EMPATHY IN PRESCHOOL CHILDREN: ITS RELATION TO AGE, COGNITIVE ABILITY AND SOCIAL EXPERIENCE

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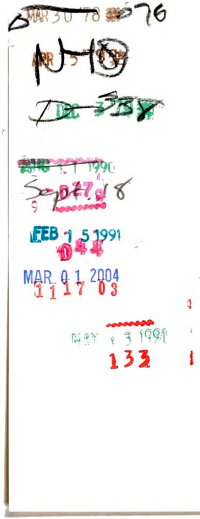
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ABSTRACT

EMPATHY IN PRESCHOOL CHILDREN: ITS RELATION TO AGE, COGNITIVE ABILITY AND SOCIAL EXPERIENCE

By

Barbara Jo Brandt

The purpose of this study was to investigate the relationships between empathy and age, cognitive ability and social experience in preschool children and to compare two measures of empathy: (1) a test of awareness of a child's affect as described in a story and (2) teacher ratings of empathic behavior in the classroom. It was hypothesized that empathy would be positively related to age, cognitive ability and social experience (measured by number of siblings, amount of preschool experience and total amount of peer experience). The subjects were 96 three and four year old children.

Both measures of empathy showed modest reliability. Scores on the test of affect awareness did not relate to teacher ratings of empathic behavior for the total group; however, there was a significant, but low, positive correlation between the two measures for three-and-a-half to four year old children. Not only did scores on the two empathy measures fail to correlate with one another,

but their patterns of correlations with other variables were different, suggesting that the two instruments measured different aspects of behavior.

Empathy measured by a test of affect awareness was positively related to age and to cognitive ability, especially classification skills and verbal concepts. For three to three-and-a-half year olds, affect awareness was related to number of siblings close in age and amount of preschool experience. Empathy measured by teacher ratings of empathic behavior was positively related to age. Empathy ratings did not correlate significantly with overall mental age, which was explained by its positive relationship with verbal ability and negative relationship to visual-motor skills. For three to three-and-a-half year olds, ratings of empathic behavior were positively correlated with amount of non-preschool peer experience. In addition, teacher ratings of empathic behavior were positively related to supplementary teacher ratings of outgoing, highly verbal and emotionally-expressive behavior and negatively related to ratings of antisocial behavior.

The results suggested that empathy as measured by a test of affect awareness is a cognitive skill, related to role-taking ability. In contrast, empathy as measured by teacher ratings of empathic behavior appeared to be a more complex phenomenon, probably multidetermined by personality make-up, socialization influences of

parents and peers, degree of social maturity and situational variables. Implications for the interpretation of the current literature on empathy in children were discussed and directions for further research were proposed.

EMPATHY IN PRESCHOOL CHILDREN: ITS RELATION TO AGE, COGNITIVE ABILITY AND SOCIAL EXPERIENCE

By

Barbara Jo Brandt

A DISSERTATION

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In memory of my father--
whose own pursuit of
excellence has served
as the motivation for
me to do the same.

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And finally, I wish to thank my family, friends and colleagues for their empathy and support throughout

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INTRODUCTION

Empathy has long been recognized as an important process in the development of a social self in children. Sullivan (1953), Cooley (1902), Mead (1934) and Piaget (1932) all utilize the concept of empathy to explain the young child's shift from self-centeredness to being aware of the viewpoint of others. More recently, the capacity for empathy has been regarded as a motivating factor in the acquisition of such prosocial behaviors as altruism (Aronfreed, 1970; Hoffman, 1975), consideration for others (Hoffman, 1963; Cohen, 1973) and cooperation (Johnson, 1975) and as an inhibiting factor in the acting out of aggression (Feshbach and Feshbach, 1969). While the importance of empathy in the socialization process has been repeatedly acknowledged in the theoretical literature, the development of empathy in children only recently has become an area of serious research study.

The development of social skills has typically been conceptualized in terms of Piaget's notion of decreasing egocentrism. Social sensitivity has been viewed as being related to cognitive development and the acquisition of perspectivistic thinking. Similarly, much of the

research on empathic ability in children has conceptualized empathy as a cognitive process, relating to role-taking skill (Burns and Cavey, 1957; Flapan, 1968; Borke, 1971; Cohen, 1973; Deutsch, 1974a; Partyka, 1974; Iannotti, 1975b). While Piaget (1950) has stressed the importance of social interaction for cognitive development, especially in the process of decentering and becoming aware of another's perspective, researchers largely have ignored the role of social interaction in the development of empathy in children.

Empathic ability in children typically has been studied by measuring the child's responses to hypothetical situations where one of the characters is presented as experiencing some kind of affect. Researchers have assumed that children's performance on these instruments relates to their degree of empathy in real-life interactions with others; however, none of these tests of empathy have been validated to show that their scores do indeed correlate with other independent measures of empathy. In fact, scores on such tests may relate more highly to measures of cognitive ability which demand a similar kind of performance (sitting, attending to instructions and responding) than to empathic behavior itself.

The purpose of this study, therefore, is to investigate the relationships of age, cognitive ability and social experience to empathic ability in young

children and to compare two measures of empathy: (1) a test of awareness of a child's feelings as described in a story and (2) teacher ratings of empathic behavior in the classroom.

Definition of Empathy

The word "empathy" has been used to describe a variety of different psychological phenomena, encompassing an emotional linkage between mother and infant (Sullivan, 1953), a vicarious affective response triggered by the affect of another (Feshbach and Roe, 1968), an awareness of the feelings of another (Borke, 1971), an appropriate response based on that awareness (Reif and Stollak, 1973) and an ability to predict someone's responses on a sociometric test (Dymond, Hughes and Raabe, 1952). The majority of research on empathy in children has operationally defined empathy as the child's ability to label and/or give reasons for another's affect. Researchers have postulated that it is this awareness of affect in another that serves as a motivator for prosocial behavior and that relates to interpersonal skill. Empathy was similarly defined and measured in this study. In addition, teacher ratings of behavior which depended upon an awareness of affect in another were used as a second measure of empathy. This definition of empathy as an awareness of affect in another is similar to what others have called "interpersonal perception" (Borke, 1971), "social perception"

(Gates, 1923), "social comprehension" (Feshbach and Roe, 1968), "social sensitivity" (Rothenberg, 1970), "emotional sensitivity" (Cheyne and Jahoda, 1971) and "affective role-taking" (Partyka, 1974).

REVIEW OF THE LITERATURE

Much of the research on empathy in children has been interested in how empathic ability changes with age. More recently, researchers have been interested in empathy as a cognitive skill related to role-taking ability and as an interpersonal skill related to peer popularity and pro-social behavior.

Empathy and Age

Research on empathy in children has consistently found a significant positive relationship between empathic ability and age (Ruderman, 1962; Dimitrovsky, 1964; Rothenberg, 1970; Alexander, et al., 1971; Cheyne and Jahoda, 1971, Hamsher, 1971). Walton (1936) and Feshbach and Roe (1968) both noted that younger children tend to think in terms of pleasant and unpleasant feelings, using a dual type of response. Borke (1971, 1973), Brandt (1972) and Partyka (1974) all found that young children could accurately identify feelings of happiness, but confused negative feelings of sadness, fear and anger. Walton (1936) noted that as children grew older, they added other dimensions

to the pleasant-unpleasant dichotomy until a wide range of differentiated responses was available.

Other studies have found that young children, from two to seven years, are much more aware of the external details of a stimulus picture than with the internal thoughts and feelings of the people involved (Amen, 1941; Dymond, Huges and Raabe, 1962; Gilbert, 1969). Dupont (1959) further added that younger children tend to describe affect in terms of the action ("He's crying"), while older children are more likely to label the feeling ("He's sad"). While both Dupont (1959) and Flapan (1968) observed a substantial break between seven and nine years of age in being aware of internal states, Amen (1941) found that children as young as age three could talk in terms of inner activity.

Some researchers have looked beyond the question of whether a child can identify various feelings to see if the child is aware of how those feelings come about (psychological causality). Flapan (1968) noted that younger children often perceived people as merely reacting with feelings, while older children were more aware of the thoughts, intentions, and goals which accompanied the feelings. This age trend in seeing feelings as causally related is further supported by Dupont (1959), Whiteman (1967), Rothenberg (1970), and Hamsher (1971).

Empathy and Cognitive Ability

Some researchers have postulated that empathic ability should be related to intelligence. Those studies which have looked at the relationship between empathy and intelligence have consistently found a significant positive relationship. Empathic ability has been shown to relate to both verbal and non-verbal measures of intelligence (Dimitrovsky, 1964; Rothenberg, 1970; Cheyne and Jahoda, 1971; Deutsch, 1974a; Partyka, 1974), but according to Ruderman (1962), intelligence does not account for all of the variance. Intelligence also seems to be more highly related to empathic ability in younger children than in older children (Dimitrovsky, 1964; Cheyne and Jahoda, 1971; Partyka, 1974). It might be that at younger ages, the scores on intelligence tests also measure the child's ability to understand directions and to cope with the testing situation, which would explain the higher correlation. Another explanation could be that the variation in scores at the higher age levels is smaller than at the younger ages, with older children of average and above-average intelligence both receiving high scores on the empathy instrument.

A major thrust of the research on empathy in children has been to relate empathic ability to role-taking skill. Based on Piagetian theory, researchers have postulated that the young child is egocentric and

since he can not adopt the viewpoint of another, he should not be able to empathize (Burns and Cavey, 1957; Gollin, 1958; Flapan, 1968). Borke (1972) disagreed with this viewpoint, citing examples from naturalistic observations of children one-and-a-half years of age which showed an ability to respond to the feelings of another through non-verbal behavior. She argued that the methodology used to measure empathy in children demanded a level of verbal ability above that of most preschool children. Using a non-verbal technique where the child simply had to select one of four faces depicting the emotions of happiness, fear, sadness and anger to indicate his response, she showed that children as young as three years of age could identify feelings of others.

Chandler and Greenspan (1972) challenged Borke's conclusion that her study showed young children to be empathic, arguing that

> Non-egocentric thought . . . is not simply a synonym for accurate social judgment but implies the ability to anticipate what someone else might think or feel precisely when those thoughts or feelings are different from one's own. (p. 105)

However, as evidence for their argument, they described a study which showed six year old children to be significantly more egocentric than 13 year olds, but which again used a methodology beyond the cognitive capabilities of the younger subjects.

The Borke versus Chandler and Greenspan debate spurred other researchers to re-examine the thesis that the preoperational child was incapable of adopting the viewpoint of another when that perspective differed from his own. To assure a different perspective, some researchers have used a methodology similar to that used by Burns and Cavey (1957) where pictures, slide sequences or videotapes present a character whose facial expression conveys an emotion incongruous to the situation, such as a sad boy at a birthday party (Deutsch, 1974a, b, 1975; Iannotti, 1975 a, b; Kurdek and Rodgon, 1975; Kurdek, in press). These researchers postulate that to identify the emotion depicted by the character's facial expression indicates empathy. However, "empathy" measured in this way decreases with age (Iannotti, 1975 b; Kurdek and Rodgon, 1975) and is negatively related to altruism (Iannotti, 1975 b). These instruments, rather than measuring affective role-taking or empathy, seem to be measuring developmental changes in attending to facial rather than situational cues.

Partyka (1974) and Urberg and Docherty (1976) approached the problem of measuring a child's awareness of affect which differs from his own by presenting situations where two characters have different but appropriate feelings to the same situation, such as one child is happy because it is time to go outside to play, but

another child is unhappy because he wants to finish painting his picture (Partyka, 1974) or two children are fighting over the same toy and the teacher gives it to one of them (Urberg and Docherty, 1976). In light of the assertion that Borke's method did not truly measure empathy, it is of interest that Partyka (1974) did not find any difference in the children's ability to identify feelings which were typical or atypical to the situation and Urberg and Docherty (1976) found that items on Borke's Test loaded on the same factor as items requiring awareness of two different emotions. Urberg and Docherty concluded that young children are capable of understanding other's feelings when the cognitive operations involve "sequential decentering" (considering the affective experience of one child and then considering the experience of the other child). Situations which require "simultaneous decentering" (awareness that one character has information about the situation which the other character does not have and therefore has different feelings) represent a higher level of cognitive complexity, beyond the ability of most three and four year old children. That the young child is capable of considering another's viewpoint different from his own has been further demonstrated in the areas of spatial and conceptual role-taking, again using methodologies appropriate for the young child (Borke, 1975; Liben, 1975; Mossler,

et al., 1975; O'Connor, 1975a; Marvin, et al., 1976). This recent literature suggests that young children still at the stage of preoperational thought are capable of considering perspectives different from their own. In light of these findings, it seems appropriate to view empathy as a skill which appears at a very young age and goes through a succession of hierarchical stages as the child's cognitive ability develops. This view is similar to that expressed by Borke (1972) and Cohen (1973), and is consistent with Piaget's theory of development.

