant for the affective role-taking and Cognitive Inference measures. However, sex as a main effect is significant for the cognitive role-taking measure (p < .05, Table 7), with females showing

greater cognitive role-taking ability than males. On all three measures, females scored higher than males, but the difference is significant only for the cognitive role-taking measure. Means for the males and females for the three measures are presented in Table 9.

TABLE 8.--Analysis of Variance for the Cognitive Inference Task as a Function of Sex and Age.

Source	SS	df	MS	F
Sex (S)	10.02	1	10.02	3.66
Age (A)	115.12	2	57.56	21.02****
S X A	16.46	2	8.23	3.01
Respondents: S X A	167.14	61	2.74	

****p < .0001

TABLE 9.--Means for Males and Females on the Three Empathic Awareness Measures.

	Males	Females
Affective Role-Taking	16.69	17.32
Cognitive Role-Taking*	42.90	48.61
Cognitive Inference Task	3.48	4.26

*significant difference

The second part of the hypothesis was tested by comparing the correlations between the measures for males and females. The correlations are presented in Table 10.

TABLE 10.--Correlations Between the Three Empathic Awareness Measures for Males (lower half of matrix; df=27) and for Females (upper half of matrix; df=36).

	Affective RT	Cognitive RT	Cognitive Inference
Affective RT		.790***	.420**
Cognitive RT	.703***		.510**
Cognitive Inference	.602***	.781***	

**p < .01
***p < .001

As the table indicates, all of the correlations are significant (p ranges from < .01 to < .001). To test the hypothesis, Fisher Z transformations were performed on the correlation values and t tests were used to detect any significant differences. The results indicate no significant difference between males and females for any of the correlations between measures. However, since the correlations of the Cognitive Inference Task with the other two measures were lower for females, other correlations for the Cognitive Inference Task were inspected and a significant difference between males and females was detected for the correlation of the Cognitive Inference Task with age ($t = 2.77$; $df = 65$; $p < .01$). The respective correlations were .839 for males and .464 for females. In general, intercorrelations for males and females tended to be the same on the affective and cognitive role-taking measures, while differences were noted for the Cognitive Inference measure.

Hypothesis 3 is thus partially supported by the data. No sex differences were found for affective role-taking (affect identification), for the Cognitive Inference Task, and for intercorrelations between the empathic awareness measures. However, for the cognitive role-taking measure and for the correlation between the Cognitive Inference Task and age, sex differences became apparent. Females demonstrated greater cognitive role-taking ability than males (on the cognitive role-taking measure). For the Cognitive Inference Task, males showed a stronger correlation with age than did females.

Since it is possible that the sex difference for the cognitive role-taking measure was reflecting greater vocabulary skill in the females, mean PPVT scores for the males and females were computed and were tested for a significant difference by using a t test. No difference was found in the mean vocabulary scores for the two groups, suggesting that this sex difference is not reflecting the type of language ability that is measured by the PPVT.

Positive vs. Negative Affect

Hypothesis 4 concerned the type of affect portrayed in the affective role-taking measure. It was expected that positive affect would be identified significantly better than negative affect.

This hypothesis was tested by an analysis of variance for repeated measures and unequal cell frequencies with a 2x3 design over subjects and a 2x2 design over measures. The results are presented in Table 11. Means for each of the cells are contained in Appendix J.

TABLE 11.--Analysis of Variance for Affective Role-Taking as a Function of Sex, Age, Appropriateness of Affect, and Type of Affect.

Source	SS	df	MS	F
Between Subjects				
Sex (S)	1.61	1	1.61	.65
Age (A)	130.00	2	65.00	26.26****
S X A	.14	2	.07	.03
Respondents (R): S X A	151.28	61	2.48	
Within Subjects				
Appropriateness of Affect (AP)	.13	1	.13	.22
Type of Affect (T)	326.93	1	326.93	267.04****
AP X T	2.15	1	2.15	3.52
S X AP	.83	1	.83	1.38
S X T	.57	1	.57	.47
S X AP X T	.09	1	.09	.14
A X AP	1.76	2	.88	1.45
A X T	6.24	2	3.12	2.55
A X AP X T	1.06	2	.53	.86
S X A X AP	1.52	2	.76	1.27
S X A X T	.58	2	.29	.24
S X A X AP X T	.44	2	.22	.35
R X AP: S X A	36.60	61	.60	
R X T: S X A	74.42	61	1.22	
R X AP X T: S X A	37.21	61	.61	

****$p < .0001$

As the table shows, the main effect for type of affect is significant ($p < .001$), thus supporting Hypothesis 4. Positive affect (happy) was identified significantly better than negative affect (sad, angry, and afraid). The mean of correct identifications for positive affect (on a 0 to 6 scale) was 5.35 and the mean for negative affect (including sad, angry, and afraid) was 3.15. No interactive effects between type of affect and the other variables resulted.

To test for age differences in subjects' ability to differentiate affects along the positive vs. negative dimension, the affective role-taking measure was scored according to the second scoring system explained in the method section. That is, subjects were given credit for choosing happy when the correct response was happy and choosing any of the negative feelings when the correct response was sad, angry, or afraid. A 2x3 analysis of variance demonstrates a significant main effect for age ($F = 26.25$; $df = 2,61$; $p < .0001$). Scheffe's test for post hoc comparisons reveals that the main effect resulted from the difference between the 3 year olds and each of the two older age groups. Three year olds made significantly more errors than the 4 and 5 year olds in categorizing affects along a global positive vs. negative dimension.

Appropriate vs. Inappropriate (to the Situation) Affects

Hypothesis 5 concerned the appropriateness dimension of the affective role-taking measure. No difference in the identification of appropriate and inappropriate (to the situation) affects was expected.

This hypothesis was also tested by means of the analysis of variance presented in Table 11. The results for the appropriateness dimension can be found in Table 11 and the cell means in Appendix J.

As the table indicates, the main effect for appropriateness of affect is non-significant, thus supporting Hypothesis 5. Further support is given by the absence of interactive effects for appropriateness of affect and the other variables. The results indicate that the appropriate and inappropriate (to the situation) dimension did not produce a significant effect on the correctness of the response; appropriate and inappropriate affects were identified equally well. The mean of correct identifications for appropriate affects (on a 0 to 6 scale) was 4.22, while the mean for inappropriate affects was 4.28.

An assessment of the "egocentricity" of the subjects' errors on the affective role-taking measure was made by checking the content of the errors against the response that the subject had given about how he would feel in the particular situation. An "egocentric" error was recorded when the error matched the feeling that the subject had given for himself, and a "non-egocentric" error resulted when the error did not match the subject's response. These numbers were computed in order to detect the degree to which the subject imputed his own reaction to the character.

The percentage of "egocentric" errors (based on the total number of errors) was .42 for the 3 year olds, .30 for the 4 year olds, and .30 for the 5 year olds. Paired difference tests reveal a significant difference between the two types of errors for 4 year olds ($t = 4.28$; $df = 20$; $p < .005$) and 5 year olds ($t = 3.71$; $df = 23$;

$p < .005$), demonstrating that 4 and 5 year olds made significantly more "non-egocentric" errors than "egocentric" errors, while 3 year olds tended to make both types of errors.

Relationships Among the Empathic Awareness Measures

Hypotheses 6, 7, and 8 concerned the relationships among the three empathic awareness measures at the different age levels. The ranges, means, and standard deviations of the scores on the three measures for the three age groups have been presented in Table 3.

Hypothesis 6 concerned the relationship between affective and cognitive role-taking. It was expected that affective and cognitive role-taking would be positively correlated for the 4 and 5 year olds, but not for the 3 year olds.

Pearson product moment correlations between the affective and cognitive role-taking measures for the separate age groups were used to test this hypothesis. The correlations are presented in Table 12.

TABLE 12.--Correlations Between Affective and Cognitive Role-Taking for the Three Age Groups.

3 year olds df=20	4 year olds df=19	5 year olds df=22
.619**	.442*	.205

*p < .05
**p < .01

As the table indicates, the correlations for the 3 and 4 year olds are significant ($p < .01$ and $< .05$ respectively), while the correlation for the 5 year olds is non-significant. The hypothesis is only partially supported by the significant correlation for the 4 year olds, but actually the correlations show a trend in the direction opposite to that predicted by the hypothesis. The hypothesis suggested that correlations would increase with age when in fact they decrease.

Hypothesis 7 concerned the relationship between the affective role-taking measure and the Cognitive Inference Task. It was expected that affective role-taking would be positively related to the Cognitive Inference Task for the 5 year olds, but not for the 3 and 4 year olds.

Pearson product moment correlations between the affective role-taking measure and the Cognitive Inference Task were used to test this hypothesis. The correlations for each age group are contained in Table 13.

TABLE 13.--Correlations Between Affective Role-Taking and the Cognitive Inference Task for the Three Age Groups.

3 year olds df=20	4 year olds df=19	5 year olds df=22
.256	.203	.157

As the table indicates, none of the correlations is significant. The hypothesis is partially supported by the non-significant correlation for the 3 year olds, but again the correlations show a trend in the direction opposite to that predicted by the hypothesis. The

hypothesis suggested that correlations would increase with age when they actually decrease.

Hypothesis 8 concerned the relationship between the cognitive role-taking measure and the Cognitive Inference Task. It was expected that cognitive role-taking would be positively related to the Cognitive Inference Task for the 5 year olds, but not for the 3 and 4 year olds.

Pearson product moment correlations between the cognitive role-taking measure and the Cognitive Inference Task for each of the age groups were used to test this hypothesis. The correlations are presented in Table 14.

TABLE 14.--Correlations Between Cognitive Role-Taking and the Cognitive Inference Task for the Three Age Groups.

3 year olds df=20	4 year olds df=19	5 year olds df=22
.379	.481*	.531**

*p < .05
**p < .01

As the table indicates, the correlations for the 4 and 5 year olds reach significance (p < .05 and < .01 respectively), while the correlation for the 3 year olds is non-significant. The hypothesis is partially supported by the significant correlation for the 5 year olds. Also, the correlations show a trend in the direction predicted by the hypothesis. That is, correlations increase with increasing age.

DISCUSSION

Age Changes in Empathic Awareness

The hypothesis that all three measures of empathic awareness would increase over the 3 to 6 year age range was strongly supported by the data. Significant positive correlations between age computed in months and all three measures were obtained. Also, age as a main effect was significant when age groups (3, 4, and 5 year olds) were considered.

The support for this hypothesis is highly consistent with past research on empathy in children. Regardless of the method used to measure empathy, age changes in this ability have been regularly demonstrated. While most of the researchers have used older children (6 to 14 years old) as subjects and have compared age groups that differed from each other by 1 to 3 years, Borke (1971, 1973) focused on 6 month intervals in 3 to 8 year old children. She found a significant and steady increase in affect identification over this age range. Likewise the present study found that empathic awareness was related to monthly increments in age, showing a continuous growth in this ability from 3 to 6 years of age. Figures 1, 2, and 3 illustrate the increase with age by six month intervals. As the graphs indicate, affective and cognitive role-taking increase most sharply during the 3 to 4½ year old period, while more complex cognitive role-taking, measured by the Cognitive Inference Task, shows a more pronounced

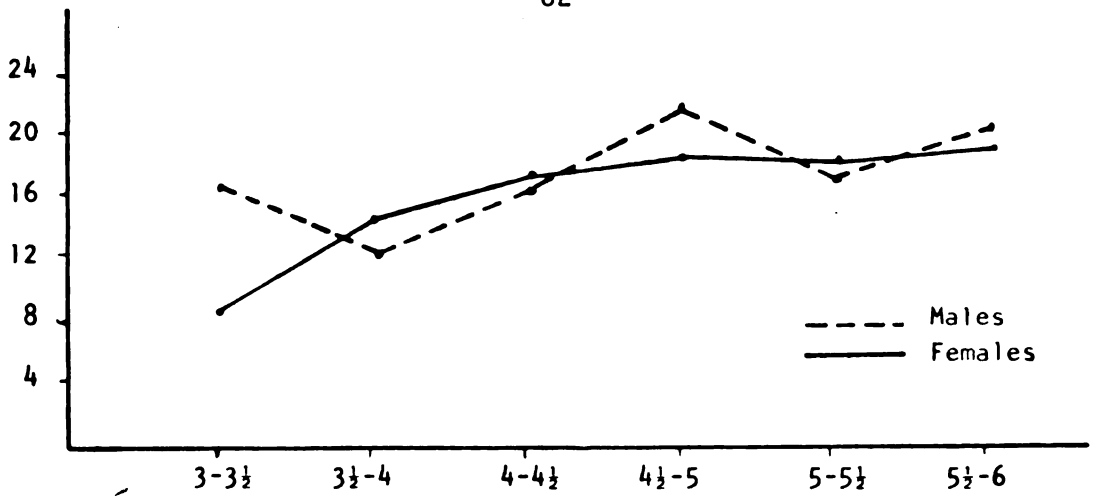


Figure 1.--Mean scores for males and females on the Affective Role-Taking Measure plotted at six month intervals.

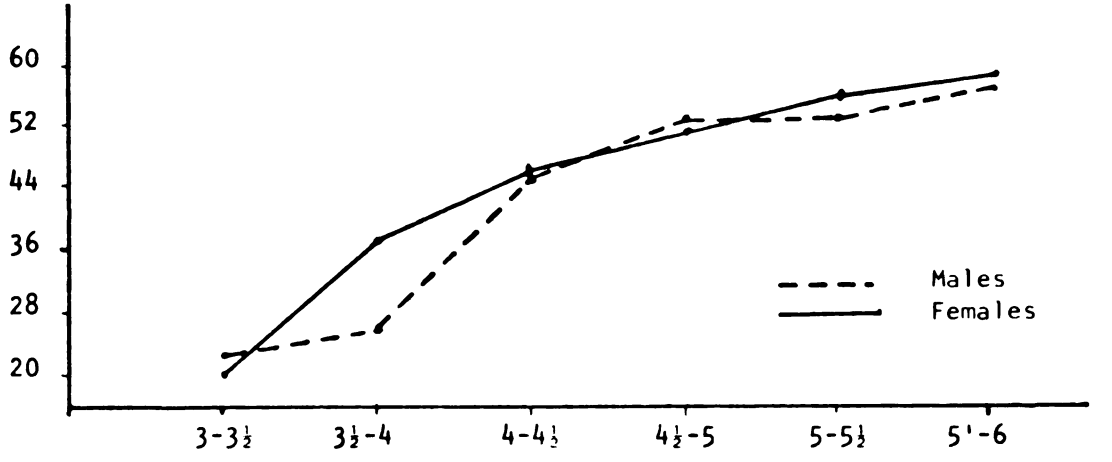


Figure 2.--Mean scores for males and females on the Cognitive Role-Taking Measure plotted at six month intervals.

