California State University, Northridge

AFFECT PERCEPTION IN YOUNG CHILDREN

A thesis submitted in partial satisfaction of the requirements for the degree of Master of Science in Home Economics

by

Carol Rookstool

June, 1972
The thesis of Carol Rookstool is approved:

California State University, Northridge
June, 1972
This thesis is dedicated to Debbie and Diana, who have become practicing home economists while their mother studied, and to Jack, who loves us all.
ACKNOWLEDGEMENTS

To Dr. Malathi Sandhu, the author would like to express her most sincere gratitude for the encouragement, inspiration and guidance through the years of our association. Dr. Sandhu's professional knowledge and her personal qualities of empathy and integrity have deeply endeared her to the author.

Grateful appreciation is extended for the encouragement, support and interest expressed by the staff of the California State University, Northridge, Preschool Laboratory.

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ABSTRACT

AFFECT PERCEPTION IN YOUNG CHILDREN

by

Carol Rookstool

Master of Science in Home Economics

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The purpose of this study was to identify a developmental sequence of affect perception in preschool children as it is related to age of the subject, sex of the subject, ordinal position of the subject, subject-object unity and the affect state of the stimulus person. These variables were manipulated to appraise the extent of the subjects' ability to identify human emotional states as portrayed in line drawings.

The subjects in this investigation consisted of nineteen male and twenty female preschool age children enrolled at the California State University, Northridge, Preschool Laboratory.

The instrument used for evaluating affect perception was the Measure of Affect Perception, developed by Dr. Malathi Sandhu.

This study demonstrated scattered relationships
among the variables examined. Isolation of these factors indicates that the development of skills in identifying the affect of others begins during the preschool years.
CHAPTER I

INTRODUCTION

Sensitivity to the needs and feelings of others is a frequently stated value in our society. This ability to understand another person is often called empathy, role-taking skill, or person perception. David Stewart, in his book Preface to Empathy, conceptualizes this empathic process as having three parts: objective observation; identification with another person; and a "resistance" which causes reinforcement of the observer as a separate identity (formation of the self-concept) (23:26). This study will focus on the first part of the empathic process described by Stewart, that of objective observation of limited aspects of another person—for example, his emotional states.

PURPOSE OF THE STUDY

The purpose of this study was to identify a developmental sequence of affect perception in children from three years to five years of age. Piaget theorizes:

The first knowledge of the universe or of himself that the subject can acquire is knowledge relating to the most immediate appearance of things or to the most external and material aspect of his being (18:355).
The infant's awareness of a situation results in a cognitive response which he maintains or modifies in light of his experience. There is a selective element in this process for not all aspects of the situation come under the perceiver's scrutiny (5:4).

The physical aspects of the child's perceptual field and the global quality of his cognition are illustrated by the child's early labeling of the representation of any four-legged animal as a 'dog'. The single parts are little differentiated with respect to each other (27:112).

With maturation, perceptual skills simultaneously integrate many cues (29:77). Bruner has demonstrated that value and need influence the selection of those cues that are relevant to the perceiver as he categorizes (conceptualizes) the stimulus (2:686). As the child matures, the need to form social impressions about friendliness, aggression and the relations between people is as much a part of perceiving as is the forming of impressions of more physical aspects of the stimulus (28:501). The child's interpretations of others should gradually move into the psychological interior of the other and he would then consider such factors as the attitudes and feelings (affective states) of the other (8:1026).

This study was an attempt to identify the existence
of a developmental sequence of affect perception as it may be related to age, sex, ordinal position, subject-object unity and the affect state of the stimulus person. These variables were manipulated to appraise the extent of the subjects' ability to identify human emotional states as portrayed in line drawings.

**NULL HYPOTHESES**

1. There will be no age differences in affect perception.

2. There will be no sex differences in affect perception.

3. There will be no ordinal position differences in affect perception.

4. There will be no differences in the ability of the subjects to perceive the different affect states represented (happy, angry, neutral and sad).

5. Subjects will score no higher on the Measure of Affect Perception when the model figures depicted in it are the same sex as the subject than when the model figures are of different sex than the subject.

6. Subjects will score no higher on the Measure of Affect Perception when the model figures depicted in it are the same age as the subject than when the model figures are different in age than the subject.
ASSUMPTIONS

It is assumed that:

1. The emotions of happiness, sadness and anger can be accurately identified by preschool age children.
2. The use of line drawings does not introduce a level of abstraction that would interfere with the subjects' evaluations and performance on the measure of affect perception used.
3. Stimulus cues such as smiling, frowning and crying will be generalized to the appropriate affect states of happy, angry, and sad, respectively.
4. The child's performance in the testing situation reflects, with a high degree of accuracy, his actual skills in a social situation.

LIMITATIONS

The sample used was white and middle class in background. The researcher will therefore be unable to make wide population generalizations from the findings of the present study.

This study was cross-sectional. As the focus of this research was to contribute to the establishment of developmental norms, a longitudinal study would be more desirable. Availability of the sample made a longitudinal study impractical.
DEFINITIONS

1. An affect is an emotion, mood or feeling.

2. Affect perception is an intellectual awareness of the emotion, mood or feeling state of another.

3. Cognition is a process of orderly, goal-directed steps in intellectual activity that is activated by the desire to solve a problem or acquire a new conceptual structure.