Empathy and Interpersonal Skill

While research on empathy in children has been primarily concerned with its relationship to age and cognitive ability, some researchers have viewed empathy as being related to interpersonal skill. Murphy (1937) in her study of sympathy in preschool children found a positive correlation between sympathetic behavior and aggressive behavior. Feshbach and Feshbach (1969) similarly found empathy to be positively related to aggressive behavior in preschool children. Murphy explained this relationship in terms of both behaviors being part of a general outgoing tendency in extroverted children. Rothenberg (1970) noted that empathic third and fifth graders were rated highly in interpersonal competence, especially in leadership, friendliness and sensitivity to others. Similarly, Jennings (1975) found nursery

school children who scored high on a composite measure of social knowledge (including a test of awareness of affect) to be rated highly on peer popularity, leadership and ability to get along with peers. Rubin and Maioni (1975) also showed empathic ability to be related to peer popularity at the pre-school level.

Although empathy has been viewed as an interpersonal skill and a motivator for other prosocial behaviors, few studies have looked at the relationship between empathy and social experience. For a toddler, the majority of his social experience takes place in the home with his parents and siblings. As he reaches pre-school age, peers, both in the neighborhood and in nursery school, begin to play an important role in the child's social development. Ferguson (1971) and Hoffman (1963) both stress the importance of the family as providing the early interpersonal experiences necessary for the development of empathy. Ferguson suggests that the "democratic" parent provides a model for empathy by expressing her own feelings and by being attuned to the needs and feelings of her child. Hoffman (1963) in studying consideration for others noted that parents who used discipline techniques which focused on the consequences of their children's actions for others had children who were more actively considerate. Similarly, Bearison and Cassel

(1975) found six year old children whose parents used "person-oriented" discipline to consider the needs of the listener more in a communication task than children whose parents used "status or position-oriented" discipline.

According to Piagetian theory, a child develops social decentration ability by repeated and varied interactions with peers (Piaget, 1950; Flavell, 1963; Looft, 1972). Reif and Stollak (1973) suggest that identification is important in the development of empathy. Thus experience with peers and siblings with whom a child can most easily identify would be important. While there has been no research on the relationship of peer experience to empathic ability, some researchers have looked at family size in relationship to empathy. Cohen (1973) found children from larger families to be more empathic and more considerate of others.

Thus, the research has shown age and cognitive ability to be important parameters of empathic ability in children. However, while empathy is conceived as an interpersonal skill, little attention has been addressed to the relationship between social experience and empathic ability. It is the purpose of this study to investigate the relationship of social experience with peers and siblings, along with age and cognitive ability, to empathy in preschool children. While it is recognized that

parents play an important role in the socialization of the young child, this study will limit its focus to the relationship of peer experience to empathic ability in preschool children. Specifically, the following variables will be explored: (a) number of siblings in the home, (b) total number of hours spent in a preschool setting since one year of age and (c) total number of hours spent in any kind of peer contact since one year of age. Two methods measuring empathy will be compared --a test of awareness of affect in others, and teacher ratings of empathic behavior in the classroom.

STATEMENT OF HYPOTHESES

I. Empathy will be positively related to age.

II. Empathy will be positively related to cognitive ability.

III. Empathy will be positively related to number of siblings.

IV. Empathy will be positively related to amount of peer experience.

METHOD

Subject Population

The subjects in the study were obtained initially from two preschools and a day care center associated with Michigan State University. Criteria for inclusion in the study were that children be between the ages of three years, zero months and four years, eleven months at the time of testing, that they be American-born, and that English be the only language spoken in the home.

Approval for the entire study was obtained from the Preschool Research Committee at Michigan State University and the parent board of the day care center. Introductory letters were sent to the parents of all children meeting the above criteria explaining the nature of the study (see Appendix A). In accordance with the ethical standards for research with children developed by the American Psychological Association, the parents were informed that participation in the study was voluntary, that the results of their child's individual performance would be kept confidential, that anonymity would be preserved in the analysis of the data and only group results would be discussed.

Permission was given by 126 parents for their child to participate in the study; 11 children were dropped from the study because they left the preschool or turned five before they could be tested, or because they refused to cooperate. Near the end of the data collection as the data was being scored and coded, 30 additional subjects had to be dropped because it was suspected that an experimenter had faked the subjects' data.

In order to obtain a large enough sample of three year old children, additional three year old subjects were obtained from a day care center in the University community. Approval for the study was obtained by the parent board of the day care center and introductory letters were sent to parents of all three year old children who met the other criteria previously described. Eleven parents gave their permission for their child to participate in the study. Two of the 11 children had to be dropped from the study for refusal to cooperate. Therefore, the final sample included 96 preschool children, ranging in age from three years, zero months to four years, eleven months. A breakdown of the subjects by age and sex can be found in Table 1.

Since the effect of socioeconomic class on empathic development was not a focus of this study, a rather homogeneous subject population was used. Most of

Table 1.--Number of Subjects by Age and Sex.

	AGE (In Years)				
	3.0-3.4	3.5-3.9	4.0-4.4	4.5-4.9	TOTAL
Males	10	11	12	19	52
Females	12	12	11	9	44
Total	22	23	23	28	96
Mean Age	3.2	3.7	4.2	4.7	4.0

the parents of the children were associated with the university and all lived in close proximity to the university campus.

The four preschool settings were also similar in many respects. The teachers all had backgrounds in early childhood education. As a whole, they were very sensitive to children's feelings and served as models of empathy in commenting how a child might be feeling. While much informal teaching about feelings occurred in response to spontaneous interactions between children, there was no formal training in empathy or awareness of affect at any of the preschool settings.

Instruments

Empathy

I. Borke's Empathy Test.--Borke's Empathy Test (Borke, 1973) was used to measure the subjects' awareness

of affect (see Appendix B). This particular instrument was selected because of the content validity of its items, the range of items and its appropriateness for use with children as young as three years of age.

Borke (1971) and Brandt (1972), in discussing the inconsistency in subjects' responses to sad and angry stories, both suggest that while the results could indicate that children have difficulty differentiating between the two emotions, other explanations could be that the stories in themselves were ambiguous or that adults in constructing the stories incorrectly imputed what kind of situation might cause a child to be sad or angry. To assure content validity of the items, in her subsequent study, Borke (1973) constructed her empathy instrument by first asking kindergarten children to describe the kinds of situations that make them feel happy, sad, afraid or angry. These stories were then told to second-grade children, who indicated how the child in the story might feel by selecting one of four faces, portraying the emotions of happiness, fear, sadness or anger. The four stories for each emotion which showed the highest agreement among children's responses were chosen for the test. While Borke included several additional stories which showed cross-cultural differences or variability of response, only stories which showed high agreement among American children were used in this study. Borke did not carry

out any formal tests of reliability or validity on her instrument; neither have such findings been reported by others who have used her test in subsequent research.

Borke's Empathy Test is composed of two parts: (a) the first part consists of stories describing general situations that might make a child feel happy, sad, afraid or angry; (b) the second part consists of stories involving situations in which the child being tested is described as doing something that might cause another child to feel happy, sad, afraid or angry. Since Borke (1973) found no significant difference between scores on each part, the scores on the two sections can be combined to yield a total score of correctly identified emotions.

In the present study, Borke's Empathy Test, consisting of 16 selected stories, was administered individually to each subject. The child was first asked to identify drawings of faces depicting the emotions of happiness, sadness, fear and anger (see Appendix C). The child was helped to identify any with which he had difficulty, until he was able to correctly label all four faces. The child was then told the set of stories. Each story was accompanied by an illustrative picture of a child with a blank face engaged in the described activity. The child in each picture was of preschool age and of indeterminate sex. Since previous researchers have found that subjects empathize more with same-sex characters

than those of opposite sex (Feshbach and Roe, 1968; Deutsch, 1975), in the present study, the child was described in the stories as being of the same sex as the subject. Following the presentation of each story, the children were asked to point to the face that best showed how the child in the story was feeling. The faces were presented in random order and rearranged between each story. With each presentation, the four faces were again labeled for each child.

The procedure used in this study differed somewhat from Borke's procedure. Borke used faces which could be placed on the picture as if completing a puzzle. Because of the greater difficulty in illustrating the second set of stories, Borke simply used a picture of a child standing for all of the stories in that set. Since it was felt that illustrative pictures aided in keeping a young child's attention, new pictures were drawn for each story (see Appendix D for sample pictures) and the procedure was modified so that the child merely pointed to the appropriate face instead of placing it on the picture. Brandt (1972) and Partyka (1974) found this modification in procedure to work well with children as young as three years of age. Since pilot testing of the instrument showed that some of the younger children needed more than one practice story, three practice stories preceeded the 16 test stories.

The subject's responses to the 16 stories were scored either one, for correctly identifying the emotion, or zero, for an incorrect response. Thus, a subject's score on the test could range from 0 to 16.

II. Teacher Ratings of Empathic Behavior.--Much of the research on empathy in children has used a methodology similar to that of Borke--that is, measuring children's responses to hypothetical affect-arousing situations, presented by stories, pictures or videotape in a laboratory setting. While the research has shown that empathy measured in this way increases with age and is related to intelligence and various aspects of social adjustment, it has not tried to show that the tests correlate with other independent measures of empathic behavior in children. Before further conclusions are drawn about empathy in children, these instruments need to be validated.

In this study, teacher ratings of empathic behavior were chosen as the other measure of empathy since it was felt that the frequency of empathic behavior in the classroom was too low to make direct observation of behavior feasible. In a pilot study with 45 preschool subjects, teachers were asked to rate each child on a 32-item checklist developed by Gilbert (1969) which covered areas relevant to affect awareness, such as affect knowledge

and expression, verbal ability and empathy for other children, in addition to other personality attributes of interest. In her study, Gilbert found that the teacher ratings could be explained by four clusters: affect-aware, unhappy, restrained and mature. She found a high multiple correlation (R=.96) with nursery school subjects between teacher ratings of affect-awareness and several tests of affect awareness. When the teacher ratings for the 45 pilot subjects were factor analyzed by a multiple groups method based on factors derived from varimax rotation, five clusters emerged, none of which could be defined as an "affect-aware" cluster. Since the average inter-rater reliability for individual items (based on two different teacher ratings on 34 of the subjects) was .43, it was felt that the instrument itself was reliable, but that the factor analysis might be unreliable due to the very small number of subjects.

For the present study, 12 additional empathy items, selected from Murphy's Social Behavior Scale (1937) were added to Gilbert's Teacher Rating Scale (see Appendix E). Murphy (1937) in using this scale to study sympathy in preschool children found scores on her sympathy scale to correlate .80 with observer ratings of actual sympathetic behavior. Since inter-rater reliability was quite variable, ranging from .15 to .86, she used the median score for all raters on each item for a particular child to

compute a total sympathy score. For this study, only items related to empathy and not other types of social behavior were selected. It was hoped that with more items related to empathy and with a larger number of subjects an empathic behavior factor would emerge which could be scored and used as another measure of empathy for this study.

Cognitive Ability

The McCarthy Scales of Children's Abilities were used to measure each subject's cognitive ability. This test was developed for children between two-and-a-half and eight-and-a-half years of age. Fourteen of its 18 subtests combine to give a measure of general cognitive ability or mental age. These 14 subtests were administered to each subject and the cumulative raw score was used as an index of mental age.

McCarthy (1972) reports internal consistency coefficients, using a split-half procedure with Spearman-Brown correction, of between .91 and .96 for general cognitive scores for children between three and five years of age. For 40 children between three and three-and-a-half years of age, the test-retest reliability with a time interval of one month was .91. McCarthy also reports a correlation of .91 between the Stanford-Binet and the McCarthy General Cognitive Score for 35 six year old children.

Peer Experience

Peer Experience was measured by a detailed questionnaire which was completed by the parent of each subject (see Appendix F). The questionnaire was constructed by the author for the purposes of this study. A pilot test of the instrument with 40 parents of preschool children attending a local day care center showed the questionnaire to be adequate for the purposes of the study. The questionnaire obtained information about the number and ages of siblings in the home and the amount of time per week spent with peers in a variety of settings at successive year levels from one year of age. The questionnaire yielded the following scores: (a) number of siblings in the home, (b) number of siblings close in age to the subject (within three years of the subject's age, excluding any siblings under one year of age), (c) amount of preschool experience and (d) total amount of peer experience. Amount of preschool experience was calculated by summing the number of hours per week spent in preschool at one, two, three and four years of age. In cases where the child attended preschool for part of a year, the number of hours for that year was prorated (for example, if a child attended preschool 12 hours per week for ten months, his number of hours per week spent in preschool for that year would be 12 x 10/12 or 10 hours). Similarly, the amount of peer experience was calculated

by summing the number of hours per week spent with peers (not siblings) in all settings, including preschool, at one, two, three and four years of age. Again, number of hours per week were prorated for any experience which did not extend throughout the year.

Procedure

The parents were given the Peer Experience Questionnaire along with the introductory letter describing the study. Those parents who agreed to have their child participate in the study were asked to complete the questionnaire and return it to the preschool office. Thanks to the persistence of the preschool staffs in reminding parents to complete the questionnaire, 100 percent of the questionnaires were completed and returned.

Borke's Empathy Test and the McCarthy Scales were administered to each child individually in an unused room at his preschool. To maintain interest in and good attention to the tasks, each child was seen for at least three sessions of no more than 20 minutes. While most of the subjects completed the testing in three sessions, some of the younger subjects required four to six sessions of shorter duration, due to their short attention spans. Each session was held on a separate day, usually not more than one week apart. However, for 12 subjects the time from first to last session was six weeks due to illness or vacations.