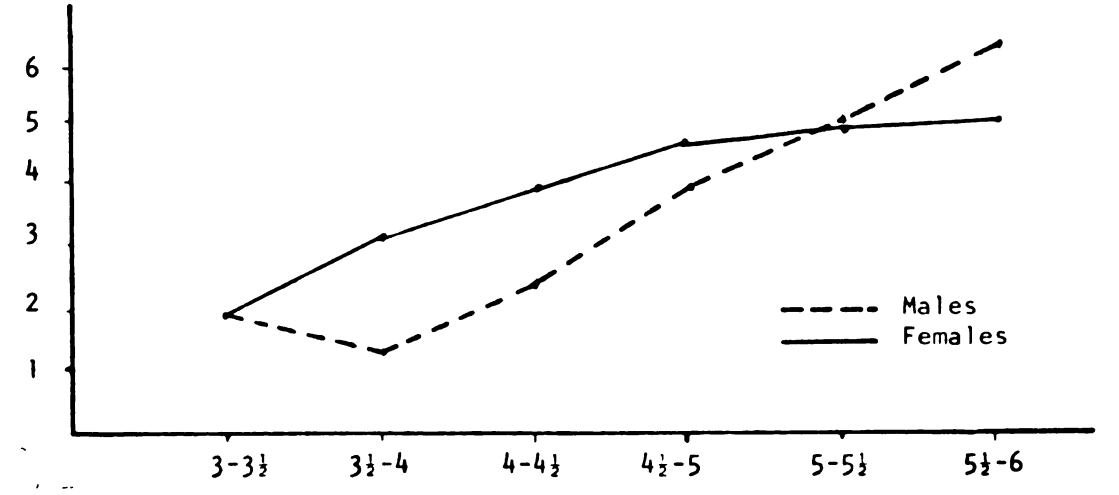


Figure 3.--Mean scores for males and females on the Cognitive Inference Task plotted at six month intervals.

linear increase with age, especially for males. (One subject was contained in the 3-3½ year old male category, so the relatively high scores are reflecting the performance of one subject rather than the mean performance for 3-3½ year old males.)

In terms of the skills measured by the empathic awareness instruments, the results indicate a continuous growth in the ability to identify feelings produced in a story character, to explain the reasons for the story character's feelings, and to explain the reasons for a different story character's feelings when the reasons are more difficult to understand. While Borke had previously shown regular age increments in ability for affect identification, the present study points out that the ability to explain the reasons for the feeling shows a similar increase over the 3 to 6 year old age range. Also, the present study illustrates that, with increasing age, subjects become more accurate in interpreting affective cues provided by dialogue and situational context of stories. Borke's method included only stories of a character within a situation while the present method used dialogue (tone of voice, content of words) to supplement the situational context. The increase in age for both studies demonstrates that children become progressively more able to interpret affective cues provided by the situational context or manifested in the quality of speech.

One explanation for the age increase in empathic awareness can be found in the social experience and cognitive maturity that are concomitant with increasing age. Usually a child expands his social world as he grows older so that he has more opportunity to learn how and why other people feel as they do. He has the chance to observe a variety of

affective reactions and to begin labeling and understanding the reactions he sees. The cognitive maturity provided by age changes in cognitive structures also increases his ability to interpret cues more effectively and, according to Piaget, frees him up to consider points of view that are progressively different from his own. Thus, the child exhibits more awareness as he grows older and it is this awareness which is probably being measured by his steadily increasing performance on tests of empathy.

Empathic Awareness and Intelligence

The hypothesis that empathic awareness would be positively related to intelligence was supported when the total sample was considered, but received only partial support when age groups were examined separately. That is, when age was held constant, the correlations generally dropped and showed a more variable pattern.

For the total sample, all three measures were significantly correlated with mental age level, with the correlations for the two cognitive measures slightly higher than the correlation for the affective role-taking measure. This finding is not surprising since the test used to assess mental age level is also a measure of receptive language. Mental age level, as defined in this study, is a function of the subject's language ability, an ability that is also being measured in the cognitive tasks.

With age held constant, affective role-taking was not significantly related to mental age for any of the age groups. This finding suggests that the ability to identify feelings in another person may be primarily dependent on social maturity and experience rather than on

cognitive skills. It is interesting that, while non-significant, the correlations for the 3 and 5 year olds are slightly higher than the correlation for the 4 year olds. Two different processes may be operating at these extreme age groups, with the 3 year olds learning to discriminate positive from negative feelings, and the 5 year olds learning to differentiate more finely among negative feelings. Cognitive maturity may help the child discriminate cues more effectively, while social experience may provide the modus operandi for learning about affective cues in the first place.

Cognitive role-taking was significantly correlated with mental age only for the 3 year olds. The correlations declined over the 4 and 5 year old groups. Since the 3 year old period is a time for rapid growth of language, it would seem that language skill would be strongly related to cognitive maturity for children in this age group. That is, some 3 year olds may be highly verbal, with others only beginning to manifest variety and fluency in language. The greater cognitive maturity of some 3 year olds would likely be evident in their being more able to use words and sentences correctly. Thus, the correlation between mental age level and cognitive role-taking for the 3 year olds can be understood in light of the relation of cognitive maturity to language skills. To further support this notion, it can be noted that the non-verbal affective role-taking measure did not show a positive correlation with mental age for the 3 year olds, while the verbal cognitive role-taking measure did.

The decline in correlations between mental age and the cognitive role-taking measure over the 4 and 5 year old groups can be explained in

several related ways. First, since the speech of 4 and 5 year olds is more highly developed than for 3 year olds, verbal descriptions of the reasons for another's feelings may not be as pure a reflection of cognitive maturity. Second, 4 and 5 year olds showed similar characteristics of speech in that children at both these age levels tended to leave out information that is necessary in fully explaining the viewpoint of another. According to the scoring system devised for the cognitive role-taking measure, 72 was the maximum possible score. Five year olds received a mean score of 57.17, while 4 year olds had a mean score of 50.71. The comparable mean for the 3 year olds was 29.73. The comparison of means and ranges shows that the 4 and 5 year olds tended to give verbal descriptions of the reasons for another's feelings at about the same level (no significant difference was found between their mean scores). It is noteworthy that the mean for the 5 year olds did not approach the maximum possible score, demonstrating that there are egocentric qualities in the speech of 5 year olds and that 4 and 5 year olds tended to give comparable descriptions. Thus, while the mental age levels (or receptive language skills) of 4 and 5 year olds may be different, their expressive language does not show a noticeable change. It is possible that a more refined scoring system might detect greater differences in the speech of 4 and 5 year olds; such an investigation could provide a focus for future research.

The Cognitive Inference Task was positively related to mental age level for the 4 and 5 year olds, but not for the 3 year olds. The difference between the 3 year olds and the two older age groups suggests that, as expected, the Cognitive Inference Task was a very difficult

task for most 3 year olds. The Cognitive Inference Task was expected to be more difficult since inference was needed to comprehend and explain the reasons for the story character's feelings. The ability for inference would seem to be somewhat dependent on intellectual capacity. If a certain amount of social and cognitive maturity are required to perform successfully on the task, many 3 year olds may not be able to meet these criteria. The mean and standard deviation of scores on the Cognitive Inference Task were significantly lower for the 3 year olds than for the two older age groups, demonstrating consistently poorer performance among 3 year olds. Among the older children, who have more social and cognitive maturity, mental age level could then begin to show a positive relationship with performance. The correlations for the 4 and 5 year olds are both strong, indicating that this task was indeed reflecting cognitive maturity for the two older age groups.

Overall, the results seem to indicate that subjects who are functioning on similar mental age levels will also show similar performance on the three empathic awareness measures, but that the factor of social experience afforded by age may confound the correlations for separate age levels. It is quite likely that there are differential interactions between social and cognitive maturity for certain age levels.

The literature presents contradictory findings about the relationship of empathy to intelligence. These inconsistencies have probably resulted from differences in methodology, intelligence measures, and sample size and age range. The possibility of an

interactive effect of experience and cognitive skills must also be kept in mind, so that one would expect differential effects of intelligence at different ages.

Sex Differences in Empathic Awareness

The hypothesis of no sex differences in performance was supported for the affective role-taking measure and for the Cognitive Inference Task, but not for the cognitive role-taking measure. On all three measures, females performed better than males, but the difference was significant only for the cognitive role-taking measure.

It is noteworthy that the sex difference appeared on a measure dependent on language ability. As indicated in the Results section, the mean PPVT scores for males and females were compared since this sex difference could just be measuring a difference in verbal capacity. The PPVT scores were not significantly different (in fact, males were slightly higher), so it was concluded that differences in receptive language ability could not account for the discrepancy. However, it is still possible that this sex difference is reflecting varying abilities in expressive language, with females being more verbally fluent than males. This possibility is further upheld by the noticeable trend for females to do better than males on the Cognitive Inference Task ($p < .06$). Perhaps significant differences did not appear for the Cognitive Inference Task because of its high correlation with mental age level (or receptive language). Since the present study did not include a measure for expressive language, such an investigation could be part of future research.

As predicted, there was no sex difference for intercorrelations among the measures. Males and females showed similar correlations between tasks, although for females, correlations between the Cognitive Inference Task and the other measures fell from .18 to .26 below those for males. A significant difference between males and females was noted for the correlation between age and performance on the Cognitive Inference Task; males showed a higher correlation than did females.

A consideration of the range of scores for the task, as well as an inspection of the means and correlations for the two sexes at the separate age levels, reveals possible reasons for this difference with regard to the Cognitive Inference Task. With the limited range of possible scores for the task (0-8), ceiling effects were observed for the 4 and 5 year old females so that the correlation with age was reduced. The range of scores for the 4 year old females was 1-7, while the range for the 5 year old females was 3-8. The difference in mean scores for the two female groups was .51. In contrast, the difference in mean scores for the 4 and 5 year old males was 2.59, although the range of scores was similar, i.e., 0-7 for the 4 year old males and 4-8 for the 5 year old males. T tests between the 4 and 5 year olds in each of the sex groups revealed a significant difference for the 4 and 5 year old males ($t = 2.98$; $df = 16$; $p < .005$), but not for the 4 and 5 year old females. Thus, the task seemed to discriminate between the 4 and 5 year old males, but not between the 4 and 5 year old females.

The lower intercorrelations between the Cognitive Inference Task and the other two empathic awareness measures could perhaps be influenced by the ceiling effects for the 4 and 5 year old females.

If the other two measures increased more proportionately from the 4 to 5 year old level, the greater ceiling effects for the Cognitive Inference Task could reduce the correlations. The significance of the correlations indicates some degree of relationship between the measures. Also, the correlations are generally of the same magnitude. However, the relatively small sample size of the present study may not be picking up differences where they might exist. The slight difference in correlations between males and females highlights an area for further research on the empathic awareness measures using separate age and sex groups.

The contradictory findings in the literature on sex differences are confusing since no consistent patterns of interaction between age, sex, and methodology emerge. Perhaps the variables interacting with sex to produce differences between males and females have not been discerned. The present study demonstrates that when verbal capacity is a variable in the measurement of empathy, sex differences may appear. Borke (1971) has pointed out that sex differences in affect identification may have been eliminated over the years by the emergence of social sensitivity as a desirable trait for boys as well as girls. Parents may be emphasizing affect awareness in their children regardless of the sex of their child.

Relationships Among the Empathic Awareness Measures

The hypothesis that affective and cognitive role-taking would be correlated for the 4 and 5 year olds, but not for the 3 year olds, was only partially supported. The results indicated significant correlations

for both the 3 and 4 years old. Actually, the direction of the correlations is opposite to that predicted. The correlations decreased over the age groups when they were expected to increase.

When postulating the increase over age groups, it was argued that younger children may be able to understand another's viewpoint, but not be able to explain it. Further, it was posited that as language skills increased, the correlation between understanding and explaining would become stronger. The decrease, rather than increase, in correlations over age groups seems to reflect the characteristics of the instruments as well as the variability in skills for the separate age groups.

The high positive correlation for the 3 year olds indicates a strong relationship between the ability to identify feelings in another and to explain the reasons for the feelings. This finding suggests that the two skills may develop concomitantly for this age group (since they are both tapping the child's understanding of affective phenomena), but it is also possible that the majority of 3 year olds possessed sufficient language skill to explain the reasons and that the stage of being able to identify feelings but not explain them comes earlier than 3. Casual observations during administration of the tasks revealed that some 3 year olds said they "could not tell" or "did not know" the reasons for the feeling when they had been correct in the affect identification of the character. An inspection of the ranges and standard deviations for the affective and cognitive role-taking measures reveals greater variability in these skills for the 3 year olds than for the two older age groups.

The possibility remains, however, that understanding and explaining the reasons for feelings follow a dialectic process where they interact and develop simultaneously. The question of the possible priority of understanding feelings as opposed to explaining them thus does not seem to be answered by this study, but is left to future investigation with even younger children.

The significant correlation between the affective and cognitive role-taking measures for the 4 year olds can be explained by the argument presented earlier. That is, when language skills are sufficiently developed, children will be able to verbalize their understanding of another's feelings as well as to identify the feeling. The decrease in correlation for the 4 year olds when compared to the 3 year olds probably comes from the greater variability in affective and cognitive role-taking for the 3 year olds.

The lower non-significant correlation between the two measures for the 5 year olds, when compared to the 4 year olds, seems to reflect different patterns of variability in performance on the two measures for the two age groups. That is, the 4 year olds showed greater variability on the cognitive role-taking measure (S.D. = 7.18) than did the 5 year olds (S.D. = 4.48). Yet the two groups showed relatively the same variability for the affective role-taking measure (S.D. = 2.55 for the 4 year olds and S.D. = 2.75 for the 5 year olds). Thus, 4 year olds differed more on the cognitive role-taking measure than did the 5 year olds, while generally they performed with equal variability on the affective role-taking measure. While the means of the two age groups for each measure are not statistically different, inspection of

the values and test results shows that the performance of the 4 and 5 year olds was more similar for the affective role-taking measure than for the cognitive role-taking measure. In short, the 4 year olds were still developing their language skills but had already reached the 5 year old level in affect identification.

The comparison between the correlations for the 4 and 5 year olds thus suggests that all 5 year olds tend to describe the reasons for feelings in a similar fashion, while they differ in their ability to identify feelings. This pattern may be reflecting consistency in level of speech for 5 year olds, but inconsistency in identifying negative feelings in our culture.

The hypothesis that affective role-taking and performance on the Cognitive Inference Task would be correlated for 5 year olds, but not for 3 and 4 year olds, was only partially supported by the non-significant correlations for the 3 and 4 year olds. In fact, the correlations for all age groups were non-significant. Again, the results show a trend in the direction opposite to that predicted by the hypothesis. Correlations decreased with age when they were expected to increase.

An increase in correlations with increasing age was predicted since the results for the Cognitive Inference Task were expected to be less reliable for the younger subjects and to preclude a consistent correlational pattern. Also, the affective role-taking measure was expected to differentiate more clearly between the 4 and 5 year olds. With these expectations in mind, it was thought that a consistent correlational pattern would emerge for the 5 year olds since they would

be more capable of performing successfully on the Cognitive Inference Task.

In actuality, the Cognitive Inference Task differentiated among age levels more sharply than was expected. The task was within the capabilities of some 3 year olds and showed an increase with increasing age. The affective role-taking measure essentially reached a ceiling at 4 years of age since 4 and 5 year olds identified feelings with about equal accuracy. Accordingly, the juxtaposition of the difficulty of the tasks was changed and the direction of the correlations was reversed.

The non-significance of the correlations for all three age groups suggests that the two measures are not tapping the same abilities. The capacity fo identify feelings in another person may not be related to the more difficult task of inferring the reasons for another's feelings, i.e., explaining the viewpoint of another when the explanation relies heavily on cognitive skill. It was shown earlier that affective role-taking was not significantly related to mental age level, while the Cognitive Inference Task was strongly correlated with mental age for the 4 and 5 year olds.

The discrepancy and lack of significant correlation between the two tasks illustrates the difference in the tasks used by Borke (1971) and Chandler and Greenspan (1972). A child may be able to identify feelings in another person without being able to explain the viewpoint of another when this latter task is made difficult. Even for 3 year olds, identifying feelings and explaining the reasons (viewpoint) of another were significantly related when this latter task was made simple.

The hypothesis that the cognitive role-taking measure and the Cognitive Inference Task would be correlated for the 5 year olds, but not for the 3 and 4 year olds, was partially supported by the significant correlation for the 5 year olds. The correlation for the 4 year olds was also significant, while the correlation for the 3 year olds was non-significant. The differences between correlations are in the direction predicted by the hypothesis. That is, correlations increased with age.

