To the Graduate Council:

I am submitting herewith a dissertation written by David Andrew Jefferson entitled "Social-emotional Adjustment of the Monomatric, Polymatric and Day-care Center Child to the First Day of Kindergarten." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

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SOCIAL-EMOTIONAL ADJUSTMENT OF THE MONOMATRIC, POLYMATRIC AND DAY-CARE CENTER CHILD TO THE FIRST DAY OF KINDERGARTEN

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

David Andrew Jefferson

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ABSTRACT

First-born, white, matched groups of children from single-mothering (monomatric), multiple-mothering (polymatric) and day-care backgrounds were systematically observed on their first day of kindergarten to assess social-emotional adjustment to a novel situation. Adjustment measures were teacher-parent ratings, behavioral signs of separation anxiety, and an in-classroom coding system employing 10 child-behavior categories--spontaneous approach to peers and teacher, social interaction with peers and teacher, sustained schoolwork, non-interaction with people or objects, clinging, crying, smiling, and laughing. Polymatrically-reared children, as predicted, equaled and, in some ways, surpassed the observed social-emotional adjustment of the monomatric children, tending to show less separation anxiety from the caretaker, more smiling in the first one-half hour of class, and more overall smiling through three one-half hour observation periods. Day-care children tended to interact with their peers less than the polymatric children but did not differ significantly from the monomatric group. Boys tended to approach their peers and teacher more than girls and upper-middle class children socially interacted more with peers than did middle and lower-middle class children.

In a second, parallel study, teachers were asked to designate any children who appeared to be adjusting well or having difficulty adjusting to their first day of kindergarten. Significantly more well-adjusting children were found to come from day-care than from

single-mothering backgrounds. The few polymatric children designated were about equally divided between the "adjusting well" and "difficulty adjusting" groups. Descriptors: Children, emotional adjustment, social adjustment, school adjustment, monomatric, polymatric, multiple-mothering, substitute child care, child day-care, mother absence, grandparents, attachment, classroom behavior, working mothers, novel situations, stimulus novelty, social class, human sex differences, kindergarten students, separation anxiety.

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CHAPTER I

INTRODUCTION

Brown (1970) has pointed out that nowhere in the world is the rearing of children primarily the responsibility of men. Women are able to contribute to the subsistence of a particular society only to the degree that working is compatible with the demands of child care placed upon them (Brown, 1970). Industrialized societies, such as ours, depend on substitute caretaking practice for the working mother but as Wortis (1971) has observed, mothers who employ variant patterns of child care, such as multiple-mothering, infants being raised by their fathers, or group care are constantly reminded that what they are doing is a poor substitute for the "normal" pattern. Wortis (1971) suggests that there has been an apparent extrapolation of the assumptions of earlier studies of institutionalized infants to the more common situation where mothers leave their child in the care of another for part of the day and return later. The result of this situation is that women are taught that children require their undivided attention during the first two or three years of life, at least (Wortis, 1971).

The clinical significance of this valuing is that mothers who remain home with their children out of a sense of duty when they would prefer to work show the most problems in child rearing (Yarrow et al., 1962). They describe more difficulties in the area of control, less emotional satisfaction in relationships with their children, and less confidence in their functioning as mothers than do mothers who are

satisfied with their present non-working or working status. Yet, the available research seems to show that the issue of whether the mother works or stays at home is not as important in influencing the child's behavior as we have been led to think (Stoltz, 1960). Bee (1974) concludes that separation of the mother from her child has no demonstratable negative effect when the working mother is satisfied with her role and the child has adequate alternative care.

One important and still unanswered question is what constitutes "adequate alternative care"? Moore (1964, 1969, and 1971) suggests the following:

1. Children reared with changing and unstable daily substitute care, when initiated before their second birthday, tend to be insecure and anxious at age six. (Confounding this result was that many of the parents were rated by Moore as "unstable personalities.")
2. Children exposed to stable daily substitute care (in nurseries or with another family) starting before age two tend to seek extra attention from their mothers.
3. Children who receive stable daily substitute care after age three show no evident emotional difficulties by age six.
4. Some children who remain with their mother until age five and never attend a nursery school or play group tend to be over sensitive to criticism and timid with their peers.