The McCarthy Scales were administered first since the beginning tasks were non-verbal and fun, allowing the subjects quickly to become comfortable in the testing situation. In addition, the order in which the individual subtests were presented could be altered to maintain a child's interest or ease in the situation. The McCarthy Scales typically took two sessions to complete. Borke's Empathy Test, then, was administered in the third session when the child was used to the experimenter and the testing situation.

The experimenters who tested the subjects in this study were three female undergraduate students and the author. The undergraduates were trained by the author over a ten week period in general principles of relating to and testing young children, and specifically in the administration of the McCarthy Scales and Borke's Empathy Test to three and four year old children. The experimenters spent several days in each classroom prior to the beginning of the research project so that the children would feel more comfortable leaving their classrooms to go with the experimenter to the testing room. No child was coerced if he did not want to take part in the study, and sessions were terminated if a child became upset or asked to return to his classroom.

When testing was begun with a particular child, teacher rating forms were given to two of his classroom

teachers to be completed. At the university preschools and local day care center, the same two teachers completed all of the teacher rating forms for the children in their classroom. At the university day care center, the director gave the rating forms to any two of six to eight teachers who worked with a particular child in order to distribute the work load evenly.

While it had been planned for each experimenter to test equal numbers of three and four year old subjects, because of restrictions imposed both by the preschools involved and by the experimenters' schedules, this was not possible. In addition, the exclusion of 30 subjects from the sample for the suspicion of faked data caused the proportions of three and four year old subjects to vary according to preschools. Thus it was not possible to test for experimenter or preschool effects since age was confounded with both experimenter and preschool.

RESULTS

Reliability and Validity of Empathy Measures

Borke's Empathy Test

Scores on Borke's Empathy Test ranged from four to 16 (out of a possible 16). The mean score for the total sample was 11.6 with a standard deviation of 2.5. Item difficulty ranged from 34 to 95 percent correct, with a median percent correct of 78. Internal consistency as measured by the Kuder-Richardson Formula 20 was .63. Thus, while the variance of the instrument was low, due to a number of "easy" items, the internal consistency of the test suggests adequate reliability for a preschool measure.

Teacher Rating Scale

Two different teacher ratings of behavior were obtained for 125 children (teacher ratings for 29 children, excluded from the study for suspected experimenter faking of the Empathy Test and McCarthy Scales results, were added to the teacher ratings for the 96 subjects in the study). Forty-two teachers in all were involved in rating the children. For each pair of teacher ratings, one rating

was randomly assigned to Set A, the other rating to Set B, and correlations between these two sets of scores were obtained for each of the 42 items. For the 30 items from Gilbert's Teacher Rating Scale, the correlations for individual items between sets of teacher ratings ranged from .09 to .58, with mean and median correlations of .34. For the 16 items taken from Murphy's Social Behavior Scale, the correlations ranged from .09 to .57, with mean and median correlations of .28. Because of the low correlations between the two sets of scores, the two teacher ratings were averaged for each child.

In order to identify a set of empathy-related items, the averaged scores for the combined teacher rating scale of 42 items were factor analyzed by a multiple groups method based on factors obtained through varimax rotation. Five clusters emerged which could be described as: (1) outgoing and expressive, (2) antisocial, (3) empathic, (4) mature, and (5) unhappy (see Table 2). The clusters showed good internal consistency, with coefficient alphas ranging from .82 to .93. The interrater reliabilities of the cluster sums were moderate; with the Spearman-Brown correction, r's ranged from .46 to .75. More complete results of the multiple groups analysis, including the correlation matrix, the cluster loadings and the cluster intercorrelations can be found in Appendix G.

Table 2.--Defining Items, Cluster Loadings and Coefficient Alphas from Multiple Groups Analysis of Teacher Rating Scale (N=125).

	Cluster Loading
Factor 1: Outgoing Expressive	
30. Highly Verbal	.91
29. Large Range of Affect Shown	.83
20. Feelings Easily Read	.79
2. Sociable	.79
11. Excitable	.78
26. Intense Joy	.78
22. High Activity Level	.76
7. Shows Feelings	.72
24. Alert to Wide Range of Stimuli	.69
19. Verbalizes Feelings	.68
17. Shows Fantasy in Play	.62
10. Ambitious	.58
34. Laughs When Other Children Laugh	.52
21. Children Have Most Meaning	.51
12. Affectionate	.44
Coefficient Alpha = .93	
Interrater Reliability = .75	
Factor 2: Antisocial	
35. Pushes Other Children	.89
32. Takes Away Other Children's Toys	.86
5. Aggressive	.75
27. Intense Anger	.67
40. Refuses to Accept Child in Play Group	.66
39. Laughs at a Child Who Has Fallen	.53
Coefficient Alpha = .87	
Interrater Reliability = .73	
Factor 3: Empathic	
37. Stops Play to Aid Another Child	.80
42. Asks Child if He Has Hurt Himself	.79
38. Interprets Child's Wishes to Another	.76
36. Offers to Share Toys	.67
33. Comforts Another Child	.65
31. Tells Teacher That a Child is Crying	.64
18. Empathic	.57
41. Respects Another Child's Defense of Own Toys	.53
Coefficient Alpha = .87	
Interrater Reliability = .46	
Factor 4: Mature	
1. Mature	.81
4. Responsible	.73
3. Optimistic	.71
9. Independent	.69
6. Self-Confident	.69
8. Leads Others	.61
14. Plans with Care	.58
16. Takes Blame	.51
13. Adapts to Changes	.48
23. Good Fine-Motor Control	.42
Coefficient Alpha = .86	
Interrater Reliability = .70	
Factor 5: Unhappy	
28. Intense Sadness	.85
15. Sensitive, Easily Upset	.74
25. Intense Fears	.74
Coefficient Alpha = .82	
Interrater Reliability = .48	

In general, items from Gilbert's Teacher Rating Scale were divided among the outgoing and expressive, the mature and the unhappy clusters. Items from Murphy's Social Behavior Scale were divided between the empathy and the antisocial clusters, with prosocial behaviors indicative of empathy in the empathy cluster and antisocial behaviors indicative of a lack of empathy in the antisocial cluster. It is of interest that these two clusters were not significantly negatively correlated with one another ($r = -.16$). Thus, a child who tells the teacher that another child is crying could also be one to make another child cry.

The items from the empathy cluster (Cluster 3) were used in this study as another measure of empathy. Since there were items from both Gilbert's and Murphy's Scales in this cluster, the values of the items on Murphy's Scale were changed from 1 to 5 to -3, -1.5, 0, 1.5 and 3 to correspond to the values on Gilbert's Scale. An empathic behavior score was computed for each child by taking the algebraic sum of the averaged teacher ratings for the eight items of the cluster. Thus, an individual child's score could range from -24 to +24. For the 96 subjects in this study, scores ranged from -20 to +18. The mean score for the total sample was -3.8 with a standard deviation of 7.4. Internal consistency measured by

coefficient alpha was .86. Interrater reliability for the total empathy score was .46.

Relationship Between Empathy Test and Empathy Ratings

Scores on Borke's Empathy Test showed a significant, but low, positive correlation with teacher ratings of empathic behavior ($r = .23$; $p < .05$). Since both measures showed significant positive correlations with age (see Table 4), a partial correlation controlling for age was computed. With age partialled, the correlation between the two measures of empathy was nonsignificant ($r = .05$). To see if this lack of a relationship between the two measures was consistent across age levels, correlations between scores on Borke's Empathy Test and teacher ratings of empathic behavior were computed for each six month age interval. As seen in Table 3, there was a significant, positive correlation between the two measures for the three-and-a-half to four year olds, but not for the other age groups. The lack of correlation between Borke's Empathy Test and teacher ratings of empathic behavior suggested that the two instruments measured different aspects of behavior. Therefore, the relationships with other variables were analyzed separately for the two measures of empathy.

Table 3.--Zero-Order Correlations Between Empathy Test Scores and Empathy Ratings for Six-Month Age Groups.

AGE (In Years)			
3.0-3.4 (N=22)	3.5-3.9 (N-23)	4.0-4.4 (N=23)	4.5-4.9 (N=28)
-.18	.36*	.17	.00

*p < .05

Table 4.--Zero-Order and Partial Correlations Between Empathy, Age, Mental Age and Social Experience for All Subjects (N = 96).

	Borke's Test		Teacher Ratings	
	Zero-Order	Age Partialled	Zero-Order	Age Partialled
Age	.51***		.38***	
Mental Age	.53***	.27**	.36***	.11
Siblings	.02	-.08	-.05	-.13
Close Siblings	.09	.01	-.18*	-.26**
Preschool Experience	.21*	.08	.15	.04
Peer Experience	.24**	-.03	.31***	.14

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

Tests of Hypotheses

Empathy and Age

Hypothesis I concerned the relationship between empathy and age. It was expected that empathy would be positively related to age. To test this hypothesis, correlations between subjects' age in months and scores on the two measures of empathy were computed. As seen in Table 4, both measures were significantly related to age ($p < .001$).

To further understand the relationship between empathy and age, mean empathy scores for both measures were computed for six month age groups (see Table 5). In order to look at the magnitude of the differences between means for the separate age groups, one way analyses of variance and Scheffe's method for post-hoc comparisons were computed for both measures of empathy. The effect of age was significant both for empathy test scores ($F = 10.400$; $df = 3, 92$; $p < .01$) and for teacher ratings of empathic behavior ($F = 4.471$; $df = 3, 92$; $p < .01$). On Borke's Empathy Test, three-and-a half to four year old children scored significantly lower than four to four-and-a-half year old children (p .01); there was no significant difference between three and three-and-a-half year olds or four and four-and-a-half year olds. On teacher ratings of empathy, three to four year old children scored significantly

Table 5.--Means and Standard Deviations of Scores for the Two Empathy Measures for Six-Month Age Groups.

	AGE (In Years)			
	3.0-3.4 (N=22)	3.5-3.9 (N=23)	4.0-4.4 (N=23)	4.5-4.9 (N=28)
Empathy Test				
Mean	10.0	10.4	12.7	12.8
S.D.	2.7	2.6	1.6	1.9
Empathy Ratings				
Mean	- 8.0	- 4.3	- 3.0	- 0.8
S.D.	5.9	7.4	7.0	7.3

lower than four to five year old children ($p < .05$) and young three year olds scored significantly lower than four-and-a-half year olds ($p < .01$); no other comparisons were significant.

Thus, Hypothesis I was strongly supported by the data. Age was significantly related to both measures of empathy.

Empathy and Cognitive Ability

Hypothesis II concerned the relationship between empathy and cognitive ability. It was expected that empathy would be positively related to cognitive ability. To test this hypothesis, correlations between subjects' total score on the General Cognitive Subscale of the McCarthy Scales of Cognitive Ability and scores on the two measures of empathy were computed. As seen in Table

4, both measures of empathy were significantly related to cognitive ability. Since mental age was significantly correlated with chronological age ($r = .76$; $p < .001$), partial correlations controlling for age were computed between measures of empathy and cognitive ability (see Table 4). With age partialled, mental age remained significantly correlated to performance on Borke's Empathy Test; the correlation between mental age and teacher ratings of empathic behavior dropped to non-significance.

Thus, Hypothesis II was only partially supported by the data. Empathy as measured by teacher ratings was not related to cognitive ability. Empathy as measured by scores on Borke's Empathy Test was significantly related to mental age.

Empathy and Number of Siblings

Hypothesis III concerned the relationship between empathy and number of siblings. It was expected that empathy would be positively related to number of siblings in the family. To test this hypothesis, correlations between subjects' scores on the two empathy measures and both the number of siblings and number of siblings close in age to the subject were computed. As seen in Table 4, neither total number of siblings nor number of siblings close in age was related to scores on Borke's Empathy

Test. While total number of siblings was not significantly correlated with teacher ratings, there was a significant negative correlation between number of siblings close in age and teacher ratings of empathic behavior ($r = -.18$; $p < .05$). With age partialled, the relationship was even stronger ($r = -.26$; $p < .01$).

Thus, Hypothesis III was not supported by the data. Scores on the Empathy Test were not related to number of siblings. Correlations between teacher ratings of empathic behavior and number of siblings close in age were in the opposite direction to that predicted.

Empathy and Peer Experience

Hypothesis IV concerned the relationship between empathy and amount of peer experience. It was expected that empathy would be positively related to the amount of peer contact a child had experienced. To test this hypothesis, correlations between subjects' scores on the two empathy measures and both the amount of preschool experience and the total amount of peer experience were computed. As seen in Table 4, significant positive correlations were obtained between scores on Borke's Empathy Test and both preschool and peer experience. Amount of preschool experience was not related to teacher ratings of empathic behavior; however, a significant

positive correlation was found between teacher ratings of empathy and total amount of peer experience. Since age was positively related to amount of preschool experience ($r = .29$; $p < .01$) and to total amount of peer experience ($r = .52$; $p < .001$), partial correlations, controlling for age, were computed. With age partialled, the correlations of the two measures of empathy with both preschool and peer experience were all nonsignificant (see Table 4). Thus, Hypothesis IV was not supported by the data.

Additional Findings

Because of the lack of correlation between the two measures of empathy, further inspection of the data was pursued in order to better understand what these instruments were measuring and to provide directions for further research.