The direction and significance of the correlations suggest that as a child's language skills increase, his ability for complex role-taking will more closely approximate his skill for simple role-taking. For the 3 year olds, the two tasks were not significantly correlated, suggesting that 3 year olds were capable of cognitive role-taking on a simple level, but not on a complex level. The increase in correlations with age demonstrates the role that language and cognitive skill play in explaining the viewpoint of another.

Dimensions of the Affective Role-Taking Measure

The hypotheses concerning the type and appropriateness of affect dimensions of the affective role-taking measure were both supported by the data. Positive affect was identified significantly better than negative affect and there was no difference in identification of appropriate and inappropriate (to the situation) affects.

The finding that positive affect was better identified than negative affect is consistent with the literature (Alexander, et al., 1971; Borke, 1971, 1973; Brandt, 1972; Dupont, 1959; Rothenberg, 1970).

Young children regularly show better ability to predict happy feelings, probably because of the familiarity and preference for happy feelings in their own lives. The greater difficulty in discriminating among negative feelings has been attributed to individual response styles as well as to a defensive attitude in admitting some of the negative feelings (Borke, 1971; Brandt, 1971; Dupont, 1959; Dymond, et al., 1952).

Some researchers have suggested that feelings are first categorized along a global pleasant vs. unpleasant dimension and that differentiation among particular pleasant and unpleasant affects comes with increasing age (Borke, 1971; Feshbach and Roe, 1968; Flapan, 1968; Gates, 1923). In the present study, the two older age groups were more successful in correctly categorizing feelings as either positive or negative, while the 3 year olds tended to confuse these dimensions and to respond with a negative affect when the correct response was happy, and conversely.

The dimension of appropriateness to the situation was included in the affective role-taking measure as a test of Chandler and Greenspan's criticism of Borke's study. That is, the appropriateness dimension tested whether children could identify feelings that were different from their own. In this study, children as young as 3 years of age could indeed make this perspective shift and could accurately identify two different affective reactions within the same situation when one of those reactions was considered typical (appropriate) and most likely similar to their own. Thus, the awareness of others' feelings

that young children exhibit on tests of empathy can be said to reflect a genuine ability to make perspective shifts in the affective sphere.

It was proposed that familiarity with type of affect and not appropriateness to the situation would determine correctness of affect identification. Together, the results for these two dimensions of the task support this notion and suggest that a child's inability to identify the affective reaction of another likely results from unfamiliarity with the type of affective reaction rather than from a failure to realize that others react differently from himself. The predominance of "non-egocentric" errors, as compared to "egocentric" errors for the 4 and 5 year olds, demonstrates that subjects in these two older age groups did not automatically impute their own reaction to the character, but attempted to identify the reaction from the cues provided in the story. Most 3 year olds likewise tended to make "non-egocentric" errors, but the difference between types of errors was not significant for this age group. Since appropriate and inappropriate affects were identified equally well, it can be conjectured that the "egocentric" responses in the 3 year olds may also be related to ignorance as to type of affect. That is, the 3 year olds may have responded with the same affect because of inability to identify the correct affective reaction. "Egocentric" responses may result when the 3 year old child lacks knowledge about affective reactions in general--either about his own or about others'.

Evaluation of the Instruments

In general, the instruments used to assess affective and cognitive role-taking provided a viable and valid method for examining these skills in 3 to 6 year old children. For the total sample, the

correlations with age and mental age were strong, suggesting that the instruments were measuring phenomena that follow a developmental growth pattern in young children.

Individually, the instruments had their own limitations which could be corrected for use in future research. The Affective-Cognitive Role-Taking Task proved to be too lengthy for the subjects. While the majority of potential subjects completed the task in the several sessions planned for, some subjects complained about the length and repetitious nature of the stories. For many, the task was not stimulating enough after they had listened to half the stories. To correct for this factor, the instrument could be shortened provided a sufficient number of stories is kept to insure reliability.

While the varying difficulty in the identification of negative feelings is consistent with the literature, it is possible that this discrepancy results partially from a confounding of several feelings in one story. To control for this possibility, the stories can be tested out with older subjects or new stories can be composed from children's own accounts of situations that cause specific feelings. Borke (1973) used this latter method in developing her instrument for 3 to 6 year old children.

The ceiling effect observed for the 4 and 5 year olds on the affective role-taking measure could perhaps be eliminated by refining the stories for the negative feelings. However, if this ceiling is a natural stage in the development of empathic awareness, the instrument could be restricted to preschool subjects, with its use extending down to 2½ year old children.

The similarity in the speech of the 4 and 5 year olds for the cognitive role-taking measure suggests that the instrument could perhaps be tested out with older subjects to obtain criteria for refining the scoring system. If the speech of older children was examined, developmental changes in language skill could be assessed more accurately. The present scoring system is somewhat similar to the method developed by Gollin (1958) and explained by Rothenberg (1970), but possibly a finer comparison of the two systems and an examination of the speech of older children on the cognitive role-taking measure could discern the consistencies and discontinuities in the speech of the 4 and 5 year olds more precisely.

While all of the empathic awareness measures differentiated between the 3 year olds and the two older age groups, the Cognitive Inference Task was the only measure which discriminated among the 4 and 5 year olds (when males and females were pooled into one age group). The task was significantly related to mental age for the two older age groups, suggesting that a cognitive skill was being measured. Since ceiling effects for 4 and 5 year old females seem to have been produced partially by the limited range of scores, perhaps the test could be lengthened and a more refined scoring system devised. The instrument may be appropriate for use with older subjects if these modifications are made. However, its appropriateness for 3 year olds must be reconsidered since the task was very difficult for most subjects in this age group.

Since all of the instruments have been used for the first time in the present research, the question of construct validity can be

tackled more directly by correlating performance on these instruments with other measures of empathy. Reliability studies through a test-retest procedure would also yield information about the validity of the instruments. The sample size in the present study was relatively small so the results should be confirmed with a larger number of subjects.

Implications of the Findings for Child Development Research

On all three measures of empathic awareness, the 3 year olds showed a different pattern of performance from the two older age groups. The means for the 3 year old group were significantly lower than the means for the 4 and 5 year olds. On the more simple tasks, viz. the affective and cognitive role-taking measures, the variability for the 3 year olds was greater than that for the two older age groups, while on the more difficult measure, viz. the Cognitive Inference Task, they were more consistent in their performance. Several 3 year olds tended to make "egocentric" errors on the affective role-taking measure, while most 3 year olds and the 4 and 5 year olds made predominantly "non-egocentric" errors. These results suggest that rapid developmental changes are occurring throughout the 3 year old period so that, for the skills investigated in this study, a wide range of abilities was apparent.

The rapid changes in skills for the 3 year olds illustrates the value in studying this developmental period more closely. Also, the need for extending this investigation to 2 and 2½ year old children is highlighted because some 3 year olds already exhibited well developed

affective and cognitive role-taking skills. An investigation of younger children could reveal norms and steps in the evolution of these skills.

The similarity in explanations offered by the 4 and 5 year olds and by the 5 year olds themselves suggests that even the speech of 5 year olds retains egocentric qualities. Five year olds leave out information that is essential for fully explaining the viewpoint of another. While this observation is highly consistent with the literature on egocentrism, it must be noted that while 5 year olds show egocentric speech, this quality decreased with age.

The lack of correlation between mental age level and affective role-taking for all three age groups highlights the predominant role that age and social experience play in the awareness of another's feelings. Ability to identify the feelings of others seems to depend primarily on the opportunity to learn the meaning of affective cues and is not related to cognitive skill in the child. In contrast, tasks based on language ability tend to be related to cognitive level, especially when some complexity in skills is involved.

Since affective role-taking likely reflects social maturity rather than cognitive maturity, the variable of interaction experiences must be considered and controlled for in future studies of empathy. Most subjects in the present study had been enrolled in a nursery school or kindergarten for at least 8 months. Thus, most had considerable opportunities for social experience. The results for affective and cognitive role-taking may be quite different if a non-nursery school population is used.

The lack of correlation between the affective role-taking measure and the Cognitive Inference Task points up the need to define the concept of egocentrism more precisely. If egocentrism means an inability to take the viewpoint of another in the affective, cognitive, and perceptual spheres, then the child of preschool age definitely shows non-egocentric functioning in the affective sphere. However, if egocentrism refers primarily to an inability to describe verbally the viewpoint of another, then the young child manifests the egocentrism that has been attributed to him. A more precise definition of egocentrism would also clear up confusion about the controversy of egocentrism vs. non-egocentrism that results from the use of different conceptualizations and their related methodologies. (Borke and Chandler and Greenspan are a case in point).

Perhaps a more rewarding approach to the question of egocentrism in the young child would be to disregard the label and just investigate the capabilities in the affective, perceptual, and cognitive spheres that are typical for the child of this age. The interrelationship of the different types of role-taking abilities could provide the focus for another study. Flavell, et al. (1968) and Selman (1971) have both suggested that perceptual role-taking ability may develop earlier than conceptual role-taking ability. It is quite likely that affective role-taking even precedes perceptual role-taking, since affective role-taking seems to be less dependent on cognitive structures.

The preschool child's success in identifying the feelings of another can perhaps be understood in light of the etiology of this skill. That is, the child learns to identify feelings because he

sees and hears the affective reactions of others. Early in life he observes that others react in a characteristic and unique fashion to events that occur. He learns to interpret the affective cues and to match certain events with specific feelings. In contrast, the child learns about the cognitive and perceptual perspectives of others by listening to differences in viewpoint and by noticing that objects look different when he himself moves about in space. The realization of differences in cognitive and perceptual perspectives may be a longer and more difficult process since the difference must often be inferred and is more dependent on other cognitive skills than is necessary for noticing differences in affective perspectives. It is noteworthy that cognitive role-taking (related to language skill) has been said to follow perceptual role-taking; the difference in dependence on cognitive skills may determine the time of emergence of the particular types of role-taking. In brief, the differences in affective perspectives are more blatant, while differences in perceptual and cognitive perspectives exist on a covert level.

Ferguson (personal communication) has suggested that the increasing ability of the preschool child to identify the affective reactions of others may come from a generalization of cues from caretaker to others. The child first learns to interpret the affective cues modeled by his caretaker and then, as his social world expands, he notices similar and dissimilar responses in others. The initial awareness of caretaker's feelings may be related to certain qualities in the caretaker-child relationship. The concept of generalization could account for the frequently heard anecdotes about a young child's extreme sensitivity to the feelings of others close to him. Also, this

concept provides an explanation for the increasing accuracy in identification of feelings since the young child probably needs to learn the variations of affective responses in others. Several researchers have highlighted the important role that parents play as models in the development of their child's empathic behavior (Ferguson, 1970; Stover, et al., 1971).

The present study fits very well into the framework of decreasing egocentrism suggested by Selman (1971) and Shantz and Watson (1970, 1971). Children between the ages of 3 and 6 were increasingly able to identify and explain the affective and cognitive perspectives of another. Role-taking ability in these areas seemed to follow a continuous growth pattern rather than a discontinuous stage model.

To relate the present design more closely to the steps of decreasing egocentrism proposed by Selman and Shantz and Watson, a future study could investigate when the child actually becomes aware of a difference in affective perspectives. Such a study could ask questions like: "How would you feel (in this situation)? Do you know how this boy will feel?" The results may be interesting for it would be the child's verbalization of his awareness that would be investigated. The results could then be used for comparing the steps of decreasing egocentrism for affective role-taking with the steps for the other types of role-taking.

Since social interaction for children of preschool age has generally increased through the proliferation of day care centers and nursery schools, the recent trend is to re-assess the interpersonal capacities of the young child. In observing mutually responsive speech

in 3-5 year old children, Garvey and Hogan (1973) commented that the young child seems to be egocentric because of a lack of tools for social interaction. This comment suggests that today's preschooler may show less egocentric behavior than his counterpart of a decade ago since the opportunities for social experience have increased. Ferguson (1971) has pointed out that the view of the infant as a social being who shows more reciprocal and social behavior with increasing age and with the proper socialization experiences is one that is quite well accepted in the literature.

Additional Ideas for Future Research

The methodological differences in past studies on empathy in children illustrate the variety of cues that convey affective reactions. Facial expression, body posture, tone of voice, content of words, and sequence of action are among the stimuli that have been used to convey feelings and to measure the phenomenon of empathy. While it is likely that some types of cues are more easily interpreted than others, no systematic study has looked at the degree to which various types of cues are effective in conveying feelings. Such a study could investigate the ease and difficulty of various types of cues, along with setting norms for the detection of such cues by different age and sex groups.

Chandler, et al. (1973) have pointed out that the medium of presentation of stimuli is important in determining the results obtained in a study.

When these investigators presented subjects initially with videotaped sequences of moral dilemma situations, subjects tended to focus on intentions more than when first presented with verbal descriptions of

the same situation. Perhaps the subjects could more easily take the role of the other when they became involved in the action of the stories. Likewise, children may be more accurate in perceiving affective cues when these cues are presented in action sequences.

A movie sequence is probably the most ideal medium for testing empathic awareness (other than natural observation of the child) since such a stimulus would approximate a social situation more closely than static measures of empathy. However, a movie is costly and time consuming, but may be worth the investment for future studies of empathy. A movie could provide a range of affective cues and variations could be created by including or omitting dialogue. These variations could help determine the importance of each type of cue in conveying feelings.

Following Ferguson's concept of the generalization of cues from caretaker to others, an investigation of the child's awareness of his caretaker's feelings could be carried out by using pictures of different affective states of the caretaker or by questioning the child about his awareness of his caretaker's feelings. The caretaker-child relationship could simultaneously be investigated in order to detect possible connections between aspects of the relationship and awareness of feelings. Knowledge of caretaker's feelings could then be compared to awareness of the affective reactions of others. It would be interesting to know the age at which children predict that others will react as their caretaker would and the age at which they begin to realize differences in reactions.

Since the literature contains evidence that role-taking skills can be increased by training (Chandler, 1973), subjects who are low in

empathic awareness could perhaps be helped to improve their skills by discussion and practice in identifying the feelings of others. Differences between individuals could be pointed out and emphasized.

SUMMARY

This study was concerned with the phenomenon of empathic awareness as it is exhibited by young children. Affective and cognitive role-taking were proposed as two components of empathic awareness and were defined respectively as the ability to identify the affective reaction of another and the ability to explain the reasons for the affective reaction. The Affective-Cognitive Role-Taking Task and the Cognitive Inference Task were designed by the author to measure affective role-taking and two levels of cognitive role-taking (simple and complex). Hypotheses concerned the relationship of empathic awareness to age and intelligence, the possibility of sex differences, intercorrelations among the measures, and the effects of type and appropriateness (to the situation) of affects on affective role-taking.

Sixty-seven children between the ages of 3 and 6 who were American born and who had English as the only language spoken in their home were administered the role-taking tasks and the Peabody Picture Vocabulary Test. Analyses of variance (least squares solution) and Pearson product moment correlations were used to test the hypotheses. Statistical analyses demonstrated the expected positive correlation between age and all three measures of empathic awareness. When the total sample was considered, intelligence (defined as mental age level) was positively related to all three measures, thus supporting the hypothesis. However, when age groups were examined separately, the

correlations decreased and presented a variable pattern: affective role-taking was not significantly correlated with intelligence for any of the age groups, simple cognitive role-taking was positively related to intelligence for the 3 year olds, and complex cognitive role-taking correlated positively with intelligence for the 4 and 5 year olds. While no sex differences were expected for any of the measures nor for intercorrelations among them, females performed better than males on the simple cognitive role-taking measure and males showed a stronger correlation between age and the complex cognitive role-taking measure.