4. Empathy is the capacity of the subject to feel as the object does during the cognitive process of observing, judging and understanding another. Thus, empathy has both cognitive and affective components. The observer must accurately perceive the experience of another and also actively enter into a vicarious emotional response (6:133).

5. Ordinal position refers to the birth order of siblings.

6. Role-taking is a term that will be used synonymously with empathy.

7. Subject-object unity refers to a perceived similarity between the subject and the object or person perceived. Subject-object unity might occur when a boy subject took note of the maleness of a boy model, in that their sex would be a common attribute.
CHAPTER II

REVIEW OF LITERATURE

Adults normally spend a fair amount of their thinking time trying to make accurate guesses about the covert psychological properties of other people.

John H. Flavell (9:v)

It is extremely useful for the human organism to be able to understand other human beings. The ability to make valid inferences about the covert psychological properties (that is, perceptions, attitudes and motives) of others permits us some measure of understanding and enables prediction of behavior when we engage in social interaction. Adults have both the skill and the desire to engage in this type of social-cognitive activity, while infants do not. Both the disposition and the ability must therefore develop during childhood (9:v).

Piaget and others have suggested that role-taking skills and communicative behaviors mediated by these skills do develop with age, but very little experimental work has been done to test their suggestions (9:1).

As a beginning step in communicative behavior, somewhere around the eighth week of life, the infant responds to the visual stimulation of his caretaker's face. He smiles. Observations of babies verify this
expectation and infants frequently spend long periods of
time looking at and scanning their mother's face
(14:209). Psychologists commonly express the opinion
that one of the important by-products of this visual
activity is the development of object permanence. The
concept of object permanence of persons develops at an
accelerated pace as compared with object permanence of
inanimate objects (1:311).

Intelligence... thus begins neither with
knowledge of the self nor of things as such
but with knowledge of their interaction and
it is by orienting itself simultaneously
toward these two poles of that interaction
that intelligence organizes the world
(18:354).

Flavell states that the first step necessary for
the development of role-taking is for the child to
acknowledge that the other person is separate from the
self and that the other has a perspective that may not
coincide with what the self is perceiving, thinking or
feeling. Flavell labels this stage of development
'Existence' and challenges researchers by stating:

If we could demonstrate existence of such a
stage and locate its age of termination, we
would argue that a crucial first step in
role-taking development had been experiment-
ally diagnosed (9:223).

AFFECT PERCEPTION AND EMPATHY

In much of the literature, the social-cognitive
activity that we are concerned with has been called
'role-taking', 'person perception' and 'empathy'. This
activity is the general ability to assess another's response capacities and tendencies in a given situation. Dymond defines empathy as the imaginative transposing of oneself into the thinking, feeling and acting of another. Empathy is viewed as a neutral process which requires no response by the perceiver (3:343). Stark, like Dymond, defines empathy as the imaginative transporting of oneself into the thinking, feeling and acting of another and so structuring the world as he does (22:188).

Feshbach and Roe object to limiting the concept of empathy to a cognitive phenomenon and therefore define empathy as a vicarious affective response. These researchers feel that identification of another's feeling state is merely social insight, a necessary precursor to empathy (6:133).

Stotland has defined empathy as the experiencing of an emotion similar to that of another person as a consequence of perceiving feeling in the other person (26:610). Olden similarly defined empathy as feeling as the object does during the intellectual process of observing, judging and understanding another (15:112).

Regardless of the theoretical position espoused, accurate perception of an affect state in another person is a basic developmental task. The rate of development and the degree of the empathic skill are enormously variable from child to child. This study was an attempt
to demonstrate that a child perceives increasingly complex psychological events and that, with age, the child becomes more accurate and objective.

**AFFECT PERCEPTION AS A COGNITIVE SKILL**

The formation of concepts moves along a continuum from simple to complex, from concrete to abstract, from undifferentiated to differentiated, from discrete to organized, from egocentric to social. 

David Russell (21:249)

A lack of sufficient literature related to social-cognitive development forces us to focus on cognitive development as a purely intellectual activity. It would be reasonable to assume that ontogenetic patterns would be similar when considering logical physical cognition as compared to social cognition (8:1025).

Ginsburg and Opper see a common pattern lacing through the findings of Piaget as he studied the growth of children's thinking. The element found to be common to so many of the ingenious experiments that Piaget devised was that young children were not able to deal with several aspects of a situation simultaneously. This is due to the egocentric nature of the child's thought or to the inability to shift attention from one to another aspect of a situation (11:112). The child is not selfish or self-serving, rather, he is centered about himself (or his own ego in the general sense) and
fails to take into account the others' point of view.

Ginsburg and Opper report Piaget's hypothesis to explain waning egocentrism. The parents of the very young child make every effort to understand the infant. As he grows, he is exposed to children who are not as solicitous as the adults. Under this social pressure, the child is forced to adopt better modes of communication. In attempting to express himself and to justify his arguments, the child gradually learns to take into account the other's point of view (11:94).

The developmental sequence of the thinking process as it related to the solution of problems in the social environment has been the focus of research by John Flavell. One of the major aims of this research has been to investigate the ontogenetic development of the ability and disposition to 'take the role' of another person in the cognitive sense, that is, to assess his response capacities and tendencies in a given situation (9:1). It is commonly thought that the ability to perceive that another person has a different perspective than the self is a vital step in the growth toward role-taking skill.