Empathy and Type of Cognitive Ability

The relationships between the two measures of empathy and various components of cognitive ability were investigated by correlating scores on the two empathy measures with raw scores on each of the 14 subtests from the McCarthy Scales (see Table 6). Controlling for age, significant positive partial correlations were found between empathy test scores and all verbal subtests (r's from .19 to .30) as well as the conceptual grouping

Table 6.--Partial Correlations Controlling for Age Between Scores on Empathy Measures and Raw Scores on McCarthy Subtests for All Subjects (N = 96).

Subtest	Empathy Test	Empathy Ratings
General Cognitive Total	.27**	.11
Verbal Total	.28**	.26**
Word Knowledge	.30**	.12
Memory for Words	.15	.35***
Memory for Story	.23*	.27**
Verbal Fluency	.19*	.12
Opposite Analogies	.19*	.16
Pictorial Memory	-.02	.06
Block Building	.16	-.04
Puzzle Solving	-.03	-.21*
Tapping Sequences	.10	-.17*
Draw-A-Design	-.05	-.19*
Draw-A-Person	-.01	-.16
Conceptual Grouping	.37***	-.04
Number Questions	.15	-.02
Numerical Memory I	-.08	-.17*
Numerical Memory II	.10	.05

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

subtest (r = .37; p < .001), a subtest involving classification tasks with color, form and size. The verbal subtests involved word knowledge, memory for stories and verbal concepts. For teacher ratings of behavior, significant positive partial correlations were found with verbal total (r = .27, p < .01) and verbal memory subtests (r = .37, p < .001 and r = .27, p < .01); negative correlations were found with design drawing, puzzle solving and numerical memory (r's from -.17 to -.21; p < .05).

Empathy and Personality Traits

The relationships between the two measures of empathy and various personality variables were investigated by correlating scores on the two empathy measures with scores on the other clusters which emerged from the multiple groups analysis of the teacher rating scale. In addition to the outgoing-expressive, antisocial, mature and unhappy clusters, another scale was constructed from the outgoing-expressive cluster consisting of those items relating to affect-expression. The correlations between these clusters and the two empathy measures are found in Table 7. When age is partialled, none of the correlations with empathy test scores reached significance; however, teacher ratings of empathic behavior were significantly related to teacher ratings of outgoing-expressive behavior ($r = .41$; $p < .001$), affect expression ($r = .51$; $p < .001$), antisocial behavior ($r = -.17$; $p < .05$) and maturity ($r = .25$; $p < .01$).

Since teacher ratings of empathic and antisocial behavior were both positively correlated with ratings of outgoing-expressive behavior ($r's = .46$ and $.43$; $p < .001$), partial correlations controlling for outgoing-expressive behavior were computed. With outgoing-expressive behavior partialled, there was a significant negative correlation between teacher ratings of empathic behavior and teacher ratings of antisocial behavior.

Table 7.--Zero-Order and Partial Correlations Between Scores on the Two Empathy Measures and Other Cluster Scores for All Subjects (N=96).

	Empathy Test		Empathy Ratings	
	Zero-Order	Age Partialled	Zero-Order	Age Partialled
Outgoing-Expressive	.17*	.05	.46***	.41***
Affect Expressive	.14	.06	.53***	.51***
Antisocial	-.05	-.06	-.16	-.17*
Mature	.26**	.12	.34***	.25**
Unhappy	-.04	.02	-.09	-.05

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

Empathy and Gender

Since researchers consistently have found no differences between boys' and girls' awareness of affect in another, sex differences in empathic ability were not expected. However, mean empathy test scores and empathy ratings were computed for males and females in each six month age group (see Table 8). Two-way analyses of variance (sex by age) were computed for both measures of empathy. The effect of sex was significant for empathy ratings, with females scoring higher than males ($F = 4.526$; $df = 1,88$; $p < .05$); the effect of sex was not significant for empathy test scores ($F = .101$; $df = 1,88$; p = n.s.).

Correlations between scores on both empathy measures and other variables of interest were computed separately for males and females. Looking at scores for all subjects and for all three year olds and all four year olds, correlations were quite similar for males and females. Correlations were not computed for six month age intervals because of the low number of subjects in each group.

Table 8.--Means and Standard Deviations of Scores on the Two Empathy Measures for Males and Females by Six Month Age Intervals.

	AGE (In Years)				
	3.0-3.4 (N=22)	3.5-3.9 (N=23)	4.0-4.4 (N=23)	4.5-4.9 (N=28)	TOTAL (N=96)
Empathy Test					
Males					
Mean	10.7	10.6	12.2	12.5	11.7
S.D.	1.8	2.3	1.6	1.9	2.1
	(N=10)	(N=11)	(N=12)	(N=19)	)N=52)
Females					
Mean	9.4	10.2	13.1	13.3	11.4
S.D.	3.3	2.9	1.6	1.7	3.0
	(N=12)	(N=12)	(N=11)	(N=9)	(N=44)
Empathy Ratings					
Males					
Mean	-8.1	-5.5	-5.0	-2.5	-4.8
S.D.	5.7	8.4	6.9	4.5	6.4
	(N=10)	(N=11)	(N=12)	(N=19)	(N=52)
Females					
Mean	-7.9	-3.2	-0.8	2.8	-2.7
S.D.	6.3	6.6	6.8	10.7	8.3
	(N=12)	(N=12)	(N=11)	(N=9)	(N=44)

DISCUSSION

Measures of Empathy

Two different measures of empathy were used in this study: (1) Borke's Empathy Test which measured the child's ability to identify the feelings of a story character and (2) teacher ratings of children's empathic behavior. Except for a low, but significant, positive correlation for subjects between three-and-a-half and four years of age, the two instruments did not correlate with one another. Before discussing possible explanations for the lack of correlation, it is necessary to look at the reliability of the two instruments.

Borke's Empathy Test demonstrated modest reliability for a 16 item test as measured by its internal consistency. While a coefficient alpha above .60 is considered adequate test reliability by some (Nunnally, 1967), the obtained reliability coefficient of .63 for Borke's Empathy Test indicates that more than half of the test variance is due to error, thus necessarily lowering the size of correlations with other variables.

The low interrater reliability of the teacher ratings of empathic behavior calls into question the

reliability of the measure. However, Murphy (1937) similarly found low correlations between teachers, which she attributed to the fact that teachers observe children in different settings and thus would have different perceptions of their behavior. Although the interrater reliability was low, Murphy found the averaged teacher ratings to correlate .80 with observations of actual behavior. For this study, when the averaged teacher ratings were factor analyzed, meaningful factors emerged which showed good internal consistency. The three factors composed primarily of items from Gilbert's Teacher Rating Scale were similar to those found by Gilbert (1969). Thus, there is some evidence to suggest that, despite the low interrater reliability, averaged teacher ratings might provide a reliable index of empathic behavior in children. However, further validating studies, correlating averaged teacher ratings with observed children's behavior are necessary to better demonstrate the reliability of using averaged teacher ratings as a measure of empathic behavior.

Returning to the relationship between the two empathy measures, one explanation for the lack of correlation would be that the two instruments were not reliable or sensitive enough to demonstrate a relationship which might exist. However, another explanation would be that the two instruments measure different kinds

of behavior which do not relate to one another in a linear manner. It is interesting that a low, but significant, positive correlation did exist between the two measures at three-and-a-half to four years of age, but not for the other age groups. Perhaps a certain level of social skill is necessary before a child is able to use his cognitive awareness of affect consistently in his interactions with others, thus explaining the lack of correlation for children below three-and-a-half years of age. This hypothesis is consistent with naturalistic observations of children's prosocial behaviors. Both Murphy (1937) and Yarrow and Waxler (1976) describe the behavior of young children who through their worried expressions show that they are aware of another person's feelings of distress, but are unable to act on their awareness by comforting or helping the other person.

While the hypothesis that a certain level of social maturity is necessary before the level of awareness of affect in another is reflected in a child's interactions with others could explain the lack of correlation between the two empathy measures for young three year olds, another explanation is needed for the lack of correlation for four year olds. Perhaps beyond a certain level of awareness of affect in others, additional refinement of that awareness is no longer related to increased empathic behavior. Looking at the kinds of responses

made by three and four year olds on Borke's Empathy Test, by four years of age, children seemed to differentiate between situations which were pleasant or unpleasant, seldom choosing "happy" as a response to a situation which might make one sad, afraid or angry. From four years of age, increases in the child's awareness of affect were related to his ability to differentiate among the three negative emotions. Thus, empathic behavior might relate to the child's ability to differentiate between pleasant and unpleasant feelings in others; however, his further ability to discriminate whether someone is sad, afraid or angry might not relate to increased ability to share, comfort or inform a teacher that another child is upset. While it is possible to propose explanations for the significant relationship between the two empathy measures for children between three-and-a-half and four years of age, because of the small sample size, this relationship might only pertain to this particular sample of children. Further research with a larger number of preschool children and using more reliable measures is necessary to confirm the relationships among social maturity, awareness of affect and empathic behavior.

Despite the questionable reliability of the empathy instruments, the relationships of the scores on these measures with other variables of interest will be

discussed in order to provide directions for future research. However, the results should be regarded as tentative, needing to be replicated in the future with more reliable instruments.

Empathy and Age

The hypothesis that empathy would be positively related to age was supported whether empathy was measured by the child's awareness of affect or by teacher ratings of empathic behavior. That awareness of affect in others increases with age is consistent with other research on empathy in preschool children using similar instruments (Borke, 1971, 1973; Partyka, 1974; Urberg and Docherty, 1976). Partyka (1974) and Urberg and Docherty (1976) similarly found a significant increase between three and four years of age in the child's ability to identify feelings of others. By four years, children identified feelings with a high degree of accuracy so that no further increase was seen between four and five years on instruments limited to affect identification.

The increase in children's empathic behavior is similar to Murphy's (1937) findings on sympathetic behavior in children. In contrast, however, are the results from Yarrow and Waxler's (1976) study on pro-social behavior which showed no age differences in the frequency of helping, comforting and sharing behaviors whether measured in the preschool or experimental setting.

These contradictory findings illustrate the fact that prosocial behavior is not a unitary construct and that specific kinds of behavior which depend upon the awareness of affect in another might have differing courses of development.

While it is important to know that empathy is a developmental phenomenon, it is of greater interest to know what kinds of life experiences, traits and abilities influence the course of its development. Cognitive ability and social experience are two such variables which might account for age changes in empathy.

Empathy and Cognitive Ability

It was hypothesized that empathy would be positively related to cognitive ability. This hypothesis was supported when empathy was measured by Borke's Empathy Test, but not when empathy was measured by teacher ratings. The finding that awareness of affect is positively related to cognitive ability in preschool children was also reported by Partyka (1974).

Researchers have attributed the relationship between cognitive ability and awareness of affect to increased verbal ability, thus being able to understand and respond to the verbal requirements of the task (Partyka, 1974) or to increased role-taking skill, thus being better able to take the affective role of the other

(Borke, 1971). Looking at the relationships between scores on Borke's Empathy Test and McCarthy subtest scores, success on Borke's Empathy Test was not simply related to verbal ability. The highest correlation was with a subtest which required classification skills and the ability to consider two or more attributes simultaneously. Other subtests which were significantly related to empathy test scores involved verbal concepts and categorization and verbal memory for stories. Of interest is the high correlation between empathy test scores and classification skills. This relationship has also been reported by Rubin and Maioni (1975) with three-and-a-half to four-and-a-half year old children. In that the ability to be aware of affect in another is a kind of role taking skill, success on Borke's Empathy Test and classification tasks both depend on the ability to decenter and consider more than one aspect of the situation simultaneously. In addition to the ability to decenter, awareness of affect seems to be related to verbal concept development. Just as preschool children are learning about colors, shapes, kinds of foods, types of transportation, so are they learning about types of emotions. The relationship between scores on Borke's Empathy Test and memory for stories probably pertains to being able to respond to the specific test demands, rather than to the ability to be aware of the feelings of others.

While teacher ratings of empathic behavior did not correlate significantly with overall mental age, inspection of its relationships to individual McCarthy subtest scores reveals that empathic behavior was significantly related to overall verbal ability. The correlations with all verbal subtests were positive; correlations with verbal memory tasks were significant for the total sample. In addition, skill at non-verbal, perceptual-motor tasks such as puzzle construction and copying geometric designs and memory for numbers was significantly negatively correlated with empathic behavior. Jennings (1975) found that visual-motor skill was related to relative preference for play with objects over play with peers. Thus, the negative correlation between empathic behavior and visual-motor skill might be explained by the fact that children with high visual-motor skill spend less time in interactive play and thus have less opportunity to demonstrate empathic behavior. Another explanation might be that children who have poor social skills spend more time in solitary play with objects which then builds their visual-motor skill. Jennings (1975) did not look at the relationship between verbal ability and preference for play with peers. One might hypothesize that verbal ability would be related to preference for play with peers,

with more verbal children choosing verbal interaction and with verbal interactive play increasing the child's verbal ability. Thus, more verbal children would spend more time interacting with peers and thus have more opportunity to engage in empathic behavior. Another explanation for the relationship between empathic behavior and verbal ability might be that many of the empathic behaviors rated involved a verbal response, such as "Informs teacher that another child is crying." While some behaviors, such as "Shares toys," do not require a verbal response, in general a verbal response would accompany such behaviors.

Thus, while aspects of cognitive ability relate to empathic behavior, their relationship might arise from their association to play preferences or to degree of social skill. To determine whether verbal ability by itself is related to empathic behavior it would be necessary to control for the degree of social skill and amount of time spent in play with peers.