Intercorrelations among the measures revealed significant correlations between affective and simple cognitive role-taking for the 3 and 4 year olds, a significant relationship between simple and complex cognitive role-taking for the 4 and 5 year olds, and non-significant correlations between affective and complex cognitive role-taking for all age groups. These results provided partial support for the proposed hypotheses. Tests on the type and appropriateness of affect dimensions of the affective role-taking measure demonstrated easier identification of positive affect (when compared to negative affect) and no difference in the identification of affects that were common to the situation and those that were uncommon; these results supported the relevant hypotheses.

The findings were interpreted as demonstrating non-egocentric qualities in the young child's ability for empathic awareness. That is, the young child was found to exhibit an awareness of the <u>different</u> affective reactions of others; difficulty in identifying and explaining

feelings seemed to come from unfamiliarity with the type of affective reaction rather than from the egocentric stance that others react as the self does. The role that language ability has played in measuring egocentrism in past studies in interpersonal role-taking was discussed and the need for a more precise definition of egocentrism was emphasized. Overall, the results were thought to uphold the notion of decreasing egocentrism in the 3 to 6 year old period since empathic awareness increased steadily over this age range. The instruments used in the study were evaluated and ideas for future research were proposed.

APPENDICES

APPENDIX A

LETTERS TO PARENTS

MICHIGAN STATE UNIVERSITY

PSYCHOLOGY DEPARTMENT · OLDS HALL East Lansing, Michigan 48824

April 1, 1974

Dear Parents:

Empathy has been defined as an understanding of the thoughts and feelings of another. For my doctoral dissertation research, I am interested in studying the development of this type of interpersonal sensitivity with regard to peer interaction. That is, I would like to investigate the young child's ability to understand the thoughts and feelings of another child as presented in stories.

During the months of April and May, I will be carrying out my dissertation research at the Lab Preschool and Spartan Nursery. The Psychology Department and the Preschool Committee of the Institute for Family and Child Study at Michigan State University have approved the design and have consented to letting me use children in the Lab Preschool and Spartan Nursery as subjects in my study. Your child will be included in my study provided you agree to have him/her participate.

Each child in the study will listen to a series of stories in which characters will feel happy, sad, angry, or afraid. The child will be asked to identify the feeling and to tell why the character is feeling that way. The stories are not aimed at producing these feeling states in the child himself and so are not constructed to be upsetting or distressing to the child. The committee has approved each of these stories and has considered them appropriate to present to young children.

In addition to these stories, the child will be presented with a brief picture vocabulary test. The procedures should run about an hour in total time, though each child will be seen on two or three different occasions to complete the tasks. These procedures will not interfere with your child's program.

If you have any questions about the study, please give me a call at either 355-8270 (office) or 351-1954 (home). I will return your call to follow up your request for more information if you are not able to get in touch with me. If you consent to your child's participation, please have your child return the attached permission slip to his/her teacher by Thursday, April 4th. The research will begin as soon as the permission slips are returned. After the study, is completed and written up (during the summer), a summary of the results will be made available at the Preschool Lab and Spartan Nursery for interested parents.

Thank you for your cooperation.

Sincerely,
Lisa Partyka
Ms. Lisa Partyka

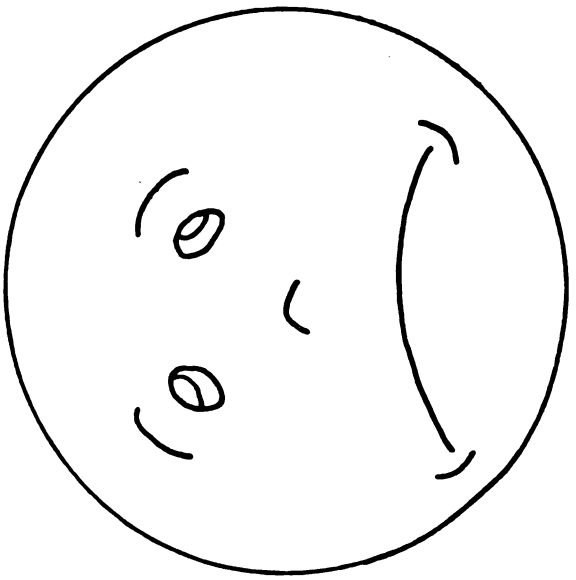
I give my permission for _____ to participate in research on empathic awareness conducted by Lisa Partyka.

Signature: _____

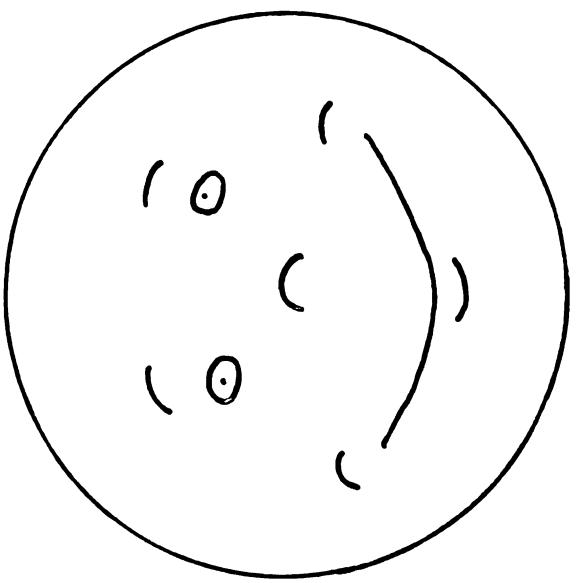
Date: _____

APPENDIX B

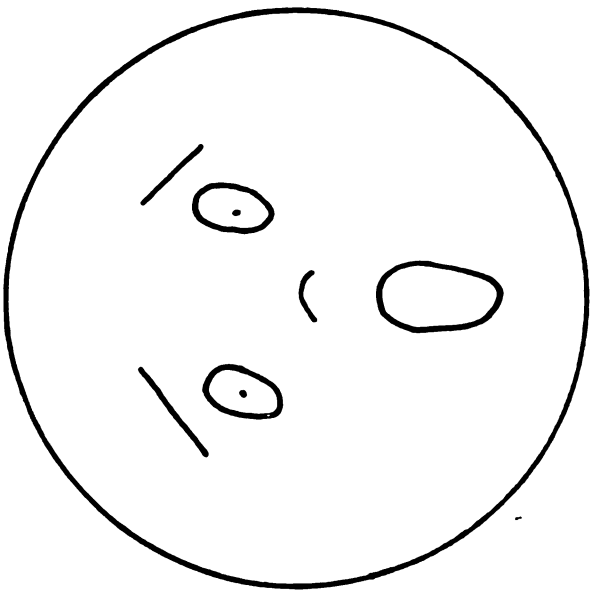
FACES USED IN THE IDENTIFICATION OF FEELINGS FOR THE AFFECTIVE-COGNITIVE ROLE-TAKING TASK



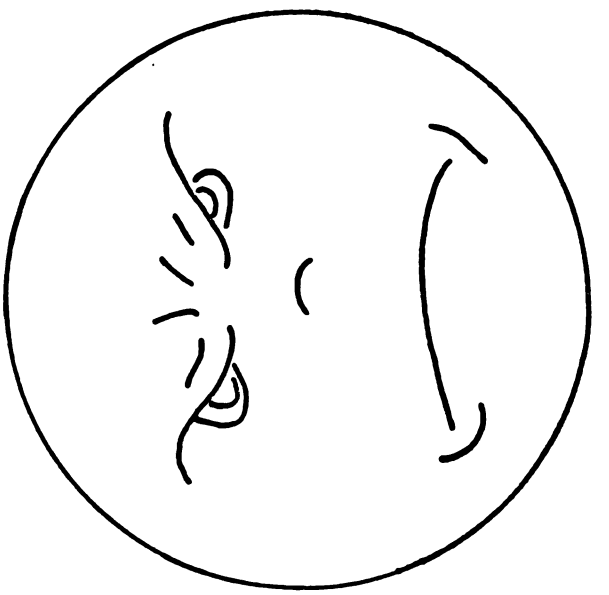
Sad



Happy



Afraid



Angry

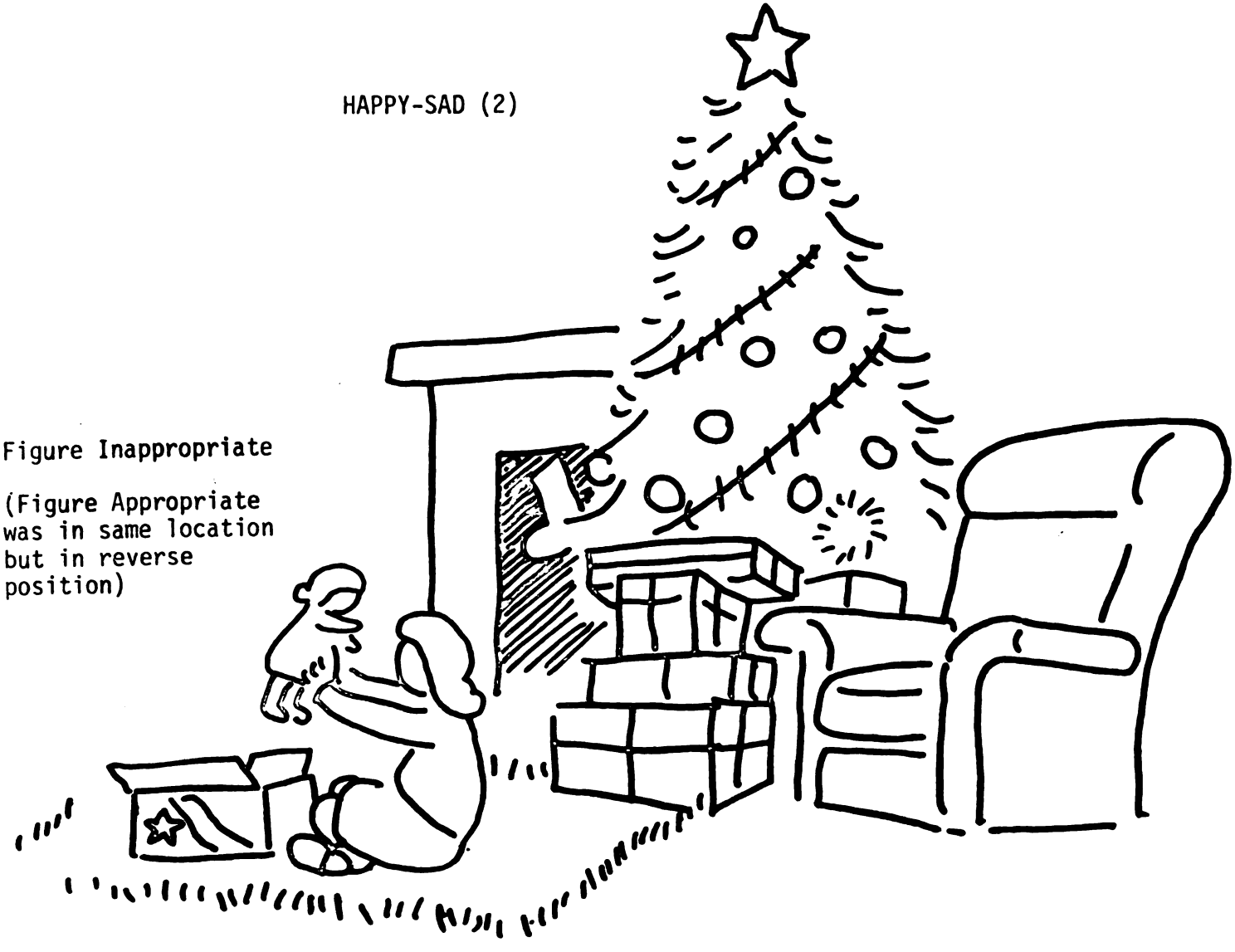
APPENDIX C

BACKGROUND SCENES AND SAMPLE FIGURES FOR THE AFFECTIVE-COGNITIVE ROLE-TAKING TASK

HAPPY-SAD (2)

Figure Inappropriate

(Figure Appropriate was in same location but in reverse position)



HAPPY-ANGRY (1)