Bowlby (1973) emphasizes that Moore's findings show that the more stable and predictable the child's regime is the more secure a

child's attachment tends to be. It should be noted that several authors (Ainsworth, 1973; Bowlby, 1969; and Schaffer and Emerson, 1964) state that children can form attachments to more than one person, a point which may bear significantly on the issue of substitute care. Ainsworth (1973) suggests that it might be healthy and, in some cases, highly adaptive for the child to have attachment relationships spread over several figures. Two excellent reviews summarize the broad research in this field. See Maccoby and Masters (1970) and Ainsworth (1973).

The present study compares the behavior of three groups of children, reared in different caretaking modes, in the context of a common, but novel, and sometimes stressful situation--their first day of kindergarten. "Monomatric" refers to children who have had single-mothering since birth, no nursery school experience, and little baby-sitting. The polymatrically-reared children have had at least one additional primary caretaker outside their family of origin and no day-care experience. The day-care children have, on the average, accumulated two and one-half years of full-time or part-time day-care experience. The terms "monomatric" and "polymatric" have been taken from Caldwell et al. (1963) and refer to female caretakers only. Fathers, however, were present in the homes of all but 5% of the subjects at the time of the study.

Ainsworth (1973) has observed that the best traditional method of alternative caretaking for preschoolers has been for the working mother to find a substitute mother for her child to whom the child can become attached, such as a grandmother, aunt, housekeeper, or

"nanny." Ainsworth (1973) points out that there has been, to her knowledge, no research on substitute caretaking meeting these criteria. Low and Spindler (1968) show that, by far, the most common caretaking method employed by U.S. working mothers with children under five is to use relatives, neighbors, or paid baby sitters.

Two studies which compare infants reared monomatrically to those given polymatric care are relevant to the present research. Caldwell et al. (1963) show that at six months the monomatric infants were less irritable and at one year they were more active, more emotionally dependent on their mothers, and more emotional in their interactions with their mothers than the polymatric infants. Leiderman and Leiderman (1974) have studied monomatric and polymatric infants in the East Africa highlands and found that the major effect of polymatric care was enhanced cognitive development, particularly in infants from lower economic groups. The authors hypothesize that this is because of the greater social stimulation provided by the additional caretaker. This result supports Gewirtz (1972) who has argued that stimulus generalization, which may follow a major environmental shift for the child, can provide the basis for new, even rapid learning. The infant, attached to person "A" is then exposed to person "B" and generalizes his attachment to "B," having then expanded his object class of persons to two. Gewirtz suggests that attachment becomes dependence when more than one person make up a response class for the child and that this transformation facilitates learning.

Erikson's concept of "basic trust" (1963) is consistent with this theoretical approach. The infant, having once developed a sense of trust in his environment through sensitive parenting, generalizes his trust to others and becomes more receptive to new experiences. Wahler (1974) has added that when a child's attachment is limited to a single caretaker the child and caretaker are likely to find themselves in a "trap situation" where their behaviors tend to maintain a mutual dependency relationship. This leads to age-inappropriate behaviors on the part of the child, behaviors which normally drop out as the child develops. Note that Moore (1971) found that some exclusive mother-child relationships resulted in timidity and over-sensitivity to criticism in five year olds.

A reasonable hypothesis based on the evidence presented is that the child who has had an opportunity to experience stable, secure, multiple-mothering accomplishes two things: First, he broadens his opportunities for social-emotional learning and secondly, he avoids the trap situations which may occur in an exclusive mother-child dyad. The polymatrically reared child may generalize his attachment to another mother-figure so that he continues social-emotional learning in a secure, but more varied environment.

Placed in a strange situation, the more "wordly" polymatric five year old should adjust more rapidly and show more signs of secure behavior (less fear and more out-goingness) than the monomatric child. The first day of kindergarten was chosen to test this. No hypothesis was formulated for the day-care children; this group was included solely for purposes of gathering information.

CHAPTER II

METHOD

A. SUBJECTS

Forty-two first born, white, four and five year old children served as subjects and made up three matched groups of 14 children each. Each group consisted of nine females, five males, and had two upper-middle class, five middle-class and seven lower-middle class children in it. Their social position was determined following Hollingshead's (1957) criteria. When both parents worked, the assigned social class was based on the spouse whose level of education and occupation produced the highest social standing.