**SELECTED VARIABLES RELATED TO AFFECT PERCEPTION**

Some studies are reported in the literature which have investigated the relationship between affect perception and such variables as age, sex, ordinal
position and subject-object unity.

Age as Related to Affect Perception

Flavell investigated the development of the child's understanding that an adult examiner has a different perspective than the child. Using a cube with a different picture on each of the sides, the subject was asked to examine an identically outfitted cube and look at the same side as the one that the examiner could see on the examiner's cube. With increasing age, children were able to be more accurate in their observation and to be less influenced by their own perspective of the examiner's cube (9:87). Flavell further hypothesized that the recognition of perspective differences is less probable when the perspectives in question consist of motives, feelings, and affects rather than visual percepts (9:181).

Piaget and Inhelder also tested young children on perceptual role-taking tasks and concluded that an awareness of the very possibility of perspective differences is not present in force much before 5½ to 7½ years (9:181).

With increasing social encounters, the child finds it useful to identify the emotional state of others. Accurate interpretation of the facial expressions of others forms an important ingredient of this process. Gates' study, using 458 children ranging in age from three to fourteen years found that the majority of
children become increasingly accurate in identifying photographs of facial expression. Maximum growth of this skill came between the ages of six and eight years (10:449).

Sympathy was defined quite similarly to empathy in Lois Murphy's classic study which showed increase in sympathy with age. This observational study of preschool children's expressions of sympathy found that older preschool children responded to a wider range of distress situations. Older children also participated in more activity relating to helping or comforting or defending a troubled child than did younger children (13:152).

Not only does the quantity of children's perceptions increase but the quality as well. Yarrow observed that the complexity of person perception increases with age. Children between the ages of eight and thirteen years reported increasingly complex psychological descriptions of their peers when describing which children they liked and which they did not like (30:57).

Flapan conducted a cross-sectional study of children at three age levels: six years, nine years and twelve years. She found an age-related increase in reporting another's behavior, thoughts, and feelings after the subjects viewed a film sequence. Flapan interpreted this finding as paralleling Piaget's concept
of egocentricity in which older children are more capable of viewing situations from the standpoint of the other person (7:56). She also found that the six-year old child interpreted social situations literally while children from nine to twelve years gave psychological rationale (7:57).

In Dymond's study of second and sixth grade children, it was established that qualitative differences existed between the two age groups, with the sixth grade children significantly more aware of thoughts and feelings of others. Younger children put more stress on 'externals' such as appearance, while the older children shifted their emphasis to personality characteristics (4:205).

Sex as Related to Affect Perception

McCandless reports that girls are socialized to take roles that emphasize nurturance (to look after others), obedience and responsibility. Boys are socialized for achievement and self-reliance (12:459). The question is thereby raised about the processes used by girls to fulfill these role expectations. Accurate perception of others would facilitate the nurturant role and we could thus expect girls to score higher on a measure of affect perception.

Rosenshiel's interesting study of college students and the relationship of anxiety to empathy produced the
finding that women scored significantly higher on empathy scores in an interview than did men. The interview was structured to allow maximum expression regarding the affect state of others (20:341).

Affect perception research done with children is very limited but Gates, and Feshbach and Roe have concerned themselves specifically with sex differences in the empathic response. Gates reasoned that differences in the socialization of sexes would result in girls' superior performance on empathy measures. She anticipated that girls would be more correct in their interpretations of the emotional expressions of others than boys. Small and inconsistent differences were found favoring girls with the exception that boys were superior in their ability to perceive the emotional state of fear (10:455).

Feshbach and Roe found that girls are more empathic when perceiving girls than boys are when they are perceiving boys. However, they concluded that the difference could be explained because boys were reluctant to describe themselves as being afraid when perceiving fear in the stimulus. When these researchers considered only their social comprehension data, they found boys no less discriminating than girls in their labeling of the affective responses of others (6:143).
Ordinal Position as Related to Affect Perception

Piaget (1928) long ago argued that social interaction, especially among peers, provides the crucial setting for the development of role-taking and related cognitive skill (9:222).

There are two groups of children who could have a possible impact on the perceptual skills of any child. First, are the peers of the same age level such as those found in the neighborhood and preschool setting. Siblings of the child under consideration constitute the second group. Flavell states:

We suspect, for example, that the child who has a sibling two or three years younger than himself may have better than average opportunities to stretch his role-taking and communicative capabilities. It will often be to his advantage to read the younger child's role attributes accurately for purposes of both informative and persuasive communication (9:222).

Another perspective is taken by Stotland and his co-workers. They suggest that later-born children are more empathic and tend to identify more with others. In college subjects, they found that later-borns identify more with someone who is similar to themselves. Stotland suggests that later-borns are playing out their initial experience of needing to observe the emotions of others (25:532).

Subject-object Unity

Stotland and his co-workers have defined empathy as the experiencing of an emotion similar to that of another
person as a consequence of perceiving feeling in the other person (26:610). This raises the question: Is this perception facilitated by similarities between the subject and the person perceived? In Stotland's studies, college students reported greater empathy for persons with whom they were briefly acquainted than with persons they did not know (26:614).