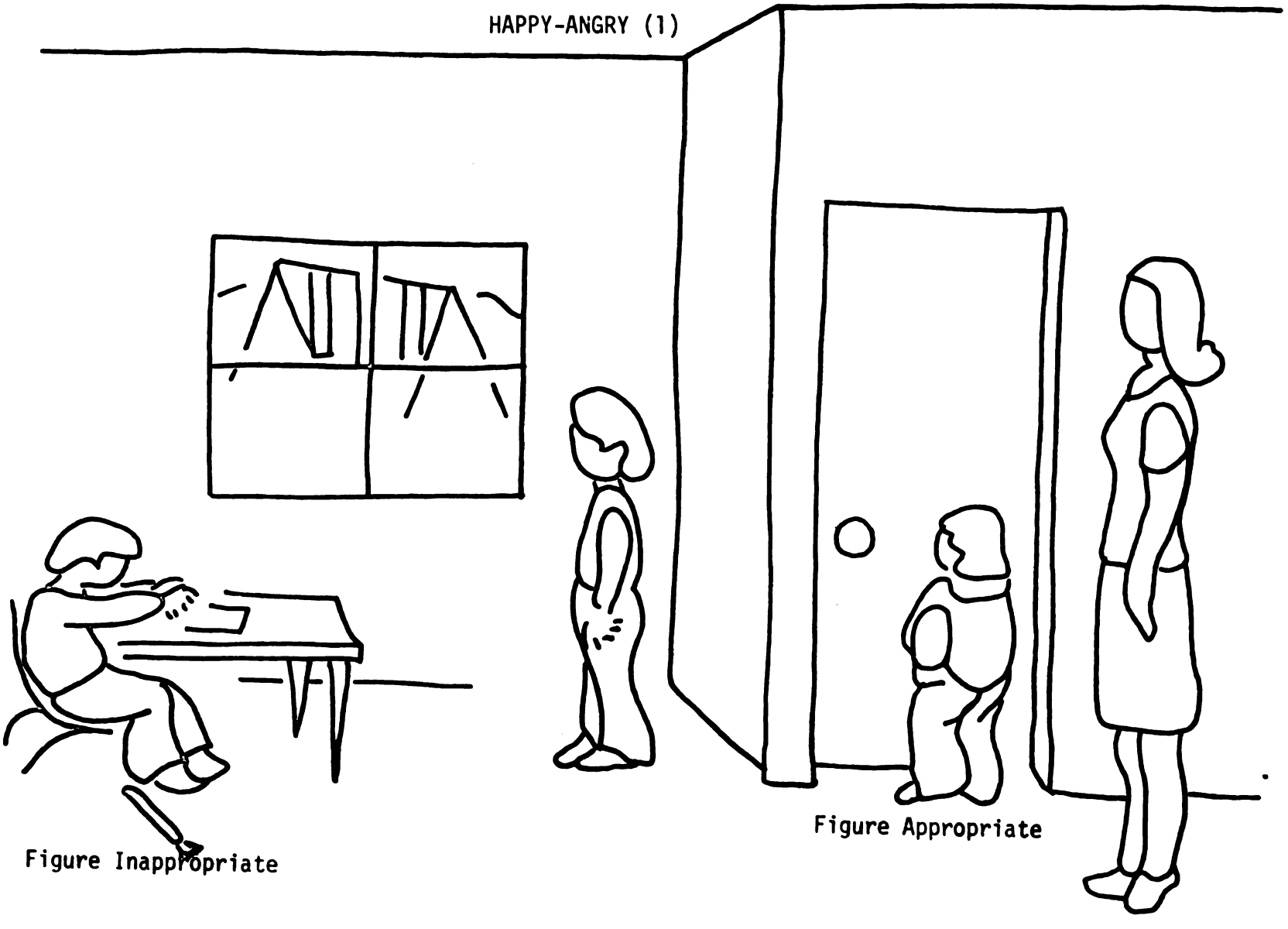
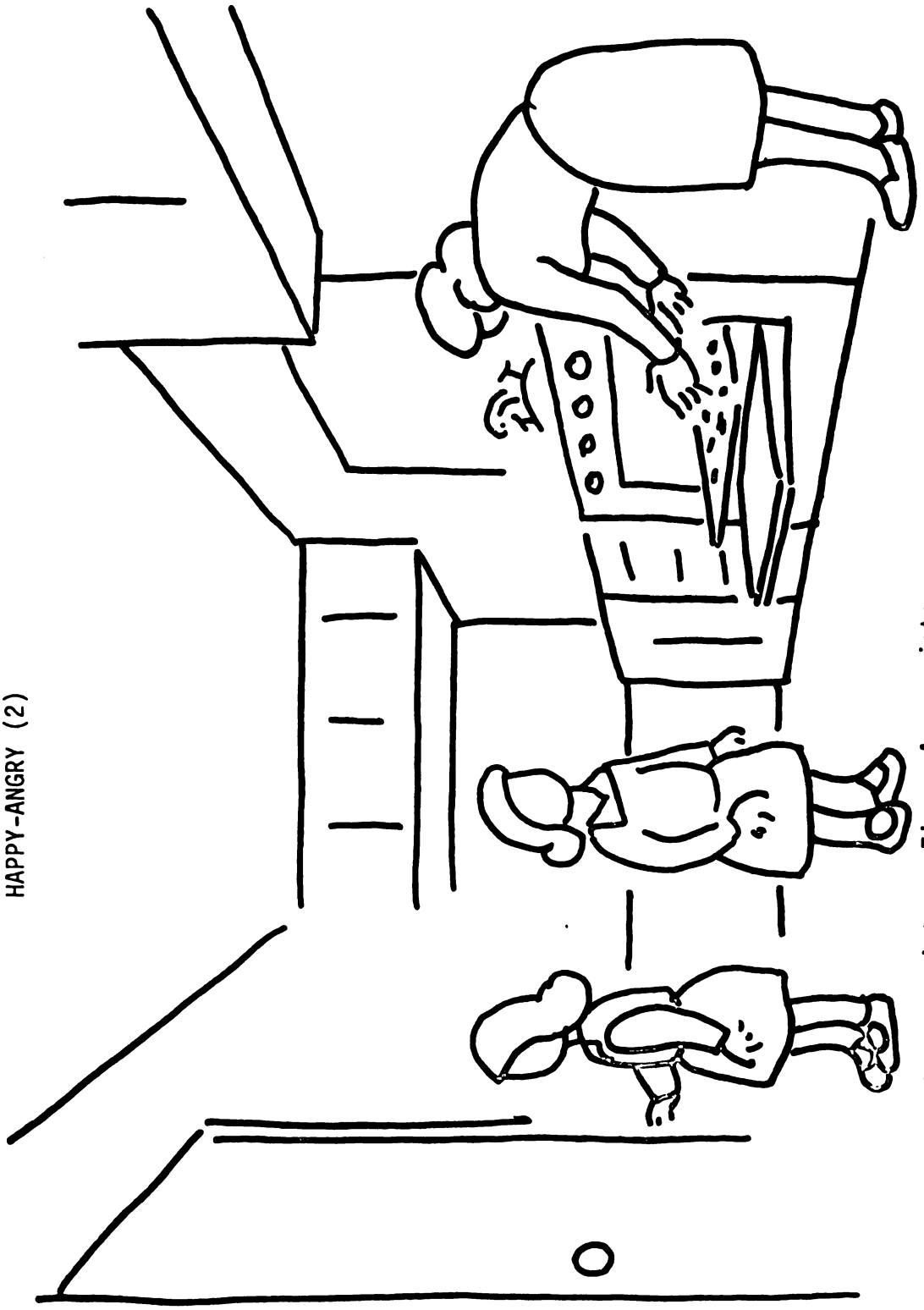


Figure Inappropriate

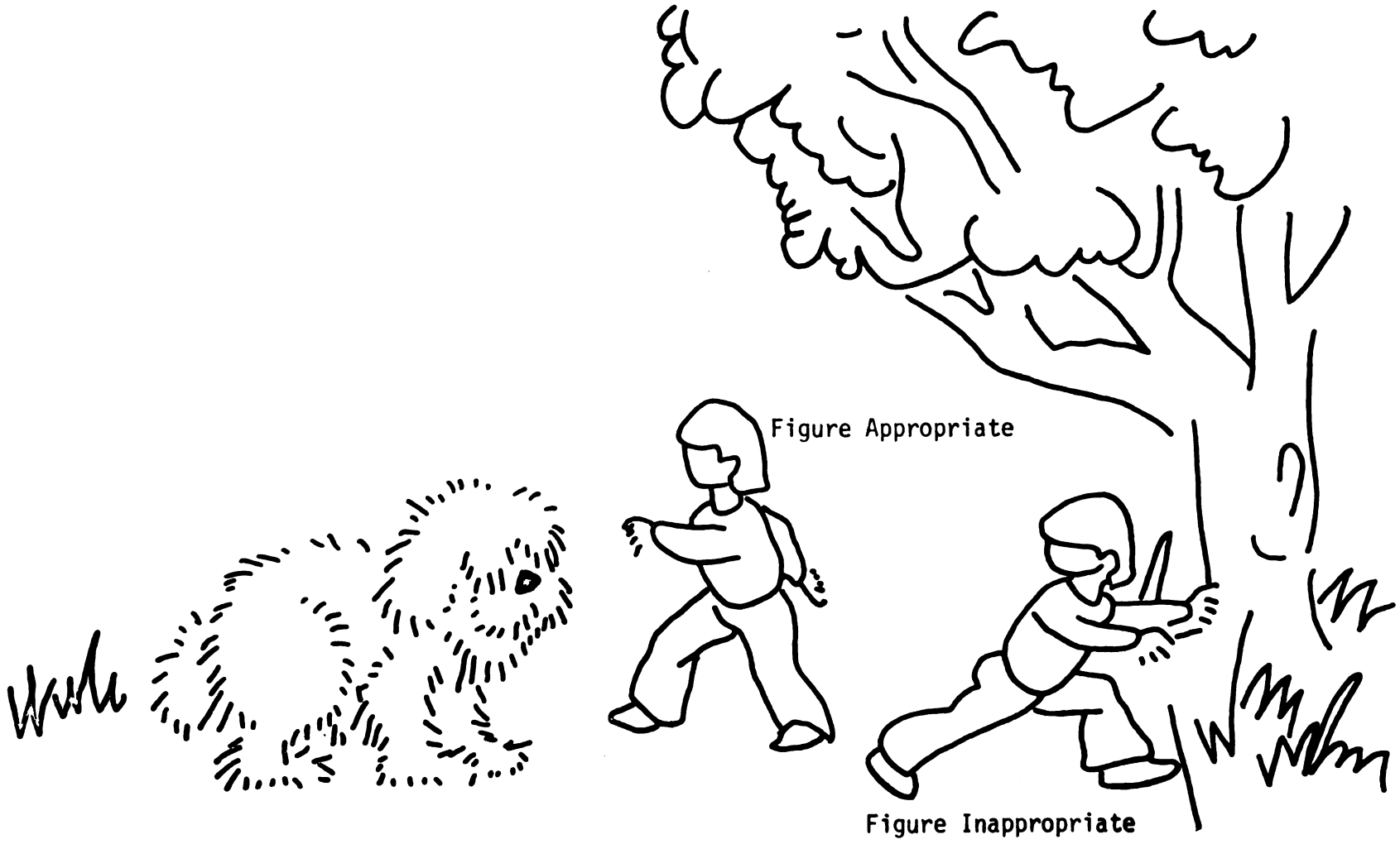
Figure Appropriate



HAPPY-ANGRY (2)

Figure Inappropriate Figure Appropriate

HAPPY-AFRAID (1)



HAPPY-AFRAID (2)

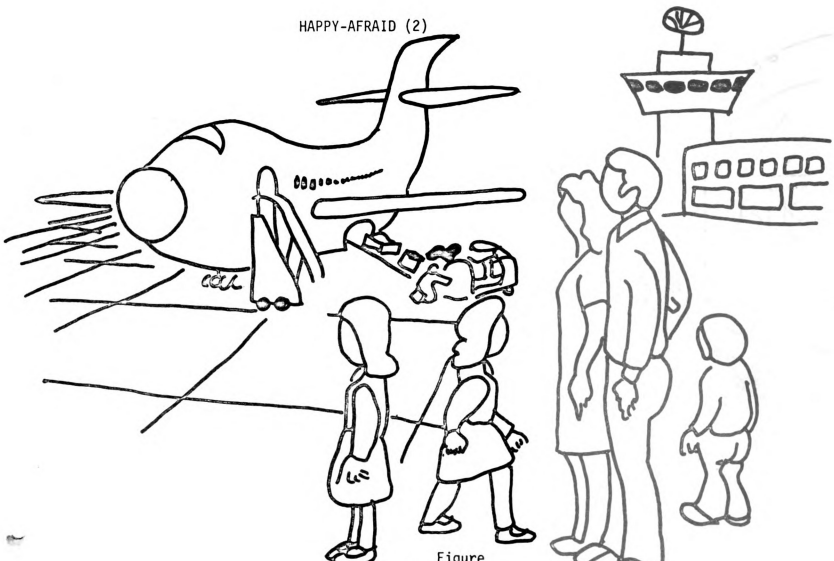


Figure
Appropriate

Figure
Inappropriate

SAD-HAPPY (1)