Twelve of 42 Knoxville city schools were selected to insure (a) a staff of experienced kindergarten teachers (mean years teaching experience, 6.4, SD = 3.2) and (b) socioeconomic and geographic breadth. The names of 267 first born, white children were obtained from the kindergarten pre-registration forms. Only families where a phone number was listed were chosen. Otherwise, the subject selection was random.

The parents of 52 children whose caretaking background matched our criteria (see below) were asked to allow their child to participate in the study. Only one family refused. Forty-five children and six reserve subjects made up the original sample. One observer did not appear at a school and since there was no matching reserve subject, two other subjects were dropped to keep the groups matched. Forty-two children remained. One parent reported that her child had cerebral

palsy and walked with a slight limp, throwing one leg in. He was in the single-mothering group and was included in the study.

The contacts were made by phone and mail with the parents only. Parents contacted were told that the purpose of the study was to compare the adjustment of children from different caretaking backgrounds to their first day of school and they were asked a series of questions to determine the nature and amount of substitute care given their child (see Appendix A). Parents who were asked to participate were promised debriefing after the study was completed. The parents were then sent a letter of introduction from the Supervisor of Elementary Education (see Appendix B) and a colored name tag so that their child could be identified upon arriving at school (each observer had a name tag of matching color). Each parent also was sent a map showing where the observer would be standing. Parents were allowed to inform their child that he was a subject if they so wished. The parents were asked not to speak to the observer upon arriving at school, but to make visual contact with him outside the entrance to the building.

B. DEFINITION OF GROUPS

Monomatric Children

The mother was the primary female caretaker for the child throughout his preschool years. The amount of permitted caretaking by someone other than the mother or father was defined in terms of shared time and space. Throughout the child's first five years he spent less than an average of five hours per week with a caretaker other than his parents.

No experience in day-care centers or nurseries was allowed, Sunday school training being an exception. All children in this group were living with intact families when studied.

Polymatric Children

There was at least one additional primary female caretaker besides the mother throughout most of the child's first five years. The child must have spent a minimum average of 10 hours per week of shared time-space with an additional caretaker for at least 52 weeks before, and at least 52 weeks after his second birthday. These children also had no nursery school experience. Sunday school experience was allowed. Grandmothers were the primary extra caretaker for 10 of the children, an aunt for one child, and paid baby sitters for the other three children. The three children in the latter group had only one or two persons serve as the primary baby sitter.

The mean number of hours per week spent with a caretaker other than the mother or father was: (a) 0-12 months, 20.9 hrs (SD = 11.9), (b) 12-24 months, 29.8 hrs (SD = 12.1), (c) 24-36 months, 28.6 hrs. (SD = 12.9), (d) 36-48 months, 20.1 hrs. (SD = 13.7). Most mothers (86%) were employed full-time from one to five years during their child's preschool years. All children were cared for in a residence other than their parents'. Two families were not intact at the time of the study.

Day-Care Center Children

The subjects had spent, over their first five years, at least two years in a day-care center, either full-time or part-time. The

mean length of stay was 2.5 years. Seventy-one percent of the mothers were working at the time of the study and all families were intact.

C. ENVIRONMENTAL SETTING

One observer was assigned to each child. Children were observed at the entrance to the school, in the halls approaching the classroom, and in the classroom itself. During the morning most classes went out to the playground and the observations were continued there.

Each class had four to six children present instead of the normal twenty-five. Knoxville City Schools staggered the first day kindergarten student assignments over five days and then had each class meet as a whole. Also, students and parents had visited the school and their new teacher briefly the day before school began. Observations took place in 18 separate classes in 12 schools. The teacher's agreement to cooperate had been obtained and they knew nothing about the purpose of the experiment.

D. APPARATUS

The children were observed as they entered the school so that separation disturbance from the caretaker might be assessed. The Teacher's Separation Anxiety Rating Scale (TSAR) developed by McIntyre et al. (1971) was used with recent modifications added by McIntyre (personal communication) (see Appendix C).

This scale, specifically designed to measure separation distress behaviors of the child entering a nursery school for the first time,

utilizes the following sixteen behavioral categories (see Appendix D for operational definitions).