Olesker attempted to discover if physiognomic sensitivity, the tendency toward subject-object unity, is related to the ability to make empathic judgments. The role of a field manipulation of subject-object unity was studied (using college students as subjects) in relation to empathy. Subjects showed greater empathy when judging individuals of the same sex than when they judged persons of the opposite sex (17:4192).

Feshbach and Roe tested the hypothesis that similarity between the sex of the subject and the sex of the stimulus facilitates empathic behavior in six- and seven-year old children. The subjects reported their feelings after observing a slide sequence depicting boys or girls in different affective states. The findings of this study show consistent evidence supporting the hypothesis that sex-similarity facilitates empathic responses (6:145).

Perception and the Affect State of the Model

Feshbach and Roe found six- and eight-year old
children less able to appraise fear and anger than to appraise happiness when identifying the affective states of others. The researchers conclude that there is a stronger tendency to evoke an empathic response in happy situations than in situations involving other affective states, since the experience of happiness is probably rewarding while the other affective responses are unpleasant and therefore more generally to be avoided (6:143).

Gates' sample of average-bright, middle class children was carefully tested for their interpretation of emotions as depicted in photographs. The order of accuracy (from greatest to least) for children from kindergarten through fifth grade was laughter, pain, anger, fear, surprise and scorn (10:455).
CHAPTER III

PROCEDURE

SAMPLE SELECTION

The subjects, thirty-nine in all, were nineteen male and twenty female preschool age children enrolled at the California State University, Northridge, Preschool Laboratory. The children came from intact, middle-class socio-economic backgrounds and were judged to be of at least average intelligence by their teachers (no formal I.Q. data was available). Each subject was either the youngest child or was the oldest child in a family with four or less siblings. Only these two ordinal positions were represented in the sample.

The subjects ranged in age from 3.3 years to 5.4 years, with a mean age of 4.5 years. Subjects were divided into two groups: the youngest group included ten boys and ten girls with ages ranging between 3.3 years and 4.6 years, with a mean of 3.11 years. The oldest group included nine\(^1\) boys and ten girls with ages ranging from 4.7 to 5.4 years and a mean age of 5.0 years.

\(^1\)Of the total preschool population, only nine boys met the stated criteria when the group was matched for ordinal position.
**INSTRUMENT**

The Measure of Affect Perception was the instrument used in the present study. It was developed by Dr. Malathi Sandhu. The measure includes sixteen sets of line drawings. Each set is mounted on a single page and includes one model and three stimulus choices (see Appendix A). For each item, the three stimulus choices were assigned to their position on the page by random selection. For each set, only one of the stimulus choices has an affect state which is the same as the model (see Appendix B).

The models are divided into four categories: (1) young boys, (2) young girls, (3) adult men, and (4) adult women. Each category of the model is represented in each of four affect states:

1. Happiness (a positive affect state)
2. Sadness (a negative affect state)
3. Anger (a negative affect state)
4. Neutral (no affect)

For the purposes of the present study, it was predicted that the 'happy' affect would be the most easily identified. To oppose the 'happy' affect, the quality of sadness was selected to be an appropriate negative affect to use for testing preschool children. In the researcher's experience as a teacher of preschool children, the affects of anger and sadness are frequently
confused by young children and therefore, anger was also depicted. The neutral affective state was expected to be the least easily identified affect.

The measure was pretested on ten preschool age children from the Maude Booth Family Center in North Hollywood, California. The researcher found that some children had difficulty identifying the sex of three of the sixty-four separate drawings and appropriate changes were made. The corrected measure was pretested on ten children from the California State University, Northridge, Preschool Laboratory who were excluded from the sample because they were 'middle' children in family ordinal position. This pretest indicated that identification of sex of the stimulus choices was accurate. The second pretest further indicated that the affect states depicted could be accurately identified by this group of children.

METHOD

Each child was taken individually from the classroom to the experimental room by the researcher. Subjects were shown each item of the measure and asked to look at the model as the researcher pointed to the appropriate drawing (Appendix A illustrates format). The subjects were asked which of the three choices "go with" the model. The subjects were instructed to point to their choice in order to eliminate the need for verbalization. If the subject appeared to be confused or
asked a question about the choices, the researcher asked, "Which of these choices (pointed to the three stimulus choices in a left to right direction) match the top picture (indicated the model) in some way?" None of the subjects required further probes. After the subject indicated a choice, he was asked, "How do these two go together?" (Probe--"Do these two match in some way?")

A matching technique was used to allow a response to those cues which were most meaningful to the subject. It was expected that children would become increasingly aware of the affect cues as the age of the subjects increased. The task was therefore designed to reveal the subject's tendency to match stimuli according to physical traits of the model (sex and age) versus the tendency to match stimuli according to psychological traits of the model (affect).

ANALYSIS OF DATA

Scoring

The subjects' responses were recorded on score sheets (Appendix E) and were also tape recorded. A check of the scoring was done within twenty-four hours of each interview by reviewing the tape recording of the testing situation. Two points were assigned for each correct response; no points were assigned for incorrect responses. In this manner, each subject could accumulate
a total possible score of thirty-two points for the sixteen items.