Empathy and Social Experience

It was hypothesized that empathy would be positively related to peer experience as defined by number of siblings and siblings close in age and amount of preschool

and peer experience. These hypotheses were not supported for either measure of empathy. One explanation would be that peer experience does not relate to empathy in a linear fashion; instead, a certain amount of social experience is necessary for empathy to develop and beyond this threshold level, additional peer experience does not influence empathic skill. This explanation is similar to that posited by Hollos and Cowan (1973) and West (1974) in their discussion of the relationship of early peer experience to role-taking skill. This hypothesis is given some support when the relationships between empathy and social experience are looked at by six month age intervals. Above three-and-a-half years of age, social experience was not significantly positively related to either measure of empathy. However, for three to three-and-a-half year old children, when amount of peer experience was controlled, number of siblings close in age correlated positively with empathy test scores ($r = .38$; $p < .05$). When number of close siblings was controlled, amount of preschool experience was positively related to empathy test scores ($r = .44$; $p < .05$) and amount of non-preschool peer experience was positively related to ratings of empathic behavior ($r = .42$; $p < .05$).

It is of interest that the type of social experience had a differential effect on empathic ability, depending on the type of empathy measured. Play with

siblings close in age and preschool play experience are similar in that adults are usually close by to monitor children's interactions, such as encouraging sharing or interpreting one child's feelings to another, whereas when playing in the neighborhood, children often settle disputes and conflicts on their own. Thus adult monitoring of children's interactions might help children become more aware of other's feelings and to learn appropriate affect labels. However, adult monitoring in the classroom situation has been shown to be related to proportionally less peer interaction and greater adult-child interactions (O'Connor, 1975b). Thus, non-preschool peer experiences would give more experience in interacting with peers which in turn might promote the social maturity necessary to act on one's awareness of affect in others.

Murphy (1937) noted that the incidence of sympathetic behavior was greater in preschool groups with a large span in ages (30 months) than in groups with a narrower age range (ten months). Neighborhood play groups are often more heterogeneous in age than preschool groups, thus perhaps offering more opportunities for learning prosocial behaviors.

That number of siblings is not necessarily helpful in promoting empathy is seen by the significant negative correlation between number of siblings close in age and ratings of empathic behavior, which was stronger for four

year olds than three year olds. While number of close siblings might aid in being aware of others' feelings when quite young, this awareness was not demonstrated in interactions with others. Perhaps needing frequently to take into account siblings' feelings and needs leads to less empathic behavior around peers where such accommodation of one's behavior is not demanded to the same degree.

These results stress the importance of investigating the influence of early peer experience in very young children and the need to look at type of social experience. Further naturalistic studies like O'Connor's (1975b) are necessary to learn how different settings influence the kind and amount of peer interaction. The relationship between number of siblings and empathic behavior needs to be looked at more closely to see if older or younger siblings have differential effects. Longitudinal studies would be helpful in studying the effect of the arrival of a new sibling upon prosocial behavior with peers.

Empathy and Personality Traits

In order to further understand the differences between the two measures of empathy, correlations were computed between scores on the two empathy instruments and teacher ratings on the other personality clusters. Empathy test scores did not correlate with any of the cluster scores. Of interest is the lack of correlation with

teacher ratings of affect expression. Thus, not only does affect awareness not relate to the acting upon that awareness (empathic behavior), but it also does not relate to the expression of one's own affect, verbally or through behavior.

In contrast, for children three-and-a-half and older, teacher ratings of empathic behavior were related to ratings of outgoing, highly verbal and emotionally expressive behavior. While these correlations could be due to teachers' tendency to generalize in their perceptions of children, the correlations also could indicate that empathic behavior is associated with a social orientation and good verbal ability.

Murphy's (1937) finding that sympathy was positively related to aggression in preschoolers has spurred other researchers to investigate the relationship between prosocial behavior and aggression. Feshbach and Feshbach (1969) similarly found a positive relationship between empathy and aggression for four and five year old boys, but found a negative relationship for six and seven year old boys. Murphy (1937) explained the positive relationship by suggesting that both behaviors were part of an outgoing nature in preschool children. Consistent with Murphy's explanation was the finding that both empathic and antisocial behaviors were positively correlated with

outgoing-expressive behavior. However, when correlations were controlled for outoing-expressive behavior, empathic behavior was significantly negatively correlated with antisocial behavior, with the size of the negative correlation increasing with age. This negative correlation between teacher ratings of empathic and antisocial behavior is similar to Feshbach and Feshbach's (1969) results with six and seven year old boys. Yarrow and Waxler (1976) propose an explanation for the contradictory results of studies looking at the relationship between prosocial and aggressive behavior. They suggest that the direction of the correlation between empathic and aggressive behavior depends upon the degree of aggressiveness; for highly aggressive children, prosocial behavior is negatively related to aggression, while for moderately aggressive (or assertive) children, prosocial behavior is positively related to aggression. Thus, the difference between the results of this study and those of Murphy (1937) and Feshbach and Feshbach (1969) with four to five year old boys might be due to a more highly aggressive sample in this study.

Empathy and Gender

The lack of sex differences in awareness of affect is consistent with the literature (Rothenberg, 1970; Borke, 1971; Partyka, 1974; Urberg and Docherty, 1976).

The finding that girls engage in more empathic behavior than boys is contrary to Murphy's (1937) results for sympathetic behavior and Yarrow and Waxler's (1976) results for compassionate behavior, which both showed no sex differences. This difference might reflect teachers' stereotypes that girls are more sensitive to others' feelings rather than an actual difference in behavior. Murphy (1937) noted that while there was no difference between the number of sympathetic responses made by girls or boys, there was a difference in the type of sympathetic response, with boys showing their concern for others through active defense of another child's rights. Perhaps the items chosen for the empathic behavior scale was more heavily loaded with behaviors more typical of girls.

Comparison of Empathy Measures

Not only did scores on Borke's Empathy Test and teacher ratings of empathic behavior fail to correlate with one another, but their patterns of correlations with other variables were quite different, suggesting that the two instruments measure different behavior. Empathy as measured by Borke's Empathy Test was related to cognitive ability and, for three to three-and-a-half year olds, to social experience, as would be predicted from Piagetian theory which conceives of empathy as related to role-taking ability. Empathy test scores were not related to

emotionally expressive behavior or any other personality traits. Empathy as measured by teacher ratings of empathic behavior did not relate to other variables in a manner predicted from Piagetian theory. Ratings of empathic behavior were most strongly related to other personality attributes, being positively related to outgoing, highly verbal and emotionally expressive behavior and negatively related to antisocial behavior. Empathy ratings were positively correlated with verbal ability, but negatively related to visual motor skill. Empathic behavior at three to three-and-a-half years was influenced by peer experience, but was negatively related to number of siblings.

Thus, Borke's Empathy Test appears to measure a cognitive ability to be aware of feelings in others, which might be conceived of as role-taking skill. Contrary to theory, empathic behavior seems to be determined by more than role-taking ability. It is a more complex phenomenon, probably multidetermined by personality make-up, socialization influences of parents and peers, degree of social maturity and situational variables. Empathic behavior is probably influenced by stage of cognitive development, becoming more refined or sensitive as children progress to a higher level of conceptual thought.

Implications for Research

The lack of correlation between empathy as awareness of affect and empathy measured by ratings of empathic behavior forces a re-examination of existing research on "empathy." Generalizations that performance on tests of affect awareness has implications for a child's relations with others cannot be made until such relationship has been demonstrated. The results of this study suggest that affect awareness and empathic behavior are two different phenomena which need to be investigated separately. Considering the confusion over definition and measurement of empathy, perhaps the term "empathy" should be dropped altogether. The recent trend to call empathy or affect awareness "affective role-taking" is helpful in beginning to differentiate between different concepts of empathy. Perhaps Yarrow's (1975) term of "compassion" would better reflect those behaviors which arise from one's awareness of feelings in another.

Having better defined the behaviors to be investigated, the next obstacle in studying affective role-taking or compassionate behavior is that of measurement. While the instruments used to measure "empathy" in this study were taken from the research literature, both measures were shown to have questionable reliability. Especially when looking at relationships between scores on two measures, it is important that the test scores show

good variability and that the measures are reliable. While Borke's Empathy Test had good content validity, many of the items were quite easy, resulting in low variability especially for four year olds and relatively low internal consistency. The instrument could be improved by adding more difficult items, such as those used by Partyka (1974) and Urberg and Docherty (1976), and by increasing the range of scores, giving a higher score to explanation of the feeling than to simple affect identification.

Teacher rating scales, given to a variety of teachers without any further explanation other than the directions on the form itself, had low interrater reliability. Perhaps a training session or using a forced distribution technique such as that used by Cohen (1973) would improve interrater reliability. It is of interest that items relating to empathy had the lowest interrater correlations of all items on the teacher rating scale and interrater reliability of the total empathic behavior score was the lowest of all the cluster scores. Yarrow and Waxler (1976) found a similar difference in observer ratings of compassionate and aggressive behavior, though the reliabilities were higher. Murphy (1937) and Yarrow and Waxler (1976) both comment that prosocial interactions (comforting, sharing) occur much less frequently and are much more variable than

antisocial or aggressive interactions, which might explain the greater difficulty in rating prosocial behavior.

While the major thrust in research on prosocial behavior has been to find correlates with kinds of cognitive ability, this study began to investigate social correlates, by looking at the relationships of peer experience and number of siblings to empathic ability and behavior. Especially for young children, parents are powerful socialization agents. Both theoretical and research literature suggest that type of parental discipline relates to concern for others (Hoffman, 1963; Ferguson, 1970; Bearison and Cassel, 1975). Future research exploring the relationship between type of parental discipline and compassionate behavior would further our understanding about how prosocial behavior develops.

Throughout the discussion of the results of this study a relationship between the degree of social skill and empathic behavior has been posited as an explanation for particular patterns of correlations. One might hypothesize that children who display more mature patterns of social interaction, such as cooperative or dramatic play as opposed to passive watching or parallel play, would display more empathic behavior. In fact, the level of social interaction might relate to the manner in which

concern for others would be expressed, with children who engage in more solitary play showing their concern by passive staring with a worried expression, and children who interact more acting upon their concern by comforting or aiding.

This study involved a very homogeneous group of preschool children, the majority of whose parents were associated with a university. Data from different groups of children is needed to supplement the results obtained in the present study. Since girls were perceived by teachers as engaging in more empathic behavior than boys, a larger sample of subjects of each sex for the four six month age groups is needed. With more reliable measures and a more diverse subject population, further investigations of the social correlates of empathic behavior should provide important knowledge to help in promoting the development of concern for others.

SUMMARY

The purpose of this study was to investigate the relationships between empathy and age, cognitive ability and social experience in preschool children and to compare two measures of empathy: (1) a test of awareness of a child's affect as described in a story and (2) teacher ratings of empathic behavior in the classroom. It was hypothesized that empathy would be positively related to age, cognitive ability and social experience (measured by number of siblings, amount of preschool experience and total amount of peer experience). The subjects were 96 three and four year old children.

Both measures of empathy showed modest reliability. Scores on the test of affect awareness did not relate to teacher ratings of empathic behavior for the total group; however, there was a significant, but low, positive correlation between the two measures for three-and-a-half to four year old children. Not only did scores on the two empathy measures fail to correlate with one another, but their patterns of correlations with other variables were different, suggesting that the two instruments measured different aspects of behavior.

Empathy measured by a test of affect awareness was positively related to age and to cognitive ability, especially classification skills and verbal concepts. For three to three-and-a-half year olds, affect awareness was related to number of siblings close in age and amount of preschool experience. Empathy measured by teacher ratings of empathic behavior was positively related to age. Empathy ratings did not correlate significantly with overall mental age, which was explained by its positive relationship with verbal ability and negative relationship to visual-motor skills. For three to three-and-a-half year olds, ratings of empathic behavior were positively correlated with amount of non-preschool peer experience. In addition, teacher ratings of empathic behavior were positively related to supplementary teacher ratings of outgoing, highly verbal and emotionally-expressive behavior and negatively related to ratings of antisocial behavior.

The results suggested that empathy as measured by a test of affect awareness is a cognitive skill, related to role-taking ability. In contrast, empathy as measured by teacher ratings of empathic behavior appeared to be a more complex phenomenon, probably multidetermined by personality make-up, socialization influences of parents and peers, degree of social maturity and situational variables. Implications for the interpretation of

the current literature on empathy in children were discussed and directions for further research were proposed.

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APPENDICES

APPENDIX A

PARENT LETTER

MICHIGAN STATE UNIVERSITY

Department of Psychology East Lansing Michigan 48824
Olds Hall

Dear Parent:

I am conducting a research project on how children become aware of other people's feelings. Specifically, I am interested in how this empathic ability is related to a child's ability to think and to reason. In addition, I am interested in how the amount of peer experience a child has had affects his awareness of other's feelings.

I will be conducting the project at the Spartan Day Care Center during Winter term involving children between the ages of three and five. The project has been approved by the Department of Psychology, the Early Childhood Studies Committee and the Parent Board of the Day Care Center. I would like to have your permission for your child to participate in the study.