1. Clings to mother
2. Cry, scream
3. Whimpers
4. Verbal protest
5. Runs after mother
6. Shadows mother
7. Periodic return to mother
8. Periodic visual contact with mother
9. Vacillates in permitting separation
10. Pulls mother into room
11. Hesitant entrance
12. Sucking and mouthing
13. Fingering
14. Stereotyped postures
15. Avoiding contact with teachers or peers
16. Holding a transition or comfort object

The separation behaviors are scored either zero, one or two depending on frequency and intensity.

After separation from the caretaker, the child was observed in the classroom. Each observer sat in a corner or near the edge of the room and used a portable tape recorder that announced by earphone consecutive 10 second "observe" intervals with interspersed 5 second "record" intervals. The observers did not talk to the children and

were not approached by them except in one instance. An observer would watch the target child for 10 seconds and then, during the "record" interval would check off on printed tally sheets the behaviors observed (see Appendix E). The observation sessions were restricted to one-half hour periods which permitted each observer to score exactly 120 10 second units of behavior. This method along with a coding system for recording a broad range of children's behavior is detailed in Wahler, House, and Stambaugh (1976).

Each child was observed for three one-half hour sessions spaced not more than 15 minutes apart and commencing within 10 minutes after the child entered the classroom. All but one of the caretakers left immediately or within a few minutes. One mother of a child in the day-care group remained in the classroom one and one-half hours to observe.

Ten child behaviors taken from Wahler et al. (1976) and Jones and Leach (1972) were scored and are presented below with brief descriptions.

1. Approach Adult (A_a). This category is scored for any spontaneous approach to adults by the target child.
2. Approach Child (A_c). This category is scored for any spontaneous approach to peers by the target child.
3. Social Interaction Child (SI_c). This category is scored for any interaction between peers and the target child.
4. Social Interaction Adult (SI_a). This category is scored for any interaction between adults and the target child.
5. Sustained Schoolwork (SS). This category is scored for a full 10 seconds of schoolwork by the target child (play or work with toys, learning apparatus, games, etc. as an individual or in a group).
6. Sustained Noninteraction (NI). This category is scored for a full 10 seconds of target child noninteraction with people or objects.
7. Touch. This category is scored when the child reaches our and actively touches the teacher and maintains contact for a full 10 seconds.

8. Cry. This category is scored for any of the well-known vocalizations . . . no distinctions between variations were made, e.g. growling, roaring, or shrill or quiet, or very segmented sobs.

9. Smile. This category is scored when the mouth corners were raised, the mouth widened, and the lips were separated.

10. Laugh. This category is scored when the facial expression and vocalization are present with no attempt to distinguish between high or low pitch.

These behaviors were chosen because it was felt they could most accurately and reliably assess differences in first-day adjustment. Seven experienced kindergarten teachers had been independently asked to list the behavioral signs of successful and unsuccessful first day adjustment. The measures which four of the seven agreed on (without knowing how the others had responded) served as the basis for the selection of the behavior categories finally used.

Of the 56 behaviors reported by the teachers, eight met the criterion and are reported below with the symbols for the behavioral categories used to "capture" that behavior. The more complex teacher reported behaviors such as "withdrawal" required several "sub-categories" to clearly define that behavior so an observer could reliably score it.

Teacher Reported Behaviors	Behavior Categories
1. Crying	Cry
2. Participation in group activities	SS and SI_c
3. Smiling	Smile
4. Laughing	Laugh
5. Clinging	Touch
6. Enters new activities without fear	A_c and SI_c

7. Absence of withdrawal	NI, A_a, A_c, SI_a, SI_c
8. Responds when spoken to	SI_a

E. TEACHER-PARENT RATINGS

Parents were asked by phone before their child had started school and teachers were asked immediately after the child was observed, the following question:

We would like to see if our measures of adjustment in the classroom match your judgement. I would like to ask you to assess (predict) John's adjustment to his first day of kindergarten.

On a scale of zero to 10 with 2 being "adjusting well," 5 being "average," and 8 for "having difficulty adjusting," where do you think John might fall?

F. OBSERVERS

Seventeen undergraduate and graduate students served as observers.

The observer's training included: (1) a classroom presentation to familiarize them with the apparatus they were to use, their responsibilities for their work in the field, and their obligation to the research project; (2) practice using the tally sheets and behavior categories by observing and scoring video tapes of children in a classroom setting; and (3) field training at local day-care centers where the observers practiced using their apparatus with live subjects. Most observers received three units of undergraduate credit although several participated without asking for compensation.