Statistical Analysis

The accumulated score on the Measurement of Affect Perception was used to determine differences in the performance of subjects classified by age, sex, and ordinal position. An item-by-item analysis was used to examine the relationships of such factors as age, sex and ordinal position to the affect states of the models in the measurement instrument. An item-by-item analysis was also used to determine the significance of subject-object unity. The t test, chi square test and Fisher Exact Probability Test were used to statistically analyze the data. A minimum level of .05 was used to assess the significance of all relationships in this study.
CHAPTER IV

RESULTS AND DISCUSSION

NULL HYPOTHESIS 1

Null hypothesis 1 proposed that there would be no age differences in affect perception. The t test was employed in testing the difference between the mean scores of the two age groups. The mean score of the older age group was 18.2 points and the mean score of the younger age group was 16.7 points (t=1.25, with 37 degrees of freedom; not significant) (see Table 1).

Null hypothesis 1 was accepted as there was no difference in the ability of older versus younger preschool subjects to perceive affect states as depicted in the measure used.

The researcher was encouraged by the trend in the anticipated direction and highly recommends the use of the Measure of Affect Perception for testing increasingly older groups of children. The measure was, however, fairly difficult for this age level because it requires that a child consider four stimuli, the model and three choices (see Appendix A).
### TABLE 1
CORRECT RESPONSES OF SUBJECT GROUPED BY AGE, SEX AND ORDINAL POSITION
(Data in percentages)

<table>
<thead>
<tr>
<th>Correct Responses</th>
<th>Age</th>
<th>Sex</th>
<th>Ordinal Position</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Youngest, Mean age= 3.11 years (n=20)</td>
<td>Oldest, Mean age= 5.0 years (n=19)</td>
<td>Boys (n=19)</td>
</tr>
<tr>
<td>Percentage of Correct Responses</td>
<td>52.2</td>
<td>56.9</td>
<td>53.4</td>
</tr>
<tr>
<td>Range of Correct Responses</td>
<td>31.3 to 68.8</td>
<td>43.8 to 81.0</td>
<td>37.5 to 81.3</td>
</tr>
</tbody>
</table>

Age: \( t=1.25 \), with 37 degrees of freedom; not significant.

Sex: \( t=0.71 \), with 37 degrees of freedom; not significant.

Ordinal Position: \( t=0.25 \), with 37 degrees of freedom; not significant.
**NULL HYPOTHESIS 2**

Null hypothesis 2 proposed that there would be no sex differences in affect perception. The mean score for girls was 17.3 points and the mean score for boys was 17.1 points ($t=0.71$, with 37 degrees of freedom; not significant) (see Table 1). Null hypothesis 2 was accepted as there was no difference between preschool boys and preschool girls in their ability to perceive affect states as depicted in the measure used.

This finding supports that of Feshbach and Roe (6:143) which indicates that boys are no less discriminating than girls in their labeling of the affective responses of others. It must be assumed that it is equally useful for boys to discriminate among the affect states expressed by others as it is for girls to perceptually discriminate among affect states. One explanation for the failure of this initially equal perceptual skill to transfer to the equal expression of an empathic response in adulthood (as reported by Rosenshield) (20:336) is that the socialization process inhibits the male utilization of the skill.

**NULL HYPOTHESIS 3**

Null hypothesis 3 proposed that there would be no ordinal position differences in affect perception. The mean score for the ordinal position of oldest child in the family was 17.3 and the mean score for the ordinal
position of youngest child in the family was 17.6
(t=0.25, with 37 degrees of freedom; not significant)
(see Table 1). Null hypothesis 3 is accepted for the
age group tested for this study. Further research
should be undertaken to examine sibling influence on
affect perception with controls for the age of the
siblings and the exact number of siblings.

NULL HYPOTHESIS 4

Null hypothesis 4 proposed that there would be no
differences in the ability of the subjects to perceive
the different affect states represented. The chi square
test and the Fisher Exact Probability Test were used to
assess the following relationships: that between age and
the four affect states represented in the measure;
between sex and the four affect states; and, between
ordinal position and the four affect states (Appendix B
lists location of individual items on the measurement
tool; Appendix F indicates the four individual test
items that were grouped to yield the separate affect
categories of happy, angry, neutral and sad).

Selected Factors (Age, Sex and Ordinal Position)
and Performance on Individual Test Items

It was necessary to use two separate statistical
tools to determine the relationship of age, sex and
ordinal position to individual test items. Items 1
through 8 had observed frequencies of less than 5 in at
least one of the cells of the 2 X 2 contingency table. For these items, a nonparametric technique, the Fisher Exact Probability Test was used to identify possible differences in ability to perceive affect states. Chi square analysis was used for test items 8 through 16.

Table 2 (page 28) shows correct responses to each item on the Measure of Affect Perception. The Fisher Exact Probability Test on items 1 through 8 indicated no significant differences relating background factors to individual test items except on item 7. One hundred percent of the girls and seventy-nine percent of the boys failed to match the model (Man, Sad) with the appropriate stimulus choice (Girl, Sad) (p=0.04711; significant at .05). It is interesting to note that ninety-six percent of the girls and seventy-four percent of the boys did select the alternate choice which was the same sex as the model and which also had a negative affect state (Boy, Angry). The combination of sex similarity and negative affect state appeared to cause subjects to overlook more subtle cues. It is possible that the measure did not adequately portray a clear difference between the affect of anger and the affect of sadness. It is also possible that children within the age range studied find it difficult to differentiate between facial cues alone reflecting the two states. If postural cues had also been available, it may have
<table>
<thead>
<tr>
<th>Item Number</th>
<th>Age</th>
<th>Sex</th>
<th>Ordinal Position</th>
</tr>
</thead>
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<tr>
<td></td>
<td>Youngest Mean Age-3.11 (n=20)</td>
<td>Oldest Mean Age-5.0 (n=19)</td>
<td>Boys (n=19)</td>
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<td>100</td>
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<td>15</td>
<td>75</td>
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</tr>
<tr>
<td>16</td>
<td>25</td>
<td>47</td>
<td>21</td>
</tr>
</tbody>
</table>
been an easier task.