Each child in the project will be seen individually for about an hour. This time will be broken into several shorter periods of 15 to 20 minutes, geared to each child's attention span and interest. The children will be given selected parts of the McCarthy Scales of Children's Abilities, an instrument normed and standardized for preschool children. The McCarthy Scales consist of a variety of verbal and non-verbal cognitive tasks, such as labeling pictures, doing puzzles, and repeating a series of numbers. To measure a child's awareness of other's feelings, the children will be told a series of short stories and will be asked what the child in the story was feeling. The "answers" will consist of pointing to one of a set of four pictures expressing feelings. An example would be: "How would Nancy feel if she were eating her very favorite food?" In addition, each child will be rated by their teachers on a behavior rating scale which looks at a variety of behaviors which may be associated with empathic ability. Each child's performance on these instruments will be kept confidential and anonymity will be preserved in the analysis of the data. Only group data will be discussed in reporting the results of this study.

The children will be seen by one of four undergraduate research assistants who have had supervised experience this summer in giving these tasks to young children and in relating to children in a sensitive manner. From our experience this summer, we have found that the children, in general, thoroughly enjoyed participating in the project--they seemed to find the tasks to be like fun games and they enjoyed the extra individual attention.

Please indicate your permission on the blue sheet attached to this letter and return it to the center office. Then, at your convenience, please complete the yellow questionnaire describing your child's peer experience and return it to the center.

Thank you very much for your cooperation. If you have any questions about the project, please phone me at 339-3163. At the conclusion of the study, copies of a summary of the results will be given to all families who have participated in the project, regardless of whether your child is still enrolled in the center.

Sincerely,

Barbara J. Brandt
Ph.D. Candidate in Psychology

APPENDIX B

BORKE'S EMPATHY TEST, STORIES

Borke's Empathy Test

Name:_____ Date of Birth:_____

Age:_____ Date:_____

Classroom:_____ Examiner:_____

Instructions: Examiner places the faces in front of the subject in following order: Happy, Sad, Afraid and Angry. These are pictures of Nancy (Johnny). Can you tell me how Nancy (Johnny) feels in this picture? Examiner points to first picture. Examiner tells subject the names of any feelings child is unable to identify. Examiner then asks subject to point to the faces in the following order: Sad, Angry, Afraid, Happy. If the subject has difficulty, the examiner should try to teach the subject the appropriate labels or discrimination.

Names/points to faces correctly?

_____ on first trial

_____ after initial labeling

_____ after much prompting

_____ never

had difficulty with the following feelings_____

Example A: Examiner picks up faces and shuffles them making sure the "happy" face is not on top. Examiner lays out the faces in the new order and then places the picture for the first illustration story in front of the subject. Show me how Nancy (Johnny) would feel if she were eating the food she likes best. Would she feel (examiner names the emotions according to the new sequence of faces). Point to the face you think she'd (he'd) have. Examiner circles the face selected by the subject:

Happy Sad Afraid Mad None

If the subject does not select a face, the examiner places the "Happy" face on the picture saying: Nancy (Johnny) would probably feel "Happy" if she were eating the food she liked best.

If the subject does select a face, regardless of which one, the examiner says: Very good. Why do you think Nancy (Johnny) would feel if she were eating the food she liked best?

Now I am going to tell you some more stories about Nancy (Johnny) and I want you to show me how Nancy (Johnny) feels in each story. There are no right or wrong answers. All I want to know is how you think Nancy (Johnny) feels in each story.

NOTE: Examiner reshuffles pictures before each story and circles Child's response.

Example B: Show me how Nancy (Johnny) would feel if she couldn't go out to play because she was sick and had to stay in bed. Would she feel (examiner names emotions according to sequence). Point to the face you think she'd (he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

Example C: Show me how Nancy (Johnny) would feel if she wanted to do something and her mother said "No." Would she feel (examiner names emotions according to sequence). Point to the face you think she'd (he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

1. Show me how Nancy (Johnny) would feel if her mother was going to take her some place she liked to go. Would she feel (examiner names emotion according to sequence). Point to the face you think she'd (he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

2. Show me how Nancy (Johnny) would feel if her sister took her toys away from her. Would she feel (examiner names emotions according to sequence). Point to the face you think she'd have. Why do you think Nancy (Johnny) would feel _____? H S A M

3. Show me how Nancy (Johnny) would feel if she dreamed that a tiger was chasing her. Would she feel (examiner names emotions according to sequence). Point to the face you think she'd (he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

4. Show me how Nancy (Johnny) would feel if she fell and hurt herself. Would she feel (examiner names emotions according to sequence.) Point to the face you think she'd (he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

5. Show me how Nancy (Johnny) would feel if her mother forced her to eat something she didn't like. Would she feel (examiner names emotions according to sequence). Point to the face you think she'd

(he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

6. Show me how Nancy (Johnny) would feel <u>if she got a new toy as a gift.</u> Would she feel (examiner names emotions according to sequence). Point to the face you think she'd (he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

7. Show me how Nancy (Johnny) would feel <u>if someone she liked very much had to go away.</u> Would she feel (examiner names emotions according to sequence). Point to the face you think she'd (he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

8. Show me how Nancy (Johnny) would feel <u>if she were alone in the dark.</u> Would she feel (examiner names emotions according to sequence). Point to the face you think she'd (he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

9. Show me how Nancy (Johnny) would feel <u>if she wanted to play with you and you couldn't play because it was too late.</u> Would she feel (examiner names emotions according to sequence). Point to the face you think she'd (he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

10. Show me how Nancy (Johnny) would feel <u>if you pretended to be a ghost and ran after her in the dark.</u> Would she feel (examiner names emotions according to sequence). Point to the face you think she'd (he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

11. Show me how Nancy (Johnny) would feel <u>if you gave her some ice cream</u>. Would she feel (examiner names emotions according to sequence). Point to the face you think she'd (he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

12. Show me how Nancy (Johnny) would feel <u>if you said something bad about her father or mother</u>. Would she feel (examiner names emotions according to sequence). Point to the face you think she'd (he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

13. Show me how Nancy (Johnny) would feel <u>if you told her a ghost story</u>. Would she feel (examiner names emotions according to sequence). Point to the face you think she'd (he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

14. Show me how Nancy (Johnny) would feel <u>if you left her and went to play with someone else.</u> Would she feel (examiner names emotions according to sequence). Point to the face you think she'd (he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

15. Show me how Nancy (Johnny) would feel <u>if she just finished building a tower of blocks and you knocked it down</u>. Would she feel (examiner names emotions according to sequence). Point to the face you think she'd (he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

16. Show me how Nancy (Johnny) would feel <u>if you invited her to come and play with you</u>. Would she feel (examiner names emotions according to sequence). Point to the face you think she'd (he'd) have. Why do you think Nancy (Johnny) would feel _____? H S A M