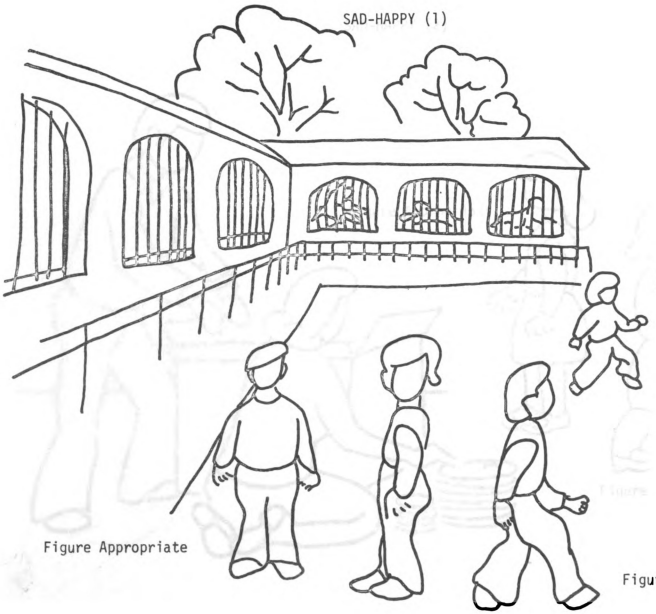


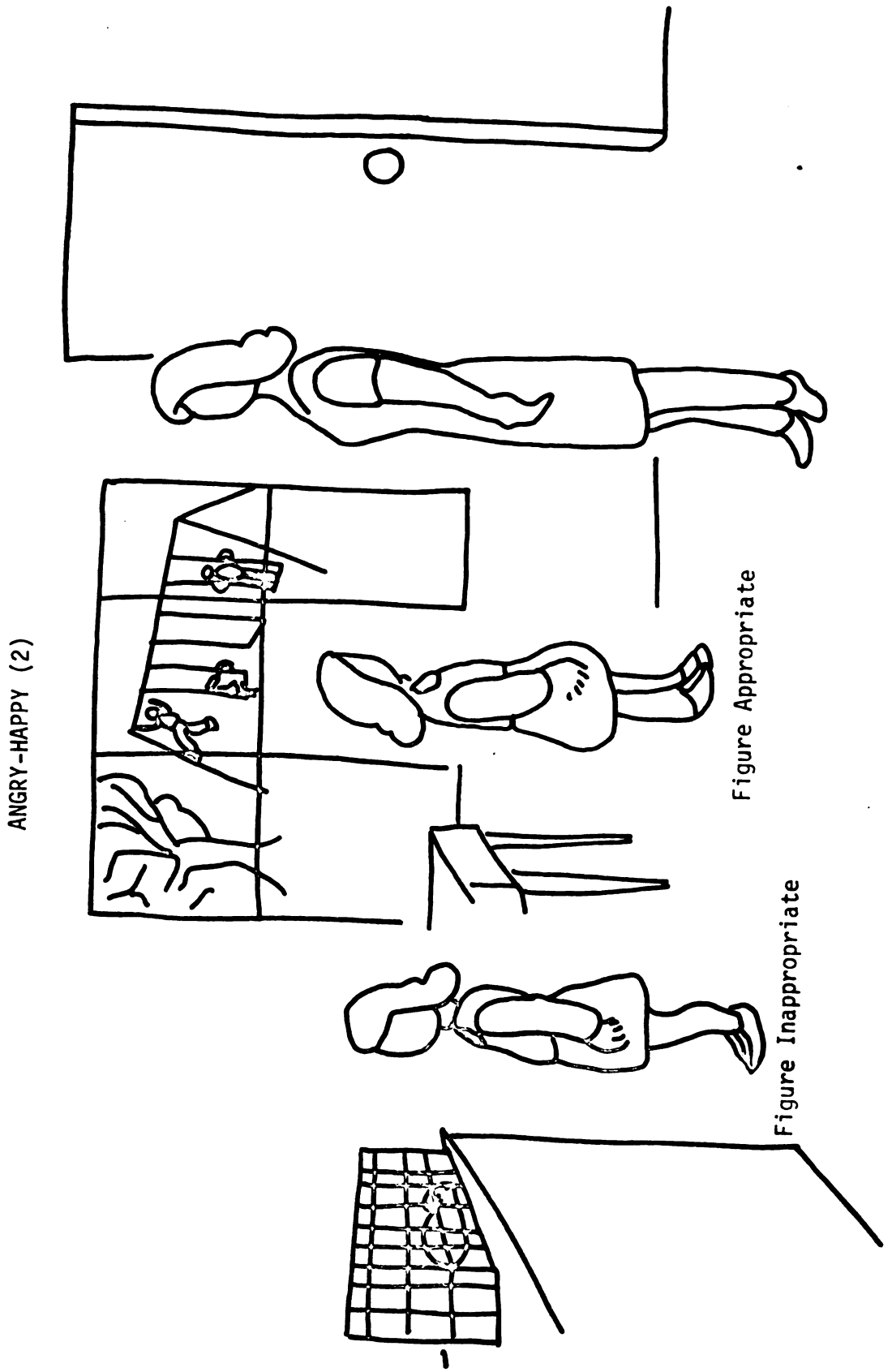
Figure Appropriate

Figure Inappropriate

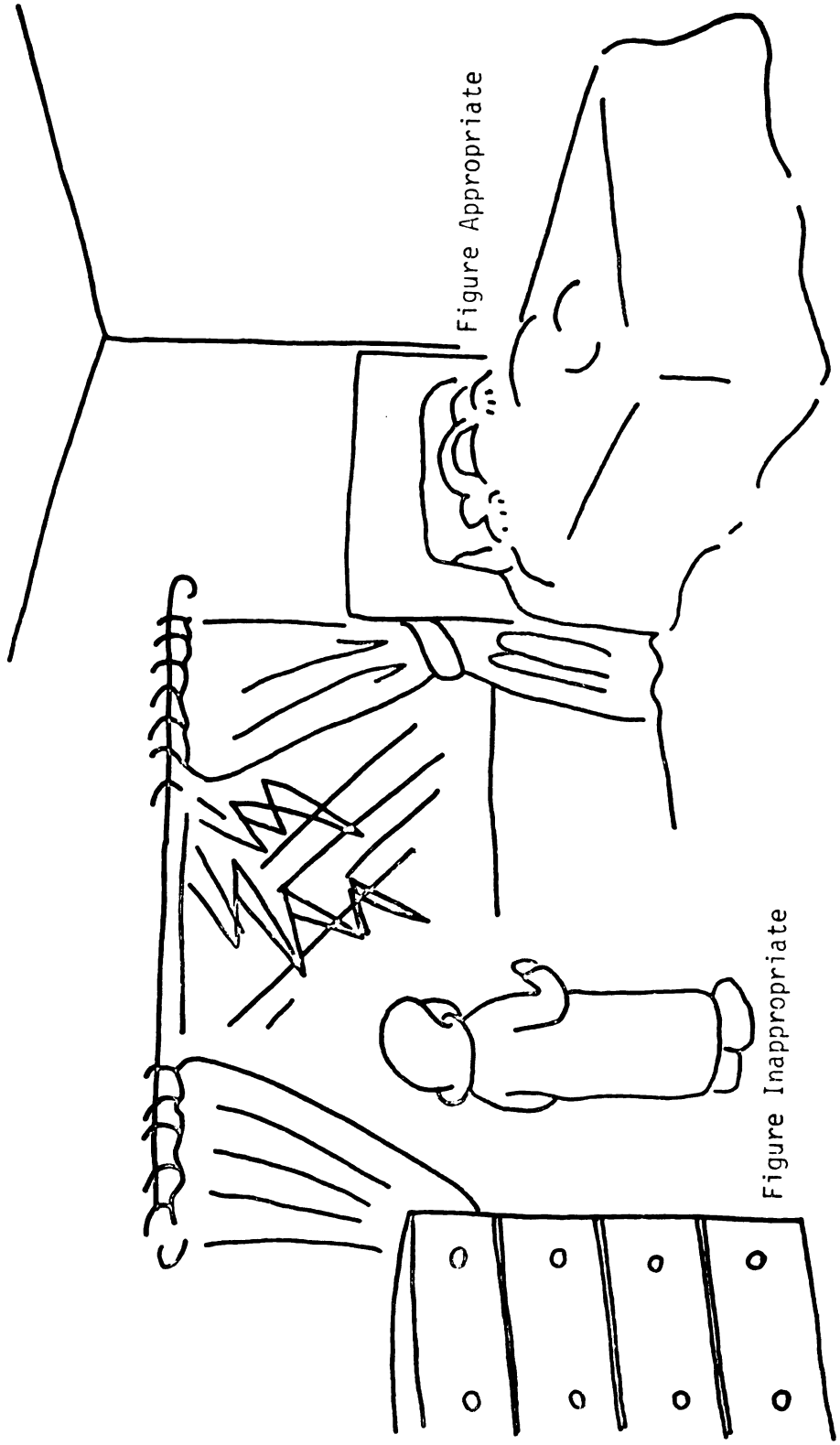
ANGRY-HAPPY (1)

Figure Appropriate

Figure Inappropriate


ANGRY-HAPPY (2)
Figure Appropriate
Figure Inappropriate
1

AFRAID-HAPPY (2)



APPENDIX D

STORIES FOR THE AFFECTIVE-COGNITIVE ROLE-TAKING TASK

STORIES FOR THE AFFECTIVE-COGNITIVE

ROLE TAKING TASK

Happy-Sad

1

This is a picture of children in a classroom. The teacher just told the children that they can choose any toy they want to play with or any activity they want to do. There are many toys and activities in the classroom and they can choose their most favorite thing. How do you think you would feel if you were able to choose your most favorite toy to play with or your most favorite activity to do? How come?

Appropriate

Well, this boy* goes over to the painting corner and takes out some paper and the fingerpaints. He says to the friend across the table from him: "Boy, I love to do fingerpainting. It is my most favorite thing to do. I like to fingerpaint more than anything else. It's so nice that we could choose what we want to do. This sure is fun. I hope I can do it all the time." How do you think this boy is feeling? How come?

Inappropriate

Well, this boy goes over to the closet where the record player is kept. He wants to play some records. But when he opens the closet he finds that the record player isn't there. The teacher tells him that the record player is broken and that it won't be back in the classroom that day. He says: "Oh, now I can't play the Walt Disney records. They are my favorite records and listening to music is my favorite thing to do. I like to listen to records more than anything else. Now, I don't feel like doing anything. I want to listen to records so much. Now, I can't do that." How do you think this boy is feeling? How come?

2

This is a picture of a Christmas tree. All of the gifts are underneath the tree and it is almost time for everyone to sit down and open up their presents. How do you think you would feel if you were about to open up presents like these? How come?

Appropriate

This boy sits down on the rug and takes the prettiest wrapped

---

* Gender of nouns and pronouns was changed for female subjects. Other changes for the two sexes are indicated by slash (/) marks.

present from under the tree. He opens the box and finds a football/doll. He says: "Boy, I really wanted a football. Now I can play football with my friends anytime I want. I really like this football." How do you think this boy is feeling? How come?

Inappropriate

This other boy, his brother, then takes the prettiest of his presents. He unwraps the gift and finds that he also got a football. He takes the football out of the box and says: "Oh, I wanted a baseball/puppet. I don't like to play football. I was hoping to get a baseball for Christmas so I could play baseball with my friends. I wish I got a baseball." How do you think this boy is feeling? How come?

Happy-Angry

1

This is a picture of a classroom. The children have been inside all morning and it is almost time for them to go outside and play on the playground. The teacher tells them that they can stop what they're doing and put on their jackets to go outside. How do you think you would feel if you were in this class and it was almost time to go outside and play on the playground? How come?

Appropriate

This boy just finished playing with the blocks/dolls. He goes to his locker to put on his jacket. He then runs to the door to look outside and then says to his friend: "I'm tired of being inside. I want to go outside and play on the playground. I really like to swing on the swings. Yesterday I swung real high and now I can try it again." How do you think this boy is feeling? How come?

Inappropriate

This other boy was still painting a picture. When he hears the teacher tell the class to stop and put their jackets on, he says to the teacher: "I don't want to go outside. I want to stay inside and finish my painting." When the teacher tells him that he has to stop now, he yells: "I don't want to go outside now." Then he throws his paintbrush on the floor and goes and sits down at the table. He says again: "I'm not going outside." How do you think this boy is feeling? How come?

2

This is a picture of a mother just taking some cookies out of the oven after she baked them for her children. They are chocolate chip cookies and she is going to give the cookies to her children after supper. How do you think you would feel if your mother made cookies for you? How come?

Appropriate

This boy comes over and smells the cookies. He says: "Hmm. They sure do smell good! Chocolate chip cookies are my favorite. Thank you for making them. I really am going to like dessert tonight." How do you think this boy is feeling? How come?

Inappropriate
This other boy, his brother, comes over and smells the cookies too. He asks his mother if he could have a cookie now. When his mother says that he will have to wait till after supper, he says: "But I want a cookie now. I don't want to wait till tonight. I'm hungry." His mother again says that he will have to wait and he turns around, walks toward the door, and wants to slam it so that it will make a loud noise. He yells to his mother: "You're mean. I want a cookie now!" How do you think this boy is feeling? How come?

Happy-Afraid
1
This is a picture of a big furry dog named Bennie who lives in the neighborhood. Bennie likes to run and play with the children and the children like to pet Bennie. The children look for Bennie to play with when they go outside. How do you think you would feel if you could play with Bennie? How come?
Appropriate
This boy likes to play with Bennie too. He runs and then stops and waits for Bennie to chase him. Then he runs the other way and when Bennie catches up he stops and hugs Bennie around the neck and says: "I like you Bennie. You are a nice dog. It's so much fun to play with you. I like to run and have you chase me. Let's play again." The little boy starts to run again. How do you think this boy is feeling? How come?
Inappropriate
This other boy doesn't like to play with Bennie. He remembers when he was bitten by a big dog last summer and he doesn't like to go near big dogs anymore. Bennie comes over to this boy and the boy says: "Go away Bennie. I don't want you to come close to me. I think you will bite me." This boy runs away from Bennie. How do you think this boy is feeling? How come?

2
This is a picture of an airplane. This family is going to take its first ride on an airplane, this airplane. They always liked to look at airplanes and always wondered when they were going to take a ride. They always wanted to take a ride. And here they are ready to go for their first ride. How do you think you would feel if you were going to take your first ride in this airplane? How come?
Appropriate
This boy is waiting with his family and is watching the men put the suitcases into the airplane. He says to his family: "Boy, I can't wait till we get on the airplane. We're going to get on the plane in just a few minutes. I have always wanted to fly in an airplane. I want to get on the plane just as soon as I can and I want to see where the airplane pilot sits." How do you think this boy is feeling? How come?

Inappropriate
This other boy, his brother, is also watching the men put the suitcases into the airplane. He turns to his family and says: "I don't want to go in that airplane. That airplane is too big. We're going to go too high in the sky and when we look down we'll be too far away from the ground. I don't like to be so far away from the ground. I want to stay here." How do you think this boy is feeling? How come?

Sad-Happy
1
This is a picture of the zoo. The children in this class have come to the zoo for the day and it is now time for them to go home. They have not had a chance to visit all of the animals but the bus is waiting to take them home. They waited a long time to come to the zoo and now they will have to go home without seeing the lions, elephants, and giraffes. How do you think you would feel if you had to leave the zoo without seeing all of the animals? How come?
Appropriate
This boy is still looking around at the animals. He says to his friend: "I wish we could stay and see the rest of the animals. I like the lions and the giraffes the best. I wish we didn't have to go home now. We waited a long time to come to the zoo and now we have to go home. I wish we could stay." How do you think this boy is feeling? How come?
Inappropriate
This other boy is hurrying to get to the bus. He remembers that he will go to the circus with his mother and father as soon as he gets home. He knows that he will see lions, elephants, and giraffes at the circus. He says to a friend: "I really want to get home quick so I can go to the circus with my mother and father. I want to leave the zoo now because we will go to the circus just as soon as I get home." How do you think this boy is feeling? How come?

2
This is a picture of a family who is moving out of their house and away from all of their friends in the neighborhood. They are moving to another house in the same town, but they will not be living close to their friends in the neighborhood and they will not be able to see them as many times. How do you think you would feel if you moved away from where you live and away from your friends in the neighborhood? How come?
Appropriate
This boy was walking around the house very slowly. He was watching his mother and father pack up the dishes. He walks over to his parents and says: "I don't want to move away from here. All of my friends live around here. Johnnie/Patty lives next door, Billy/Mary lives across the street, and Sally/Ricky lives on the corner. I am going to miss them. I don't want to move away."

How do you think this boy is feeling? How come?

Inappropriate

This other boy, his brother, was busy packing his toys in a box. He is doing everything in a hurry. As he carries a box outside, he stops and says: "I want to move to the other house. It is near a lake where we can go swimming, fishing, and ride in a boat. Besides, my friends live around the lake; they don't live here. I will like living near my friends when we move. I like moving." How do you think this boy is feeling? How come?

Angry-Happy .

1

This is a picture of a mother and a father in a living room. They have just told their children to go upstairs to their room because some of the mother's and father's friends are coming over. The children were watching cartoons on T.V. The cartoons weren't over when their mother and father told them to go upstairs but they would be over in a few minutes. The children cannot finish watching cartoons because there isn't a T.V. upstairs. How do you think you would feel if your mother and father told you to go to your room when you were watching cartoons and they would be over in just a few minutes? How come?

Appropriate

This boy doesn't get up from his chair. He keeps looking at the T.V. set while he's sitting and when his mother and father tell him to go upstairs to his room, he says: "I don't want to go upstairs. Those cartoons are funny and they're not over yet." His mother and father remind him again that he has to go to his room now. He yells: "I don't like this. I don't want to go upstairs. You're mean cause you're making me go upstairs when the cartoons aren't over yet. I don't like you." How do you think this boy is feeling? How come?

Inappropriate

This other boy, his brother, gets out of his chair when his parents tell him to go upstairs to his room. He remembers that he has a new toy in his room that he just got for his birthday. As he walks up the stairs, he says: "I don't mind going upstairs. Now I can play with my new toy. I don't like cartoons anyway. It doesn't bother me that we can't watch the rest of them. Now I can see how the toy works. I haven't had a chance to play with the toy yet." How do you think this boy is feeling? How come?

2

This is a picture of a classroom on a day when it had rained a little outside. It is not raining now but it is just a little wet outside and the teacher has just told the children that they cannot go outside. The children from the other class were allowed to go outside and they are out playing on the new swings that the school just got. How do you think you would feel if you had to stay inside on a day like this when the school just got a new set of swings and the children from the other class were allowed

to go outside? How come?

Appropriate

This boy walks over to the window and says to the teacher: "It's not raining now outside. Why can't we go outside. The other children are outside. I like rain anyway and I want to play on the new set of swings." When the teacher tells him that he has to stay inside, he says: "That's not fair. The children from the other class are outside. I want to go outside." The teacher again tells him that he has to stay inside and he says: "I want to go outside. You're not being fair." How do you think this boy is feeling? How come?

Inappropriate

This other boy looks outside when the teacher tells them they can't go outside, but he turns around and walks over to the hamster cage. He remembers that he played on a new set of swings yesterday at the playground near his house. He thinks that he doesn't like to be outside when it is wet. He says to the teacher: "I don't mind staying inside. Now I can play with the hamster. The hamster will only be here a week and I want a chance to play with him. I don't like rain anyway so I don't want to go outside. I like staying inside today." How do you think this boy is feeling? How come?

Afraid-Happy

1

This is a picture of a child in a snow storm. It is snowing so much that the child can hardly see where he/she is going. He cannot even see where his house is or where he is walking. He feels very lost. How do you think you would feel if you were out in this snow storm? How come?

Appropriate

This boy was outside when it started snowing. He was playing and very soon it began to snow so much that he couldn't see his house. He wants to go home but he is having a hard time seeing. He says: "Can anybody help me? I can't see where I'm going. I'm lost!" He sees that no one is around him and he starts to call out: "Mommy...Mommy..." How do you think this boy is feeling? How come?

Inappropriate

This other boy is also out in the storm but he is playing in front of his house. He can go inside anytime he wants. The house is so close that he can see his mother inside. He decides to make a snowman and as he is rolling the snow he says: "Boy, I like to make snowballs. It's so much fun to play in the snow. I hope it snows all night so it will be all white outside tomorrow. I'm going to stay right here and play in the snow." How do you think this boy is feeling? How come?

2

This is a picture of a thunder and lightning storm outside. It is late at night. All of the people fell asleep and then the storm woke them up. The thunder is making so much noise that it seems like the house is shaking. It is real dark except when the

lightning lights everything up all at once. How do you think you would feel if you heard the thunder and saw the lightning in this thunder and lightning storm? How come?

Appropriate

This boy is hiding under his covers. He heard the thunder and it made so much noise that he wanted to get away from it. The lightning flashed in the window and it was so bright that he wanted to get away from that too. He doesn't like to be alone during thunder and lightning storms. He calls for his mother and father. He says: "Mommy, Daddy, could you please come in here? I don't like thunder and lightning. I don't want to be alone. I don't like all that noise." How do you think this boy is feeling? How come?

Inappropriate

This other boy was also awakened by the storm but he isn't hiding under his covers. He gets up out of bed and goes to the window to look at the storm. He especially likes to look at the lightning. His mother and father call to him and he says to them: "Boy I like thunder and lightning. I like all this light and noise. Can I stay up awhile and watch the storm. Do you want to watch the storm with me out of my bedroom window?" How do you think this boy is feeling? How come?