None of the observers knew the hypotheses behind the study nor anything about the caretaking background of the children they observed.

G. RELIABILITY ANALYSES

Observer reliability in scoring the various child behaviors was checked in the laboratory and in the field. The video tapes, on which the observers practiced the coding system, were pre-scored and each observer was required to score 80% of the actual instances of behavior occurance for each behavior (see Appendix F). In the field, two observers who, in the laboratory, had demonstrated superior scoring skills served as reliability checkers. With seven randomly selected observers, they scored the behaviors of the target child along with the observers. A special dual earphone was employed so both could listen to the same tape.

H. PARALLEL RESEARCH PROJECT

Kindergarten teachers from 17 city and county schools volunteered to participate in this parallel study. They were asked to name any first-day children who were "adjusting well or were having difficulty adjusting." The teachers were instructed to use their own judgement in making the choices. They were also given guidelines based on the teacher reported behaviors used in the primary study to use if they wished (see Appendix G).

A full report of the completed research was promised each teacher but no details concerning the hypotheses were given.

The parents of the designated children were contacted by phone and told that we were studying caretaking methods. Their cooperation was solicited and they were asked a series of questions to determine if their child "fit" one of the three caretaking methods described earlier. One hundred and fifty-six families were contacted and no family refused to cooperate. Forty-two families either had no phone, did not list their number, or could not be reached.

CHAPTER III

RESULTS

A. RELIABILITY

Mean field reliability was 79% (Type I) and > 80% (Type II) for the seven randomly chosen observers (see Wahler et al., 1976). Type I reliability is considered a stringent measure and 80% is the acceptable level. Type II reliability uses the same 80% cut-off point and is acceptable for the study of category occurrences across sessions but not for computing associations between one category and another. The latter method, however, was employed in the present study in one instance (Table 1).

B. SEPARATION ANXIETY

The polymatric children exhibited a tendency toward less separation disturbance than the monomatric children ($T = 1.76$, p-value = $< .10$). The mean TSAR score for the monomatric group was 2.17. It was .93 for the polymatric children and 1.54 for the day-care group.

Thirteen of the children showed no signs of separation anxiety. Several, in fact, were smiling and ran ahead of their mothers on the way to the classroom.

TABLE 1

TRANSFORMED DATA SHOWING RELATIVE ADJUSTMENT SCORES

Teacher Reported Behaviors	Behavior Categories	Monomatric	Polymatric	Day-Care
1. Crying	Cry	*	*	*
2. Participation in group activities	SS and SI_c	13.8	14.7	11.4
3. Smiling	Smile	5.5	11.0	9.9
4. Laughing	Laugh	2.8	4.1	4.6
5. Clinging	Touch	*	*	*
6. Enters new activities without fear	A_c and SI_c	5.7	9.3	6.0
7. The absence of withdrawal	NI, A_a, A_c, SI_a, SI_c	6.8	7.7	6.0
8. Responds when spoken to	SI_a	15.1	14.5	13.7

*There were too few scorable instances of these behaviors to report.

C. CLASSROOM BEHAVIORAL MEASURES

Direct behavior frequency counts for each of the categories are summarized in Figure 1. One-way ANOVAs were used to analyze the data in several dimensions.

Dimension 1 measured the differences between the caretaking methods for combined sessions. The polymatric group showed an overall tendency to interact more with their peers than did the day-care children (F 2.78, p-value = < .10). The monomatric children showed a tendency to smile less than the other children (F 2.85, p-value = < .10). There were no other tendencies or significant differences (see Appendix H).

Dimension 2 measured the differences across sessions for each caretaking method. The monomatric children, by their third one-half hour observation period, tended to interact more with their peers (F 2.45, p-value = < .10). This group also reduced their noninteraction score from the first observation period (F 3.19, p-value = < .05) (see Appendix I).

The polymatric children showed no significant differences across sessions (see Appendix J).

The day-care group tended to interact with the teacher less following the first observation period (F 2.54, p-value = < .10). This group also tended to laugh more on the third observation session (F 2.54, p-value = < .10) (see Appendix K).