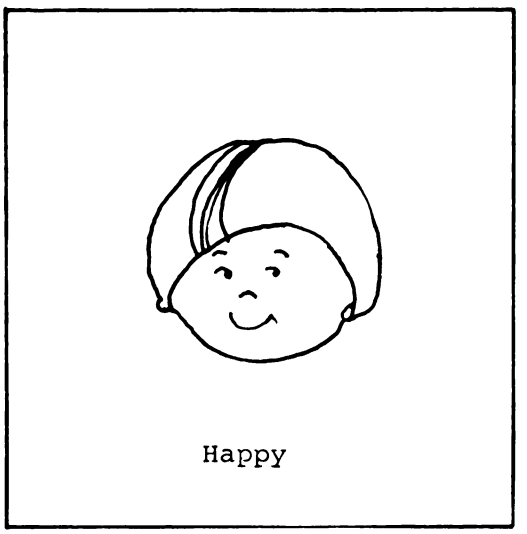
_____ Names/points to faces correctly

_____ Did not know the following feelings _____

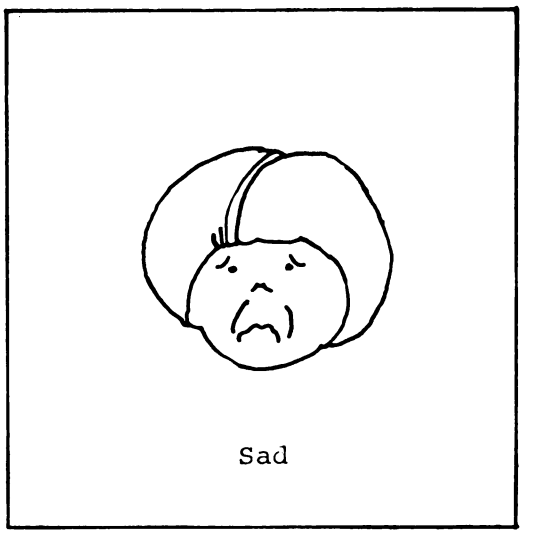
_____

APPENDIX C

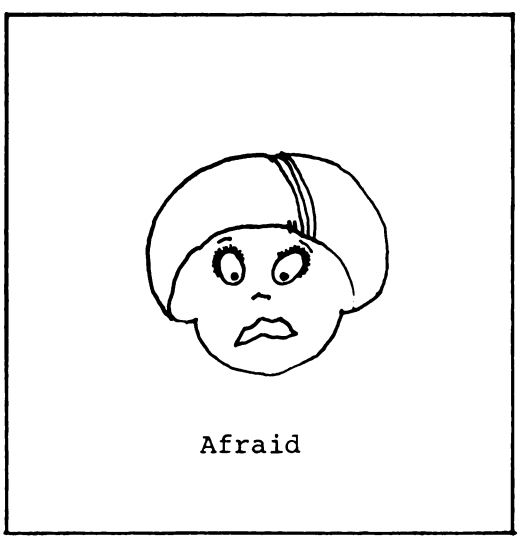
BORKE'S EMPATHY TEST, FACES



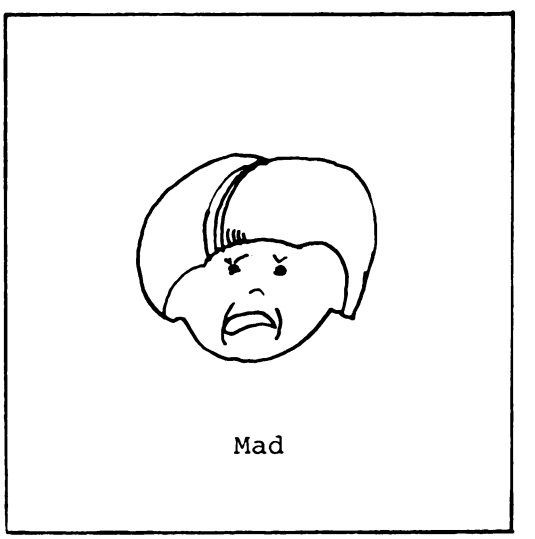
Happy



Sad



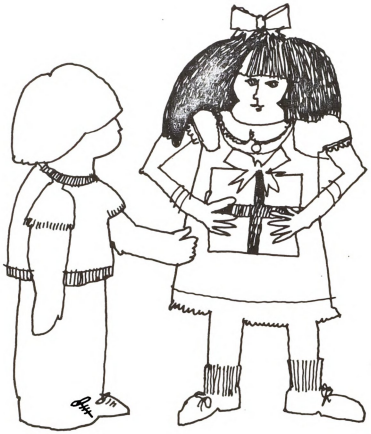
Afraid



Mad

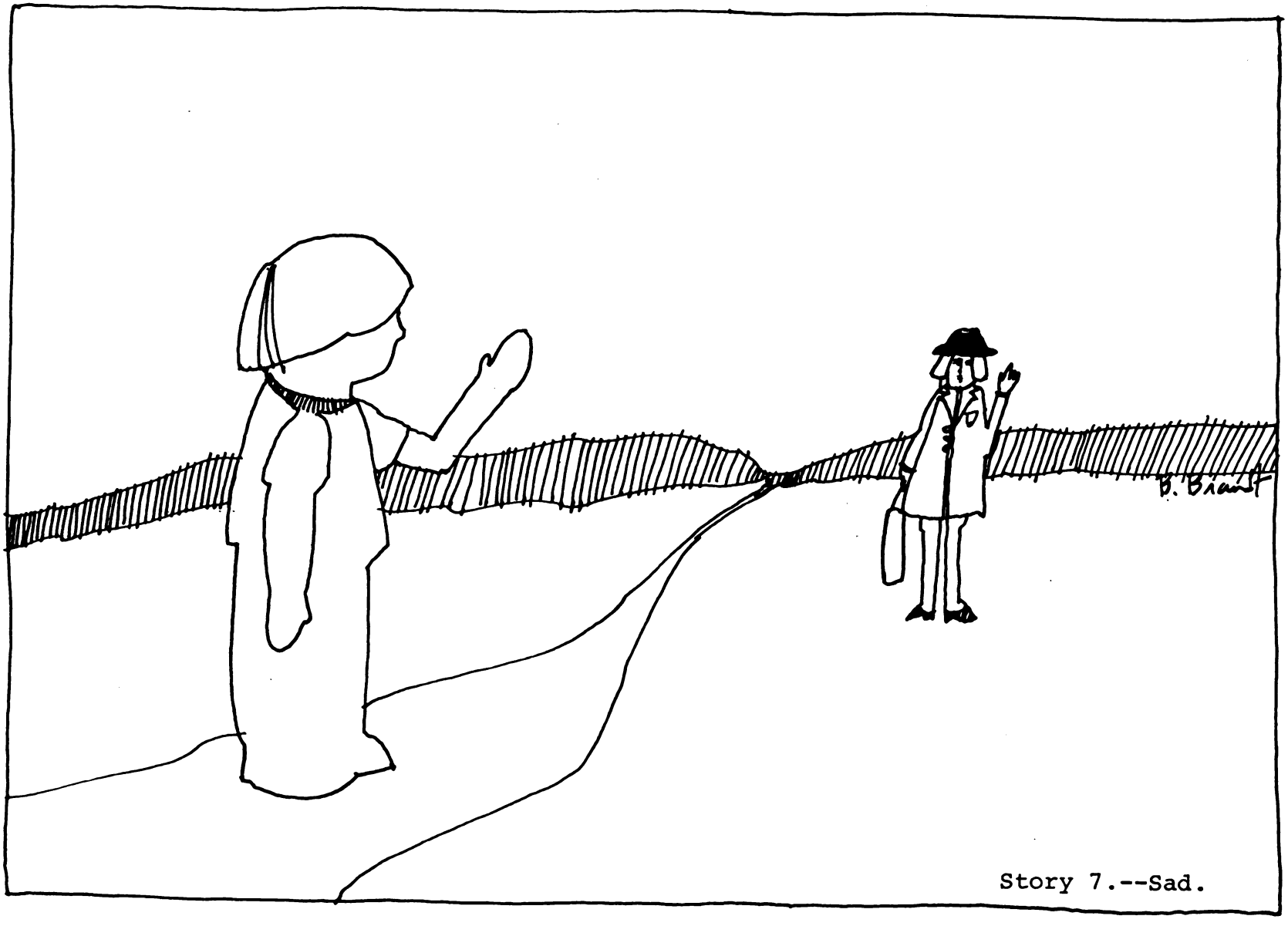
APPENDIX D

BORKE'S EMPATHY TEST, SAMPLE PICTURES

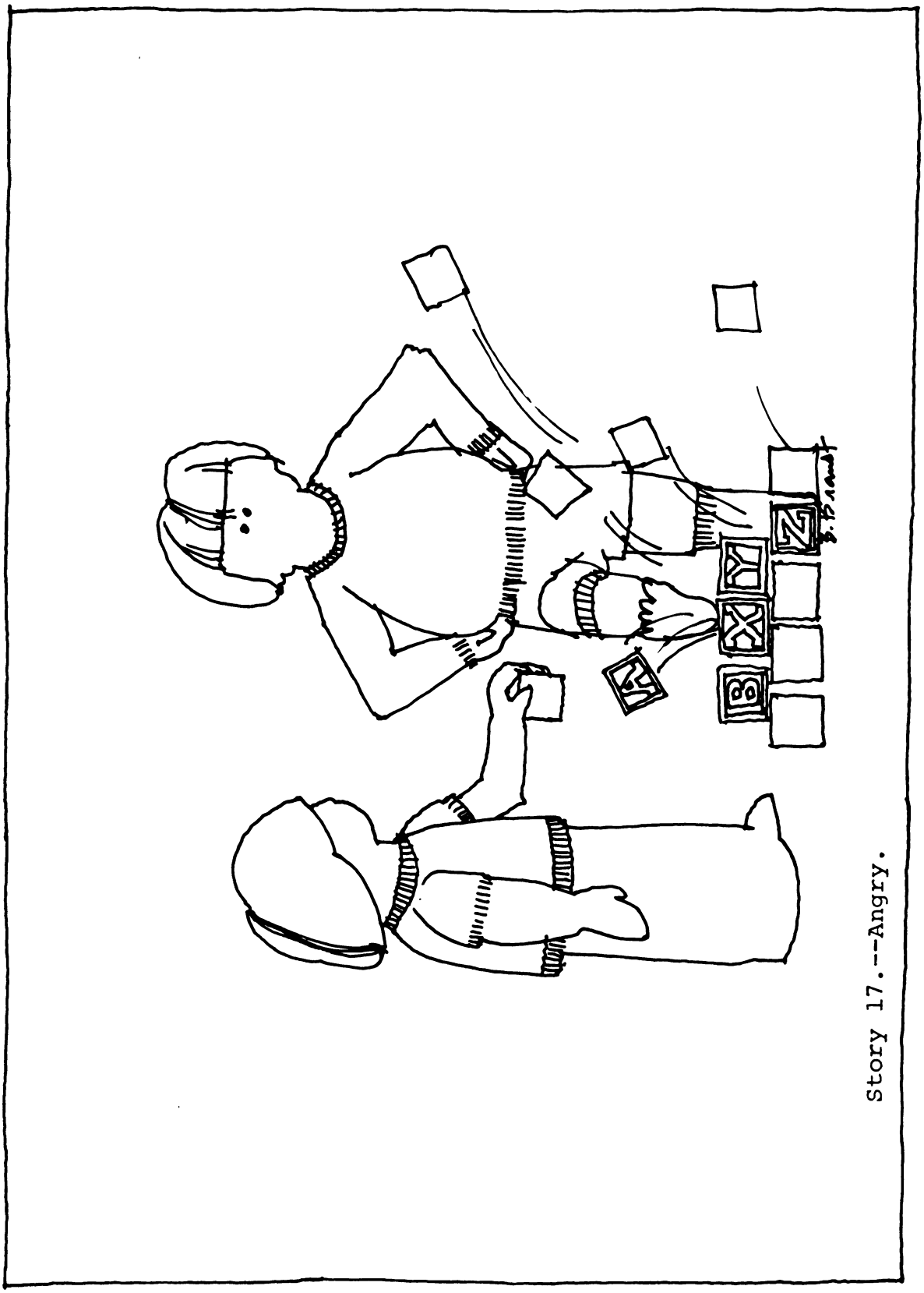


Story 6.--Happy.

B. Brandt



Story 7.--Sad.



Story 17.--Angry.

APPENDIX E

TEACHER RATING SCALE

Child's Name _____ Teacher's Name _____

Gilbert's Adjective Checklist

Class _____ Date Completed _____

Here is a list of words used to describe people. As you can see, they are paired off into opposites and sometimes the words are defined further. We would like you to decide where your child is in terms of each pair. Between each pair of opposites are the numbers: 3 2 1 1 2 3

Decide which of the two describes him/her better and circle one of the three numbers next to that description as follows:

1. a little more on this side
2. definitely on this side
3. very much on this side

as compared with children of his age

Tall 3 2 1 1 2 3 Short

If _____ is very tall, you would circle the 3 right next to the word "tall." If he were a little on the short side you would circle the 1 closest to the word "short," and so on, circling one number for each pair of opposites.

1.	Immature, acts younger than age	3 2 1	1 2 3	Mature, acts grown up
2.	Sociable, hates play alone	3 2 1	1 2 3	Withdrawn, enjoys play alone
3.	Pessimistic, expects the worst	3 2 1	1 2 3	Optimistic, expects the best
4.	Responsible, trust to do what told	3 2 1	1 2 3	Avoids responsibility
5.	Aggressive, fights	3 2 1	1 2 3	Submissive, avoids fights, not aggressive
6.	Feels very self-confident	3 2 1	1 2 3	Feels inferior
7.	Tries to hide feelings	3 2 1	1 2 3	Shows feelings
8.	Follows others, imitates	3 2 1	1 2 3	Leads others, is imitated
9.	Dependent	3 2 1	1 2 3	Independent

10. Ambitious, always tries to be the winner	3 2 1	1 2 3	Unambitious, doesn't try to be a winner
11. Excitable	3 2 1	1 2 3	Quiet, doesn't get excited
12. Affectionate	3 2 1	1 2 3	Unaffectionate
13. Adapts to changes	3 2 1	1 2 3	Set in his ways
14. Impulsive, doesn't plan with care	3 2 1	1 2 3	Plans with care
15. Sensitive, easily upset	3 2 1	1 2 3	Not sensitive, not easily upset
16. Takes blame, admits error	3 2 1	1 2 3	Blames others, doesn't admit errors
17. Shows much fantasy and imagination in play	3 2 1	1 2 3	Unimaginative, plays very realistic
18. Empathic, aware of others feelings	3 2 1	1 2 3	Acts as if he is not aware of what others are feeling
19. Verbalizes what he is feeling, i.e., states his feelings in words	3 2 1	1 2 3	Seldom, if ever, describes his feelings
20. Difficult for teacher to recognize what he is feeling or what he wants	3 2 1	1 2 3	Easily read, expresses different feelings so they can be distinguished in facial expression or gesture
21. Attention attracted to his physical environment (small games or big apparatus) more than to classmates	3 2 1	1 2 3	The other children seem to have the most meaning to him
22. Low overall level of activity, physically quiet	3 2 1	1 2 3	High overall level of activity, uses much energy
23. Fine motor coordination excellent for age	3 2 1	1 2 3	Relatively poor fine motor coordination
24. Alert and responsive to wide range of stimulation from his environment	3 2 1	1 2 3	Does not notice until stimulation gets intense

How intensely does he seem to experience the following feelings:

	Intensely	Hardly at all	
25. Fears and anxieties (nervous, worried)	3 2 1	1 2 3	
26. Joys and delight	3 2 1	1 2 3	
27. Anger and "mad"	3 2 1	1 2 3	
28. Sad and disappointed	3 2 1	1 2 3	
29. Large range of affect shown	3 2 1	1 2 3	Not much feeling displayed or only one kind, at most
30. Highly verbal child talks a great deal	3 2 1	1 2 3	Rarely talks, has to be required to talk

Murphy's Social Behavior Scale
(Selected Items)

Instructions:

Please circle the most appropriate number which describes the frequency of the child's response. Only circle one number for each item. In rating each item, disregard your ratings for that child on every other item; try not to let general impressions color your judgment about specific aspects of the child's behavior.

	Child has never done this, to my knowledge, in the situation described	Child occasionally does this	Does and does not do this equally often in the situation described	Does this more frequently than not	This is a characteristic response which almost always occurs in the situation
1. Tells teacher or other adult that a child is crying	1	2	3	4	5
2. Takes away another child's toy.	1	2	3	4	5

		Child has never done this, to my knowledge, in the situation described	Child occasionally does this	Does and does not do this equally often in the situation described	Does this more frequently than not	This is a character-istic response which almost always occurs in the situation
3.	Attempts to comfort another child with pats, or hugs.	1	2	3	4	5
4.	Laughs when hears another child laugh.	1	2	3	4	5
5.	Pushes or pulls another child without regard for his discomfort.	1	2	3	4	5
6.	Offers spontaneously to share materials.	1	2	3	4	5
7.	Stops own play to aid another child.	1	2	3	4	5
8.	Interprets child's wishes to another child or to a teacher.	1	2	3	4	5
9.	Laughs at a child who has fallen from a tricycle or piece of apparatus.	1	2	3	4	5
10.	Refuses to accept child into a play group.	1	2	3	4	5
11.	Respects another child's defense of own toys.	1	2	3	4	5
12.	Asks child if he hurt himself after a fall or other accident.	1	2	3	4	5

APPENDIX F

PEER EXPERIENCE QUESTIONNAIRE

Peer Experience Questionnaire

General Information:

Child's Name:_____
Birthdate:_____

Names of day care centers/preschool attended: Dates

1.

2.

3.

4.

5.

Persons living at home with your child (include parents, step parents, siblings, grandparents, etc.).

Name	Age	Relation to Child

Father's occupation:
Number of years of schooling:

Mother's occupation:
Number of years of schooling:

Please fill in the following information on your child's contact with children other than his/her siblings.

1-2 Years

Setting	Size of Group	Age Range of Children	# of Hrs. Per Week	All year/or Months which Apply
Home and Neighborhood				
Baby sitter's home				
Day care or Preschool				
Sunday School				
Other _____				

Is there any other information which might help in understanding your child's peer contacts between 1 and 2 years of age?

2-3 Years

Setting	Size of Group	Age Range of Children	# of Hrs. Per Week	All Year/Or Months Which Apply
Home and Neighborhood				
Baby sitter's home				
Day care or Preschool				
Sunday School				
Other _____				

Is there any other information which might help in understanding your child's peer contacts between 2 and 3 years of age?

3-4 Years

Setting	Size of Group	Age Range of Children	# of Hrs. Per Week	All Year/Or Months Which Apply
Home and Neighborhood				
Baby sitter's home				
Day care or Preschool				
Sunday School				
Other _____				

Is there any other information which might help in understanding your child's peer contacts between 3 and 4 years of age?

4-5 Years

Setting	Size of Group	Age Range of Children	# of Hrs. Per Week	All Year/Or Months Which Apply
Home and Neighborhood				
Baby sitter's home				
Day care or Preschool				
Sunday School				
Other _____				

Is there any other information which might help in understanding your child's peer contacts between 4 and 5 years of age?

Please describe your child's relationship to his/her siblings at each age level. I.E., did he spend his time with his mother? Did his siblings initiate interactions with him? Did he tend to seek out his siblings? Which ones? Did he tend to play beside his siblings or interact with them by trying to play their games? Please try to estimate the amount of time per week your child interacted with or was in close vicinity to his/her siblings.