A significant sex difference was found on item 15 ($x^2=4.509$, with 1 degree of freedom; significant at $\alpha=.05$). Eighty percent of the girls were able to correctly match the model, an angry man, with the appropriate choice which was also an angry man. Of the boys, forty-seven percent selected the correct stimulus choice but, in addition, forty-seven percent chose an incorrect stimulus which was the same sex as the model, the same age as the model but had a different, negative affect state (Man, Sad) (see Appendix B for description of affect choices on each item). This finding appears to be similar to those of Feshbach and Roe (6:143) in that there appears to be some avoidance, on the part of young male subjects, toward matching of negative affect states when the model is male. Further research is needed to clarify the relationship between sex and the degree of sensitivity to negative affect states.

A trend toward sex differences was suggested on item 16 ($x^2=3.548$, with 1 degree of freedom; $p$ less than .10). The model was a neutral woman and fifty percent of the girls and twenty-one percent of the boys selected the appropriate choice (a second neutral woman). The researcher attributes this finding to the similarity of the appropriate choice (Woman, Neutral 2) to the incorrect stimulus choice selected by fifty percent of
the boys (Woman, Happy). These choices matched the model in sex and age but the happy woman expressed a more positive affect state than the model. This trend toward selection of the positive affect by male subjects may be a further indication that boys are more sensitive to the negative emotions. Further research is needed to investigate this possibility.

A trend suggested age differences in performance on item 12 ($x^2=3.313$, with 1 degree of freedom; $p$ less than .10). Item results showed that seventy-four percent of the older subjects and forty-five percent of the younger subjects selected the correct stimulus choice (Man, Angry) to match the model (Woman, Angry). The two alternate choices were a neutral boy and a happy boy. The incorrect choices of both the older subjects and the younger subjects were slightly skewed toward selection of the positive affect depicted, that of happiness.

Two potential areas of refinement in the Measure of Affect Perception are suggested by the responses to item 12. First is the continued evidence of a trend toward selection of positive affect states. It might be desirable to devise additional methods of combining the affect states of the models and the alternate choices to clarify age differences in identification of emotional states. For example, the model of the Angry Boy might be available to match with an appropriate stimulus choice
that was the same sex and the same age (see Appendix C for elements of appropriate stimulus choice as presented for this study. Note Item 5).

The second area of possible refinement suggested by responses to item 12 is that of 'set'. Appendix B indicates the sequencing of test items and the alternate choices. A definite 'set' of responses was established by this group of subjects to items 1 through 8. The tendency of the subjects was to match according to sex similarity of stimulus choices to the sex of the model. Item 12 is in a group of items that provided no same-sex choices and thus would appear to be particularly meaningful in assessing the subjects ability to match psychological traits without the distraction of a tendency to match physical traits. The researcher purposely sequenced items in the stated order for this study but would suggest that further testing with the Measure of Affect Perception include manipulation of the order of presentation of the test items.

Selected Factors (Age, Sex and Ordinal Position) and Performance on Test Items Grouped According to Affect

Certain test items were grouped as they related to each of the affect states of happiness, anger, neutral and sadness. Each affect was represented on four models (Appendix F). Chi square analyses of background factors indicated no significant differences between age and
scores on these grouped affect test items, between sex and the grouped affect test items, or between ordinal position and the grouped affect test items.

Performance on All Test Items Grouped According to Affect for All Subjects

The correct scores for all subjects were totaled according to the grouped affect test items (Appendix F). The chi square test was employed to determine if frequency of correct responses was related to the affect state of the model.

TABLE 3

TOTAL CORRECT RESPONSES BY AFFECT STATE OF MODEL
(Data in percentages) (n=39)

<table>
<thead>
<tr>
<th>Happy Model</th>
<th>Angry Model</th>
<th>Sad Model</th>
<th>Neutral Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>61</td>
<td>53</td>
<td>53</td>
<td>51</td>
</tr>
</tbody>
</table>

\[ x^2 = 1.694, \text{ with 3 degrees of freedom (not significant)} \]

Differences, although not statistically significant, were in the expected direction as based on previous studies (6:139). It appeared that happiness was either more easily identified or was a more rewarding choice and, hence, more frequently matched. The neutral affect was the least frequent choice and, as might be expected, appears to be the most ambiguous stimulus. As previously
suggested, the measure may not clearly discriminate between the affect states of anger and sadness.

It is appropriate to recall that the pretest indicated that these preschool children could accurately identify the affect states represented in the Measure of Affect Perception. The task was designed to reveal the subjects' tendency to match stimuli according to physical traits versus the tendency to match stimuli according to psychological traits. It would be useful to investigate the performance of preschool children who were directed to indicate which of the choices "feels like" the model. Further research may also clarify the degree of difficulty in the perception of the affect states represented in this task.