APPENDIX E

DESCRIPTION OF TESTING PROCEDURE AND VERBATIM INSTRUCTIONS

DESCRIPTION OF TESTING PROCEDURE

AND VERBATIM INSTRUCTIONS

Subjects were administered the test materials in the following order: Affective-Cognitive Role-Taking Task, Peabody Picture Vocabulary Test, Cognitive Inference Task. The testing procedure for this order of administration and verbatim instructions accompanying the tasks follow.

Affective-Cognitive Role-Taking Task

After the subject was settled in his seat in the testing room, the experimenter said:

> "Before we listen to the stories I want to show you some faces and I am going to ask you to tell me what each face is feeling."

(These faces were used as a criterion for determining whether the child would be capable of doing the task). As the experimenter picked up the happy face, she said:

> "Here is the first face. Can you tell me what this face is feeling?"

If the subject did not know the name of the face, he was given the name by the experimenter. The faces were presented in the following order: happy, sad, angry, afraid. After all four faces were presented, subjects who had to be given a name for any one of the faces were asked again to name the faces in the same order. This procedure was repeated until the subject successfully and spontaneously named all of the faces. (The angry face was also called the mad face and the afraid face was also called the scared face). The number of trials needed to reach criterion after the initial naming of the faces was recorded for each subject.

After all of the faces were named successfully, the experimenter said:

> "We are going to listen to some stories in which boys/girls (depending on the sex of the subject) just like yourself will feel one of the feelings shown on the face. I want you to tell me what you think the boy/girl is feeling by pointing to the face that shows me the feeling. You can think the boy/girl is feeling happy (the experimenter pointed to the appropriate face and continued doing this for the next three feelings)

> sad, angry, or afraid. You don't have to point if you just want to tell me what the feeling is. I just want to know what face you are thinking of. We will listen to half the stories today and I will come back another time to listen to the others with you."

The experimenter then took the first background picture in her hand and showed it to the subject, saying:

> "Here is the first picture. First we will hear something just about the picture and then we will listen to stories about boys/girls in the picture. Let's turn on the tape recorder and hear about the picture. I want you to listen real hard because the tape recorder will ask you a question."

At this point, the experimenter turned on the tape recorder to listen to the recorded stories (which had been inserted in the tape recorder before the child was taken to the testing room).

After hearing the introductory description of the background scene with the accompanying question about how the subject himself would feel in the situation, the experimenter turned off the tape record and waited for the subject to spontaneously point to a face or say how he would feel. If the subject did not indicate a response, the experimenter asked:

> "Can you point to the face that tells me how you would feel?"

The experimenter waited until the subject gave an answer, and then asked:

> "How come?"

If the subject did not respond, the experimenter added:

> "How come you would feel this way (the experimenter pointed to the face the subject did)?"

If the subject had verbalized his answer, the experimenter's probe was:

> "How come you would feel (happy, sad, angry, afraid)?"

The experimenter again waited for a response before going on with the task.

After these first answers were recorded, the experimenter took the first stimulus character from the envelope behind the picture and while placing the figure on the background scene, she said:

> "Now we will hear about the first boy/girl. Here is the first boy/girl. He/she will be right here."

The tape recorder was turned on and after the story was listened to, the same procedure for recording the responses for affect identification and for explanation of the reasons for the affective state followed. If the subject had difficulty in responding spontaneously, the appropriate questions asked by the experimenter were:

> "Can you point to the face that shows me how this boy/girl is feeling? How come this boy/girl is feeling this way (or happy, sad, angry, afraid)?"

The stimulus figure and story were presented for the second character in the background scene and the appropriate procedure was followed for recording responses. While the responses were being written down, the experimenter asked the subject:

> "Can you scramble the faces for me a little? Just mix them up a bit."

(The faces were each contained on a 5x5 inch piece of white cardboard and it was part of the experimental procedure to change their spatial positions between the administration of the background pictures).

The second background picture was introduced with the words:

> "Now we will go on to the next stories. Here is the picture for the stories. Let's first hear about the picture."

The remaining pictures were presented in like order (during several sessions) until all had been given. The experimenter varied the instructions somewhat when it was necessary to do so to keep the attention of the subject. Also, the subject's questions and verbalizations about his own experiences were followed up. Generally, instructions were flexible enough to adapt the task somewhat to the child but still allow for some standardization of procedure.

Peabody Picture Vocabulary Test

The PPVT was administered after an appropriate number of pictures from the Affective-Cognitive Role-Taking Task were given. The PPVT was introduced by repeating the instructions in the manual (p. 7): "I want to play a picture game with you..."

Cognitive Inference Task

The Cognitive Inference Task was the last test administered. It was introduced with the words:

> "Now we are going to listen to some other stories. We won't be using the faces for these stories because we can see how the boy/girl is feeling by looking at the picture (the experimenter pointed to the facial expression of the stimulus figure and of the other characters in the picture). These stories are longer than the ones we've been listening to so I'm going to ask you to listen real hard. The tape recorder will ask you one question at the end of the story."

When the subject was ready to listen to the story, the tape recorder was turned on and the subject was presented with the first picture. Since the story contained four pictorial frames, the experimenter pointed to the new frame at the appropriate moment in the story. If the subject did not respond spontaneously to the question asked at the end of the story, the experimenter repeated the question and waited for the subject to answer.

APPENDIX F

FURTHER GUIDELINES AND SCORING EXAMPLES FOR THE COGNITIVE ROLE-TAKING MEASURE

FURTHER GUIDELINES AND SCORING EXAMPLES

FOR THE COGNITIVE ROLE-TAKING MEASURE

Further Guidelines in Scoring:

- Ignore inaccuracy in time periods
- As long as the subject gives an explanation of the reasons for the character's feeling, ignore statements about what will happen to the character in the future
- Ignore inaccuracies in verb tense unless the meaning of the response is changed significantly

Happy-Sad (1)

Character 1 (Appropriate)
Affect: Happy
Reason: He/she was able to do his/her favorite activity (finger-painting).

- Level 3: she can do her favorite thing
  he got to fingerpaint
- Level 2: she likes to fingerpaint
  he wants to fingerpaint
- Level 1: he is fingerpainting
  she is painting a picture

Character 2 (Inappropriate)
Affect: Sad
Reason: He/she wanted to play with the record player and couldn't because the record player was broken.

- Level 3: he likes to play the records and he can't
  he wants to play with the records and the record player is broken
- Level 2: she wants to play with the records
  the record player is broken
- Level 1: she doesn't play the records
  he isn't playing the records

Happy-Sad (2)

Character 1 (Appropriate)
Affect: Happy
Reason: He/she wanted a football/doll and got it.

- Level 3: he wanted a football and got it
  she wanted a doll and can play with her friends now
- Level 2: he can play with his football
  she wants a doll
- Level 1: he has a football
  now she can play

Character 2 (Inappropriate)
Affect: Sad
Reason: He/she wanted a baseball/puppet but instead got a football/doll.
Level 3: he doesn't want a football, he wants a baseball
she wants a puppet instead of a doll
Level 2: she doesn't like a doll
he didn't want a football
Level 1: she doesn't have a puppet
he likes to play baseball

Happy-Angry (1)
Character 1 (Appropriate)
Affect: Happy
Reason: He/she wants to go outside on the swings and is able to.
Level 3: he gets to go outside
she wants to go outside and can
Level 2: he likes to go outside
she wants to play on the swings
Level 1: he is going outside
she was inside all morning
Character 2 (Inappropriate)
Affect: Angry
Reason: He/she wants to stay inside and finish painting a picture but he/she has to go outside.
Level 3: he has to go outside and he doesn't want to
the teacher tells her to go outside and she wants to stay inside
Level 2: he doesn't want to go outside
she wants to stay inside
Level 1: she is going outside
the teacher tells him to go outside

Happy-Angry (2)
Character 1 (Appropriate)
Affect: Happy
Reason: He/she likes chocolate chip cookies and will get to have one for dessert.
Level 3: she will have cookies after dinner and she wants one
he gets to eat the cookies
Level 2: he likes cookies
her mother made cookies for her
Level 1: the cookies smell good
the cookies were baking
Character 2 (Inappropriate)
Affect: Angry
Reason: He/she wants a cookie now and can't have it.
Level 3: she can't have a cookie
he didn't get to have a cookie
Level 2: he wants a cookie
she has to wait for a cookie

Level 1: she isn't eating a cookie
there are no cookies now

Happy-Afraid (1)
Character 1 (Appropriate)
Affect: Happy
Reason: He/she likes to play with Bennie.
Level 3: she can play with Bennie
he likes to play with Bennie
Level 2: he can play
he likes it
Level 1: she is playing
Bennie likes her
Character 2 (Inappropriate)
Affect: Afraid
Reason: He/she thinks Bennie will bite him/her because he/she was bitten by a big dog last summer.
Level 3: she thinks he will bite her
he was bitten before by a dog
Level 2: she doesn't like dogs
he is scared of dogs
Level 1: there is a dog behind him
the dog is there

Happy-Afraid (2)
Character 1 (Appropriate)
Affect: Happy
Reason: He/she likes riding in airplanes.
Level 3: he likes airplanes
she wants to go in the airplane
Level 2: he wants to see where the pilot sits
he likes it
Level 1: he is going on the airplane
she can go high in the sky
Character 2 (Inappropriate)
Affect: Afraid
Reason: He/she doesn't like going so high up in the sky.
Level 3: he doesn't want to go high
she doesn't want to be far away from the ground
Level 2: she doesn't like airplanes
he doesn't want to go on the airplane
Level 1: she is going on the airplane
he never was on an airplane before

Sad-Happy (1)
Character 1 (Appropriate)
Affect: Sad
Reason: He/she doesn't get to stay at the zoo and see all of the animals.
Level 3: he can't stay at the zoo
she doesn't get to see all of the animals

Level 2: he doesn't want to leave
she want to see the animals
Level 1: she's going home
he's leaving

Character 2 (Inappropriate)
Affect: Happy
Reason: He/she is looking forward to going to the circus when he/she gets home.
Level 3: he gets to go to the circus
she can go to the circus
Level 2: he wants to go home
she wants to leave the zoo
Level 1: he is going home
she is going on the bus

Sad-Happy (2)
Character 1 (Appropriate)
Affect: Sad
Reason: He/she is going to miss his/her friends when the family moves.
Level 3: she won't see her friends
he wants to play with his friends and he won't have them
Level 2: she doesn't want to move
he wants to stay
Level 1: she's moving
he likes his house
Character 2 (Inappropriate)
Affect: Happy
Reason: At the new house, he/she will be near his/her friends and will be able to swim and ride in a boat.
Level 3: she will be near her friends
he will be able to swim
Level 2: he wants to move
he likes to ride in the boat
Level 1: he's moving
he's leaving his house

Angry-Happy (1)
Character 1 (Appropriate)
Affect: Angry
Reason: He/she couldn't stay downstairs and watch the rest of the cartoons.
Level 3: he wanted to watch the cartoons and his parents said no
she can't watch the cartoons
Level 2: he wants to stay downstairs
he doesn't want to go upstairs
Level 1: she's going upstairs
his parents tell him to go upstairs
Character 2 (Inappropriate)
Affect: Happy
Reason: There is a new toy upstairs that he/she can play with.

Level 3: he wants to go upstairs and play with the toy
she likes to go upstairs and play with the toy
Level 2: he likes to go upstairs
he got a new toy
Level 1: she is going upstairs
he doesn't like cartoons

Angry-Happy (2)
Character 1 (Appropriate)
Affect: Angry
Reason: He/she can't go outside.
Level 3: he doesn't get to go outside
the teacher won't let her go outside
Level 2: she wants to go outside
he doesn't want to stay inside
Level 1: he never played on the swings
she is staying inside
Character 2 (Inappropriate)
Affect: Happy
Reason: He/she wants to stay inside and play with the hamster because he/she doesn't like rain and it is raining outside.
Level 3: he doesn't have to go outside
she can stay inside and doesn't like rain
Level 2: he doesn't like rain
he doesn't want to go outside
Level 1: he's playing with the hamster
she's staying inside

Afraid-Happy (1)
Character 1 (Appropriate)
Affect: Afraid
Reason: He/she is lost in a snowstorm and can't find his/her way home.
Level 3: he can't find his house
she is lost
Level 2: he wants to go home
she wants to go to her parents
Level 1: it's snowing
she doesn't like snow
Character 2 (Inappropriate)
Affect: Happy
Reason: He/she likes the snow.
Level 3: he likes the storm
she can play in the snow
Level 2: he can go inside (his house) anytime he wants
he can see his house and see his Mom inside
Level 1: he is near his home
it's fun

Afraid-Happy (1)

Character 1 (Appropriate)
Affect: Afraid
Reason: He/she doesn't like the thunder and lightning storm.
Level 3: he doesn't like the thunder
she is afraid of the thunder and lightning
Level 2: she doesn't want to be alone
the thunder makes too much noise
Level 1: it's storming
it wakes him up

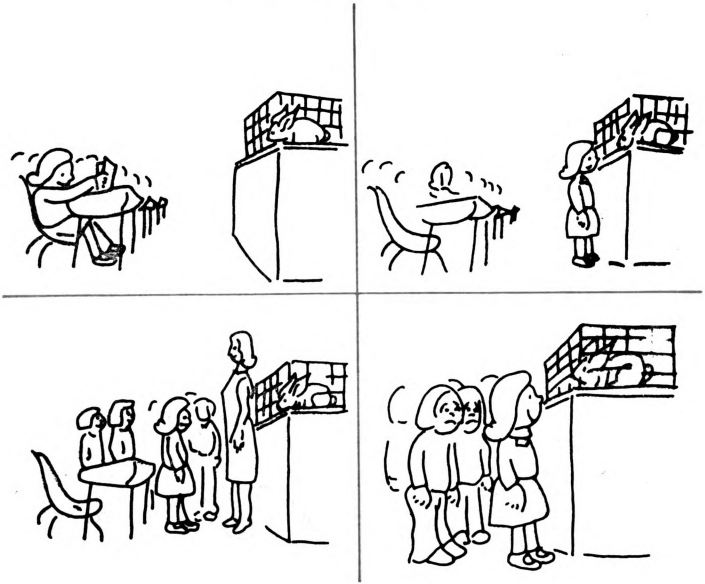
Character 2 (Inappropriate)
Affect: Happy
Reason: He/she likes thunder and lightning and likes to watch the storm.
Level 3: he likes the storm
she wants to watch the thunder and lightning
Level 2: he wants to look out the window
she likes to stand in her room and look out
Level 1: the storm is going
he's looking at the lightning