1-2 Years # of hrs/week

2-3 Years # of hrs/week

3-4 Years # of hrs/week

4-5 Years # of hrs/week

APPENDIX G

RESULTS OF MULTIPLE GROUPS ANALYSIS

TABLE G.--Item Correlations, Cluster Loadings and Cluster Intercorrelations from Multiple Groups Analysis of Teacher Rating Forms (commonalities in the diagonal).

Cluster No.		Cluster 1 Items														Cluster 2 Items					
		30	11	29	26	20	7	22	2	24	19	17	12	10	34	21	35	32	5	40	27	39
Cluster 1 Items	30	82	68	73	68	71	67	69	69	65	70	46	48	53	50	44	20	25	35	26	31	21
	11	68	61	60	59	57	69	74	64	44	47	46	44	53	33	33	40	46	54	39	52	24
	29	73	60	68	70	67	59	61	66	56	55	53	40	47	40	44	18	25	28	34	45	23
	26	68	59	70	60	57	53	57	53	57	54	49	55	38	40	36	12	12	24	18	25	10
	20	71	57	67	57	62	67	50	58	58	66	49	41	37	44	33	19	19	25	22	32	19
	7	67	69	59	53	67	51	51	49	49	54	40	45	30	33	29	27	23	20	23	34	20
	22	69	74	61	57	50	51	58	68	49	37	54	33	58	38	38	40	46	58	32	44	27
	2	69	64	66	53	58	49	68	63	51	50	53	15	56	43	64	18	28	41	26	39	25
	24	65	44	56	57	58	49	49	51	48	52	54	28	37	39	31	14	9	29	10	23	17
	19	70	47	55	54	66	54	37	50	52	46	33	30	36	42	38	-0	-4	21	10	15	1
	17	46	46	53	49	49	40	54	53	54	33	38	27	45	24	29	3	15	27	12	23	16
	12	48	44	40	55	41	45	33	15	28	30	27	19	16	15	1	0	4	-2	7	1	-2
	10	53	53	47	38	37	30	58	56	37	36	45	16	34	25	40	31	38	55	36	40	26
	34	50	33	40	40	44	33	38	43	39	42	24	15	25	27	43	18	17	24	17	16	28
	21	44	33	44	36	33	29	38	64	31	38	29	1	40	43	26	12	10	23	24	23	22
	35	20	40	18	12	19	27	40	18	14	-0	3	0	31	18	12	78	80	66	57	58	47
Cluster 2 Items	32	25	46	25	12	19	23	46	28	3	-4	15	4	38	17	10	80	74	64	55	54	48
	5	35	54	28	24	25	20	58	41	29	21	27	-2	55	24	23	66	64	57	44	60	38
	40	26	39	34	18	22	23	32	26	10	10	12	7	36	17	24	57	55	44	43	46	42
	27	31	52	45	25	32	34	44	39	23	15	23	1	40	16	23	58	54	60	46	45	30
	39	21	24	23	10	19	20	27	25	17	1	16	-2	26	28	22	47	48	38	42	30	29
	37	20	-3	18	24	28	14	11	17	13	24	16	15	20	23	22	-7	13	-9	2	-1	2
Cluster 3 Items	42	39	18	28	33	34	30	21	33	28	32	23	24	15	23	34	-11	-13	-16	-4	-2	-7
	38	52	25	41	42	40	38	30	39	45	47	27	25	32	32	39	1	-3	-5	11	8	9
	36	28	1	16	28	24	19	7	16	20	30	14	13	7	26	17	-7	-13	-13	-7	-12	3
	33	32	20	25	35	24	25	24	26	20	23	16	34	9	24	25	2	10	-6	7	3	-4
	31	50	31	42	43	42	40	29	31	40	45	20	26	22	36	30	-1	-2	6	11	9	7
	18	33	4	37	43	38	24	13	30	44	47	39	29	11	33	15	-43	-37	-24	-27	-19	-19
	41	12	-15	10	18	16	8	-6	5	13	24	14	18	-6	18	14	-33	-36	-33	-20	-34	-10
	1	29	0	23	21	24	4	13	19	23	41	22	5	28	3	8	-21	-19	-5	-6	-8	2
Cluster 4 Items	14	-9	-37	-18	-13	-2	-18	-30	-20	7	12	-4	-6	-9	-15	-17	-47	-49	-26	-28	-35	-11
	9	43	20	29	28	32	18	36	36	41	41	33	-2	45	23	20	11	10	35	5	24	8
	4	9	-23	6	12	11	-6	-13	-3	26	28	6	9	1	7	-4	-38	-48	-24	-33	-25	-10
	8	48	31	43	29	35	27	50	41	42	36	41	11	54	20	23	12	15	36	20	21	24
	23	16	-1	16	12	9	2	8	8	25	23	23	5	19	6	8	-9	-7	10	-1	8	12
	3	45	22	27	33	41	21	36	40	41	38	37	29	33	31	27	-19	-16	5	-10	-11	1
	6	55	38	37	36	51	36	45	50	49	50	50	29	48	27	27	-2	4	26	4	7	12
	13	7	-8	1	11	12	0	-3	9	23	21	10	18	6	5	6	-31	-32	-21	-33	-23	-8
	16	0	-24	-2	8	4	-11	-18	-12	16	22	4	15	-11	7	-16	-45	-51	-38	-33	-47	-33
Cluster 5 Items	28	12	27	32	16	16	29	5	13	-2	6	1	19	4	4	16	27	23	5	26	26	20
	15	4	16	18	7	2	22	-7	0	-13	-10	-4	17	-7	-8	-6	15	20	-10	10	33	12
	25	7	19	14	7	-4	15	-6	2	-17	-3	-16	3	-8	-10	2	7	8	0	17	30	4
Sum	1 501	91	78	83	78	79	72	76	79	69	68	62	44	58	52	51	26	30	44	32	43	27
	2 502	36	58	40	23	32	34	57	40	23	10	22	2	52	27	26	89	86	75	66	67	53
	3 503	49	15	40	49	46	36	24	36	42	50	31	34	20	40	36	-18	-20	-18	-5	-9	-3
	4 504	39	3	26	29	35	12	20	27	45	50	36	19	35	19	13	-30	-31	1	-19	-15	-0
	5 505	9	26	28	13	6	29	-4	7	-14	-3	-8	13	-5	-6	5	21	22	-2	23	50	16

TABLE G.--Continued.

	Cluster 3 Items								Cluster 4 Items										Cluster 5 Items			Sum	Sum	Sum	Sum	Sum
1	37	42	38	36	33	31	18	41	1	14	9	4	8	23	3	6	13	16	28	15	25	501	502	503	504	505
	20	39	52	28	32	50	33	12	29	-9	43	9	48	16	45	55	7	0	12	4	7	91	36	49	39	9
	-3	18	25	1	20	31	4	-15	0	-37	20	-23	31	-1	22	38	-8	-24	27	16	19	78	58	15	3	26
	18	28	41	16	25	42	37	10	23	-18	29	6	43	16	27	37	1	-2	32	18	14	83	40	40	26	28
	24	33	42	28	35	43	43	18	21	-13	28	12	29	12	33	36	11	5	16	7	7	78	23	49	29	13
	28	34	46	24	24	42	38	16	24	-2	32	11	35	9	41	51	12	4	16	2	-4	79	32	46	35	6
	14	30	38	19	25	40	24	8	4	-18	18	-6	27	2	21	36	0	-11	29	22	15	72	34	36	12	29
	11	21	30	7	24	29	13	-6	13	-30	36	-13	50	8	36	45	-3	-18	5	-7	-6	76	57	24	20	-4
	17	33	39	16	26	31	30	5	19	-20	36	-3	41	8	40	50	9	-12	13	0	2	79	40	36	27	7
	19	28	45	20	20	40	44	13	29	7	41	26	42	25	41	49	23	15	-2	-13	-17	69	23	42	48	-14
	24	32	47	30	23	45	47	24	41	12	41	28	36	23	38	50	21	22	6	-10	-3	68	10	50	50	-3
	16	23	27	14	16	20	39	14	22	-4	33	6	41	23	37	50	10	4	1	-4	-16	62	22	31	36	-8
	15	24	25	13	34	26	29	18	5	-6	-2	9	11	5	29	29	18	15	10	17	3	44	2	34	19	13
	20	15	32	7	9	22	11	-6	28	-9	45	1	54	19	33	48	6	-11	4	-7	-8	58	52	20	35	-5
	23	23	32	26	24	36	33	18	3	-15	23	7	20	6	31	27	5	7	4	-8	-10	52	27	40	19	-6
	22	34	39	17	25	38	15	14	8	-17	20	-4	23	8	27	27	6	-15	16	-6	2	51	26	36	13	5
	-7	-11	1	-7	2	-1	-43	-33	-21	-47	11	-38	12	-9	-19	-2	-31	-45	27	15	7	26	89	-18	-30	21
2	-13	-13	-3	-13	10	-2	-37	-36	-19	-49	10	-48	15	-7	-16	4	-32	-51	23	20	8	30	86	-20	-31	22
	-9	-16	-5	-13	-6	6	-24	-33	5	-26	35	-24	36	10	5	26	-21	-38	5	-10	0	44	75	-18	1	-2
	2	-4	11	-7	7	11	-27	-20	-6	-28	5	-33	20	-1	-10	4	-33	-33	26	10	17	32	66	-5	-19	23
	-1	-2	8	-12	3	9	-19	-34	-8	-35	24	-25	21	8	-11	7	-23	-47	54	33	30	43	67	-9	-15	50
	2	-7	9	3	-4	7	-19	-10	2	-11	8	-10	24	12	1	12	-8	-33	20	12	4	27	53	-3	-0	16
	64	59	58	63	51	44	44	49	25	18	16	38	15	-0	27	28	19	36	-6	-18	-19	26	-6	80	36	-18
3	59	62	70	41	61	60	37	36	12	2	10	19	2	1	26	32	9	25	2	2	-3	40	-12	79	22	9
	58	70	58	46	48	65	39	28	23	3	18	21	18	13	27	38	12	20	3	4	-11	53	5	76	31	-2
	63	41	46	45	42	29	37	61	30	13	18	38	12	9	24	17	17	35	-9	-17	-13	26	-11	67	35	-16
	51	61	48	42	42	51	31	25	6	-7	8	3	7	4	17	20	-2	13	6	5	-2	35	3	65	11	4
	44	60	65	29	51	41	41	14	17	4	16	15	15	7	19	30	-1	10	10	7	1	51	7	64	21	8
	44	37	39	37	31	41	33	48	40	35	28	58	25	11	43	40	36	54	-14	-17	-27	42	-39	57	60	-25
	49	36	28	61	25	14	48	29	29	30	12	44	12	14	41	24	35	52	-23	-31	-26	14	-38	53	48	-36
	25	12	23	30	6	17	40	29	69	49	61	53	55	45	44	58	32	38	-22	-35	-33	26	-11	34	81	-39
4	18	2	3	13	-7	4	35	30	49	33	27	63	29	36	27	20	32	42	-23	-23	-20	-17	-45	18	58	-28
	16	10	18	18	8	16	28	12	61	27	48	37	65	41	51	62	16	20	-16	-36	-36	42	21	23	69	-38
	38	19	21	38	3	15	58	44	53	63	37	53	31	27	40	32	49	67	-17	-25	-26	6	-41	43	73	-29
	15	2	18	12	7	15	25	12	55	29	65	31	37	29	52	54	15	10	-4	-28	-23	51	29	20	61	-23
	-0	1	13	9	4	7	11	14	45	36	41	27	29	17	19	29	6	7	7	-4	-8	17	3	11	42	-2
	27	26	27	24	17	19	43	41	44	27	51	40	52	19	51	72	47	39	-35	-47	-49	48	-11	41	71	-56
	28	32	38	17	20	30	40	24	58	20	62	32	54	29	72	47	33	21	-30	-37	-45	61	12	42	69	-48
	19	9	12	17	-2	-1	36	35	32	32	16	49	15	6	47	33	23	46	-19	-28	-35	11	-34	23	48	-35
	36	25	20	36	13	10	54	55	38	42	20	67	10	7	39	21	46	26	-34	-40	-32	-2	-56	46	51	-47
5	-6	2	3	-9	6	10	-14	-23	-22	-23	-16	-17	-4	7	-35	-30	-19	-38	71	63	63	18	36	-6	-32	65
	-18	2	4	-17	5	7	-17	-31	-35	-23	-36	-25	-28	-4	-47	-37	-28	-40	63	55	54	3	19	-12	-49	74
	-19	-3	-11	-13	-2	1	-27	-26	-33	-20	-36	-26	-23	-8	-49	-45	-35	-32	63	54	56	0	15	-14	-50	74
Sums 1	26	40	53	26	35	51	42	14	26	-17	42	6	51	17	48	61	11	-2	18	3	0	110	46	53	39	9
2	-6	-12	5	-11	3	7	-39	-38	-11	-45	21	-41	29	3	-11	12	-34	-56	36	19	15	46	100	-17	-21	30
3	90	79	76	67	65	64	57	53	34	18	23	43	20	11	41	42	23	46	-6	-12	-18	53	-17	100	49	-15
4	36	22	31	35	11	21	60	48	81	58	69	73	61	42	71	69	48	51	-32	-49	-50	39	-21	49	100	-56
5	-18	0	-2	-16	4	8	-25	-34	-39	-28	-38	-29	-23	-2	-56	-48	-35	-47	85	74	74	9	30	-15	-56	100