In summary, both the item-by-item analysis and the grouped item analysis of successful identification of affect failed to isolate a sufficient number of significant differences in the subjects' identification of the separate affect states to enable the researcher to reject the null hypothesis. Null hypothesis 4 is thereby partially accepted.

**NULL HYPOTHESIS 5**

Null hypothesis 5 proposed that the preschool subjects would score no higher on the measure of affect perception when the model figures depicted are the same sex as the subject than when the model figures are of
different sex than the subject. Item scores were totaled for correct responses by both sex groups and were compared with totals for all test items with male models (Appendix B) and to all test items with female models ($x^2 = 0.018$, with 1 degree of freedom; not significant). Null hypothesis 5 was accepted for the age group tested in this study.

One of the primary developmental tasks of the preschool years is sex-role identification and, thus, it would be expected that subjects in this age group would not exhibit a high level of subject-object unity as related to sex of the model. Further research should be undertaken to demonstrate the existence of sensitivity to the sex of the model as it might relate to an older sample of children.

**NULL HYPOTHESIS 6**

Null hypothesis 6 proposed that preschool subjects would score no higher on the Measure of Affect Perception when the model figures are the same age as the subject than when the model figures are different age than the subject. Item scores were totaled for correct responses to all test items with the same age models (Appendix B) and were compared with totals for all test items with different age models ($x^2 = 0.752$, with 1 degree of freedom; not significant). Null hypothesis 6 was accepted.

Identification with a peer group reaches a peak
during the adolescent period and, therefore, this aspect of subject-object unity would be expected to systematically increase with increasing age. The measurement appears to be appropriate for children up to the age of eight or nine years of age and the researcher recommends investigation of performance of these school age children.

The children in this sample did appear to experience some degree of success on the Measure of Affect Perception. For example, in matching models with happy affect states, sixty-one percent of the children in this sample were successful (Table 3). Somewhat lower levels of success were demonstrated in matching the three other affect states portrayed. Feshbach and Roe also found negative affect (anger and fear) less frequently identified. The present study supports those of Murphy and of Gates which also demonstrated that children, age three years to five years, exhibit beginning skills in affect perception. Research by Flavell, Piaget, Flapan, Dymond and others suggest that dramatic increases in affect perception could be expected to occur with increasing age.
CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

PURPOSE

The purpose of this study was to identify a developmental sequence of affect perception in preschool children as it is related to age of the subject, sex of the subject, ordinal position of the subject, subject-object unity and the affect state of the stimulus person. These variables were manipulated to appraise the extent of the subject's ability to identify human emotional states as portrayed in line drawings.

PROCEDURE OF INVESTIGATION

The subjects in the investigation consisted of nineteen male and twenty female preschool age children enrolled at the California State University, Northridge, Preschool Laboratory.

The instrument used for evaluating affect perception was the Measure of Affect Perception, developed by Dr. Malathi Sandhu. This instrument was designed to reveal the subjects' tendency to match stimuli according to psychological traits versus the tendency to match stimuli according to physical traits.
CONCLUSIONS

Null hypothesis 1 proposed that there would be no age differences in affect perception. Null hypothesis 1 was accepted as a comparison of the mean scores of younger and older preschool children was not statistically significant. The results did, however, indicate an age trend and refinement of the measure is suggested.

Null hypothesis 2 proposed that there would be no sex differences in affect perception. Null hypothesis 2 was accepted as there was no difference between preschool boys and preschool girls in their ability to perceive affect states as depicted in the measure used.

Null hypothesis 3 proposed that there would be no ordinal position differences in affect perception. The null hypothesis was accepted for the age group tested in this study.

Null hypothesis 4 proposed that there would be no differences in the ability of the subjects to perceive the four different affect states represented—those of happiness, anger, sadness and neutral affect. Differences in the subjects' choice were in the direction expected with happiness being the most easily identified affect. The results were not statistically significant and can only be interpreted as an indication that preschool age children should continue to be examined for the dynamics of early social-cognitive development.
Specific sex and age differences were found to exist on some of the test items involving negative affect and neutral affect. Results suggest that further research is needed to clearly define a developmental norm. Hypothesis 4 was partially accepted.

Null hypothesis 5 proposed that the preschool subjects would score no higher on the Measure of Affect Perception when the model figures depicted are the same sex as the subject than when the model figures are of different sex than the subject. Hypothesis 5 was accepted for this group of subjects who would be expected to be involved in the developmental task of sex-role identification at the ages of three to five and therefore not likely to strongly identify with the model figures of the same sex.

Null hypothesis 6 proposed that preschool subjects would score no higher on the Measure of Affect Perception when the model figures are the same age as the subject than when the model figures are a different age than the subject. Null hypothesis 6 was accepted for preschool age subjects.

Performance of preschool children on the Measure of Affect Perception indicates that children between the ages of three years and five years demonstrate beginning skills in affect perception and a sensitivity to the psychological traits of others. Trends were demonstrated
to be in the anticipated direction of increased affect perception with an increase in the age of the sample. Trends further indicated variable levels of accuracy in the identification of specific affect states.

RECOMMENDATIONS

This study demonstrated scattered relationships among the variables examined. Isolation of these factors, and the directions of trends indicate that development of skills in identifying the affect of others probably begins during the preschool years. Further studies are therefore recommended with the same age group, but more importantly, with older children. It would be most interesting to examine other socio-economic and ethnic groups of the same age.