APPENDIX G

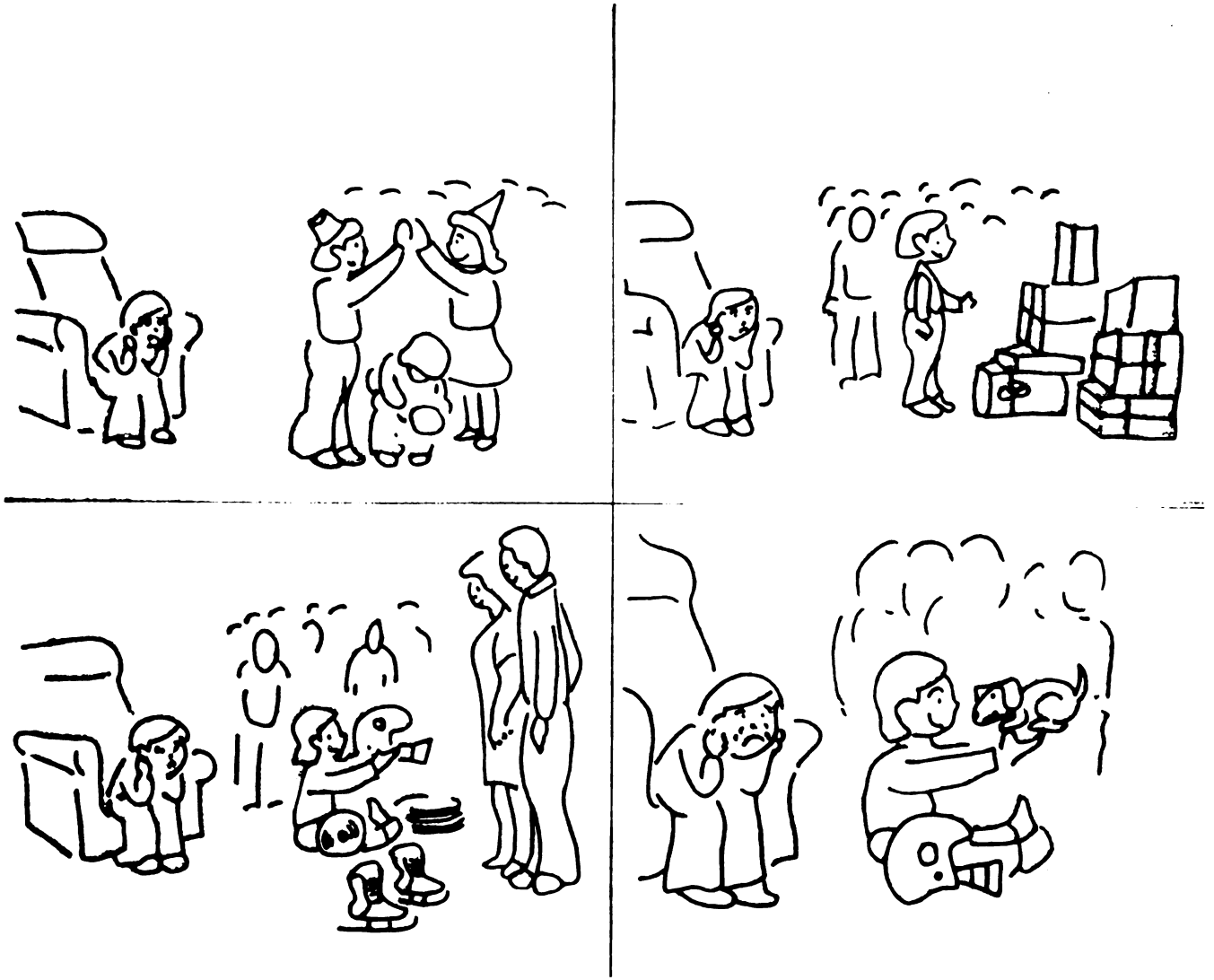
PICTURES FOR THE COGNITIVE INFERENCE TASK

HAPPY IN A SAD SITUATION (1)

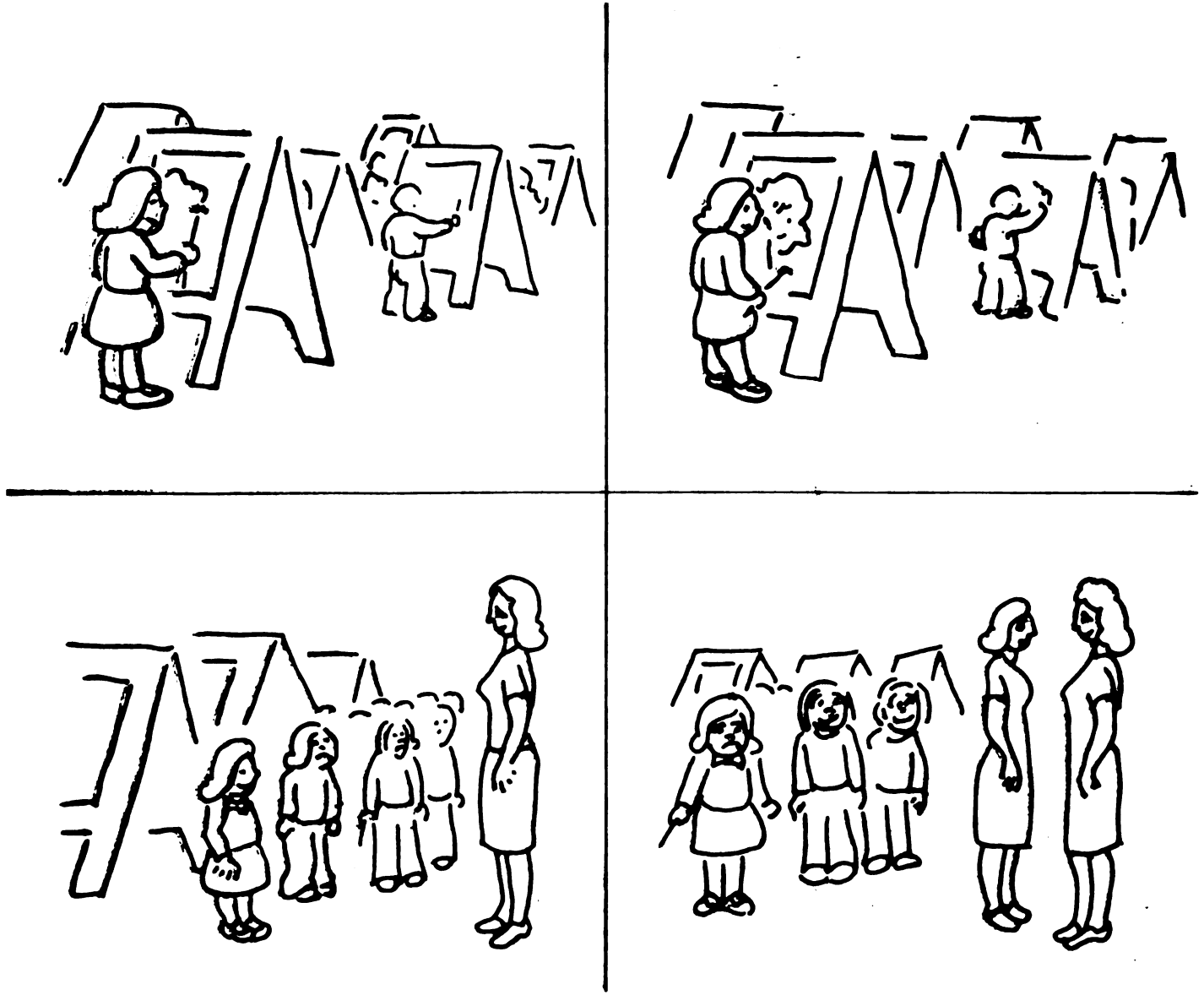
HAPPY IN A SAD SITUATION (2)



SAD IN A HAPPY SITUATION (1)



SAD IN A HAPPY SITUATION (2)



APPENDIX H

STORIES FOR THE COGNITIVE INFERENCE TASK

APPENDIX H

STORIES FOR THE COGNITIVE INFERENCE TASK

Sad in a Happy Situation

1

This is a picture of a birthday party. The children are in the living room playing games. Most of them are having lots of fun; they're enjoying themselves and are feeling real happy. But Johnnie/Mary* who's sitting here in the chair is not having fun. He is thinking about his dog that did not come home last night and he's feeling real sad. He loves his dog and he's afraid that he will not come back at all. Johnnie doesn't want to play games. He just feels too sad to have fun. All of the children gather around to watch the birthday boy open his presents. The birthday boy/girl opens up boxes in which are a football helmet/doll, records for his record player, and ice skates. Then his mother and father tell him that they are going to bring out their present for him. His mother and father come into the living room carrying a puppy. The birthday boy is happy and excited to get a puppy. But when Johnnie sees the puppy, he bursts out crying. How come Johnnie starts to cry when he sees the puppy?

2

This is a picture of Tommy/Patty in his classroom in the afternoon doing some painting. All of the children are busy making different pictures. Tommy is painting a picture of a tree but he stops for a minute and remembers that his mother is going to pick him up from school sooner than she usually does. His mother will come in just a few minutes and Tommy will leave while all the other children will stay for one more hour. Tommy is almost done with his painting; he's sure to be finished in just a few minutes when his mother comes. Tommy continues to paint and then the teacher says that she has a surprise for all of the children. The teacher says that she is going to take the class to an ice cream store so they can get ice cream cones. The children will go to the store at the end of the day, just before they all go home from school. But they will have to keep painting for a long while before it is time to go to the ice cream store. All of the children are happy and smiling when they hear they will be going to the ice cream store later in the afternoon, but Tommy is sad. While the teacher was telling the children about going to the ice cream store. Tommy's mother walked into the classroom. How come Tommy is sad when he hears that the teacher will take the class to the ice cream

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*Gender of nouns and pronouns was changed for female subjects. Other changes for the two sexes are indicated by slash (/) marks.

store that afternoon?

Happy in a Sad Situation
1
This is a picture of Billy/Susan in the park behind his classroom. It is springtime outside and all the trees and grass are green. It is recess time and while all the other children are playing games, Billy is thinking about what his mother told him that morning. At breakfast, his mother said that their family was planning to go to the lake that weekend and that they would be leaving early Friday afternoon. Billy would have to miss the afternoon at school in order to go with his family. He likes going to the lake to swim and ride in the boat, but he remembered that his class was taking a trip to the zoo on Friday afternoon. The class would go to the zoo only once during the year. Billy also liked going to the zoo and he knew he would have to miss the trip to the zoo to go with his family. At the end of recess, Billy's teacher tells the class that she has some sad news for them. The class will not be able to go to the zoo on Friday afternoon but will have to put the zoo trip off for awhile. All of the children are sad that they will not be going to the zoo on Friday afternoon because they waited a long time to go, but Billy is happy. He is smiling when all the other children are sad. How come Billy is happy when he hears that the class will not be going to the zoo on Friday afternoon?
2
This is a picture of Paul/Sally looking at a book of animals in his classroom. Paul is looking at many different kinds of animals but his favorite animal is a bunny rabbit, just like the real live bunny rabbit that is in his classroom in a cage. As Paul looks at the picture of the bunny rabbit, he remembers that the night before his mother and father told him that he could have a bunny rabbit as a pet, just as soon as they could get him one. They would wait to see if someone wanted to give away a bunny rabbit or they would buy one. Paul walks over to look at the bunny rabbit in the cage in the classroom and he thinks of how much he wants a bunny rabbit. He can play with the bunny rabbit, feed it, and even give it a name. He is glad that his parents are going to let him have a bunny rabbit. The teacher walks over to the bunny rabbit cage too and she asks the children to listen to her. She says that she has some sad news to tell the children. She says that they will not be able to keep the bunny rabbit in the classroom, but they will have to give it away to someone, maybe to someone in the classroom. All of the children are sad to hear that the bunny rabbit will no longer be in the classroom since they like the bunny rabbit so much and they enjoy playing with him. But Paul is happy and smiling when he hears what the teacher says. How come Paul is happy when he hears the teacher say that they can no longer keep the bunny rabbit in the classroom?

APPENDIX I

SCORING CRITERIA AND EXAMPLES FOR THE COGNITIVE INFERENCE TASK

APPENDIX I

SCORING CRITERIA AND EXAMPLES FOR

THE COGNITIVE INFERENCE TASK

Scoring is based on the adequacy of the subject's response in stating the reasons for the story character's affective reaction. It is a 3 level system (0 to 2) with a level 2 response denoting the highest level of role-taking.

Story A

Question: How come Johnny/Mary starts to cry when he/she sees the puppy?

Answer: Because seeing the puppy reminds him/her of his/her own dog that is lost, or because he/she wants his/her own (or any) puppy cause his/her dog ran away.

Level 2: The subject makes the connection between the prior event of the puppy running away and the character's crying. that is, the thought of the character's own dog or a wish to have that dog back or another dog <u>because</u> his ran away must be mentioned in order to have a 2 response. The character was already feeling sad in the story, so the statement must include reasons why he/she <u>cried</u> when he/she saw the puppy. It is not enough just to state "because her dog ran away" since that is a reason for feeling sad throughout the story. Overall, some connection that the puppy stimulated feelings about the character's own puppy that was lost must be made.

Examples: the doggie reminds her of her own puppy
she wants the puppy cause hers ran away
the puppy isn't his cause his ran away

Level 1: The subject has knowledge (direct or implied) that the puppy ran away but makes no real connection between the crying and the fact that he ran away, or does not indicate that seeing the puppy stimulated thoughts or wishes about wanting his/her own (or any) puppy because the puppy had perviously run away.

Examples: he thinks it's his puppy
her puppy ran away
he wants a puppy because he doesn't have one (without saying that the puppy was previously lost or because he wants one because his puppy was lost)

Level 0: The subject shows no real understanding of the story or of the reasons for the character's feelings. This level includes "I don't know," no response, "just because," "he's sad," and incorrect information.

Examples: he's afraid the dog will bite
she doesn't like dogs

Story B

Question: How come Tommy/Patty is sad when he/she hears that the teacher will take the class to the ice cream store that afternoon?

Answer: Because he/she will not be able to go to the ice cream store. His/her mother is picking him/her up from school early and he/she will not be able to go with the class.

Level 2: The subject says that the character will not be able to go to the ice cream store. It is not necessary to state that the added reason is because the child will go with the mother, but the subject must show an understanding that the character can't go.

Examples: cause he can't go with the class
her mother came and is going to take her home so she can't go

Level 1: The subject does not make a clear connection between the mother's coming and the character's not being able to go to the ice cream store, or does not state that the character cannot go. A description of the character's wish to go to the ice cream store (without saying he can't) and a description that the mother has just come (without saying the character cannot go to the ice cream store) belong here.

Examples: his mother just came in the door
cause she wants to get an ice cream cone
she has to go home

Level 0: The subject shows no real understanding of the story or of the reasons for the character's feelings. This level includes "I don't know," no response, "just because," "he's sad," and incorrect information.

Examples: he doesn't want an ice cream cone
she wants to go with her mother

Story C

Question: How come Billy/Susan is happy when he/she hears that the class will not be going to the zoo on Friday afternoon?

Answer: Because then he/she won't have to miss the trip to the zoo, or because then he/she will be able to go to the zoo when the class goes the next time.

Level 2: The subject makes the connection that the character may be given the bunny rabbit because his parents promised him one (they would let him take one that was given away) and because the class is going to give away their bunny rabbit.

Examples: he might get it
she can have it
now they can give it to her

Level 1: The subject does not make the connection directly but either implies the connection or seems to know that the character will be getting a bunny rabbit of his/her own.

Examples: he's gonna get a bunny rabbit
she wants it
she wants a bunny rabbit

Level 0: The subject shows no real understanding of the story or of the reasons for the character's feelings. This level includes "I don't know," no response, "just because," "he's happy," and incorrect information.

Examples: he doesn't like bunny rabbits
the class is going to keep the rabbit

APPENDIX J

CELL MEANS FOR THE ANALYSIS OF VARIANCE TABLES

Cell Means for Analysis of Variance Table 6.

	3 year olds	4 year olds	5 year olds
Males	12.91	18.86	19.09
Females	13.18	18.71	19.31

Cell Means for Analysis of Variance Table 7.

	3 year olds	4 year olds	5 year olds
Males	26.00	49.14	55.82
Females	33.46	51.50	58.31

Cell Means for Analysis of Variance Table 8.

	3 year olds	4 year olds	5 year olds
Males	1.46	3.14	5.73
Females	2.91	4.57	5.08

Cell means for Analysis of Variance Table 11.

		Appropriate		Inappropriate	
		Positive	Negative	Positive	Negative
Males	3 year old	4.46	1.82	4.46	2.18
	4 year old	5.29	3.86	5.57	4.14
	5 year old	5.91	3.55	5.82	3.82
Females	3 year old	5.09	2.00	4.09	2.00
	4 year old	5.64	3.57	5.71	3.79
	5 year old	6.00	3.54	6.00	3.77

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