The Measure of Affect Perception offers some exciting challenges for adaptation and refinement. Two of the more promising areas are simplification of the task for preschool testing and experimentation with the process of presenting the task to the subjects.

As with most research, more questions are raised with each tentative answer to a problem. One of the most intriguing questions coming from this study is in regard to the dynamics of the influence of negative affect states on perceptual tasks.
BIBLIOGRAPHY
BIBLIOGRAPHY


APPENDICES
APPENDIX A

MOCK-UP OF TEST ITEMS

Model

Stimulus Choice 1
Stimulus Choice 2
Stimulus Choice 3

Scale = one-half actual size
## APPENDIX B

MEASURE OF AFFECT PERCEPTION

DESCRIPTION OF MODELS AND STIMULUS CHOICES

<table>
<thead>
<tr>
<th>Model*</th>
<th>Appropriate Choice</th>
<th>Alternate Choices</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Boy H</td>
<td>Man H</td>
<td>Woman S</td>
</tr>
<tr>
<td>2. Girl A</td>
<td>Woman A</td>
<td>Man H</td>
</tr>
<tr>
<td>3. Man N</td>
<td>Boy N</td>
<td>Girl S</td>
</tr>
<tr>
<td>4. Woman S</td>
<td>Girl S</td>
<td>Man N</td>
</tr>
<tr>
<td>5. Boy A</td>
<td>Woman A</td>
<td>Woman N</td>
</tr>
<tr>
<td>6. Girl N</td>
<td>Man N</td>
<td>Man H</td>
</tr>
<tr>
<td>7. Man S</td>
<td>Girl S</td>
<td>Boy A</td>
</tr>
<tr>
<td>8. Woman H</td>
<td>Boy H</td>
<td>Girl S</td>
</tr>
<tr>
<td>9. Boy N</td>
<td>Girl N</td>
<td>Woman A</td>
</tr>
<tr>
<td>10. Girl S</td>
<td>Boy S</td>
<td>Man N</td>
</tr>
<tr>
<td>11. Man H</td>
<td>Woman H</td>
<td>Girl A</td>
</tr>
<tr>
<td>12. Woman A</td>
<td>Man A</td>
<td>Boy N</td>
</tr>
<tr>
<td>15. Man A</td>
<td>Man A-2</td>
<td>Man S</td>
</tr>
<tr>
<td>16. Woman N</td>
<td>Woman N-2</td>
<td>Woman H</td>
</tr>
</tbody>
</table>

*H - happy  
A - angry  
N - neutral  
S - sad
## APPENDIX C

### MEASURE OF AFFECT PERCEPTION

#### ELEMENTS OF APPROPRIATE STIMULUS CHOICE

<table>
<thead>
<tr>
<th>Model*</th>
<th>Elements of Appropriate Stimulus Choice</th>
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</thead>
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<tr>
<td></td>
<td>Emotion</td>
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<tr>
<td>1.</td>
<td>Boy H</td>
</tr>
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<td>2.</td>
<td>Girl A</td>
</tr>
<tr>
<td>3.</td>
<td>Man N</td>
</tr>
<tr>
<td>4.</td>
<td>Woman S</td>
</tr>
<tr>
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<td>Boy A</td>
</tr>
<tr>
<td>6.</td>
<td>Girl N</td>
</tr>
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<td>Man S</td>
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<td>8.</td>
<td>Woman H</td>
</tr>
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<td>Boy N</td>
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<td>Woman N</td>
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*H-happy
A-angry
N-neutral
S-sad
## APPENDIX D

### MEASURE OF AFFECT PERCEPTION

#### ELEMENTS OF ALTERNATE STIMULUS CHOICES

<table>
<thead>
<tr>
<th>Model*</th>
<th>Elements of Alternate Choices</th>
<th>Sex or positive emotion</th>
<th>Sex or age match</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Boy H</td>
<td>(Woman S) Girl A</td>
<td>Boy N</td>
<td>Same-sex, same-age</td>
</tr>
<tr>
<td>2. Girl A</td>
<td>(Man H) Boy N</td>
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<tr>
<td>3. Man N</td>
<td>(Girl S) Woman A</td>
<td>Boy H</td>
<td>Same-age</td>
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<td>4. Woman S</td>
<td>(Man N) Boy H</td>
<td>Woman A</td>
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<td>5. Boy A</td>
<td>(Woman N) Man S</td>
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<tr>
<td>6. Girl N</td>
<td>(Man H) Woman A</td>
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<td>No choice</td>
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<tr>
<td>7. Man S</td>
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<td>10. Girl S</td>
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<td>(Man S) Girl N</td>
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<td>16. Woman N</td>
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<td>Woman A</td>
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*H = happy  
A = angry  
N = neutral  
S = sad
## APPENDIX E

### SAMPLE SCORE SHEET

<table>
<thead>
<tr>
<th>Name</th>
<th>Birth date</th>
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<td>Ordinal position</td>
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APPENDIX F

MEASURE OF AFFECT PERCEPTION

ITEM LOCATIONS FOR AFFECT STATES

<table>
<thead>
<tr>
<th>Happy</th>
<th>Angry</th>
<th>Neutral</th>
<th>Sad</th>
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<tbody>
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<td>1*</td>
<td>2</td>
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</table>

*refers to item number on Measure of Affect Perception