Dimension 3 measured the differences between caretaking methods for each observation session. The polymatric children smiled

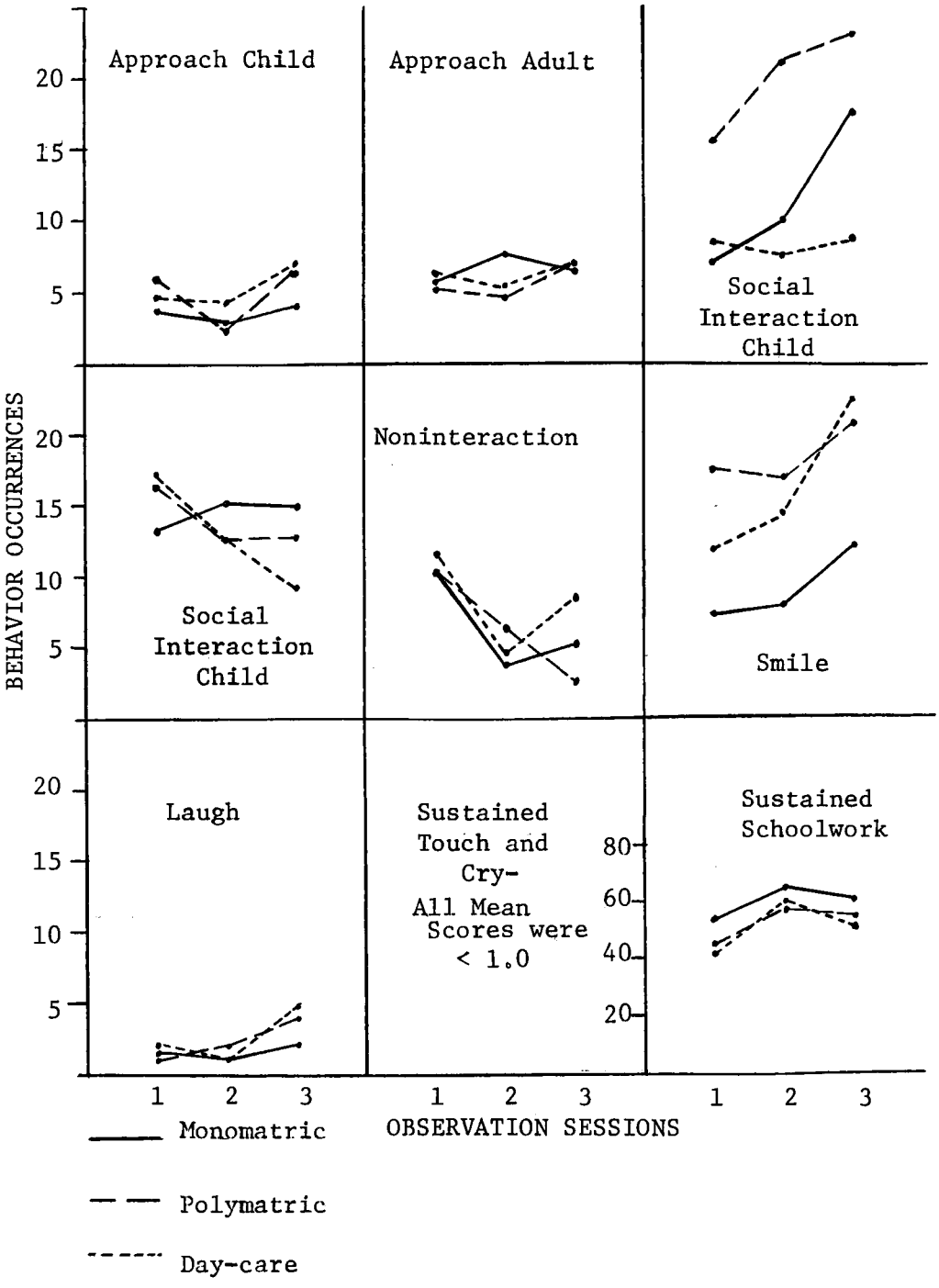


Figure 1. Mean behavior occurrences of the three caretaking groups across three observation sessions during the first two hours of kindergarten.

significantly more than the monomatric children during the first session (F 3.26 p-value = < .05) (see Appendix L). There were no other significant first-period differences.

There were no significant differences between caretaking methods during the second session (see Appendix M).

The day-care children were interacting with the other children significantly less often than were the polymatric group by the third observation period (F 3.26, p-value = < .05). Also, the day-care children tended to score higher on noninteraction during this period than did the polymatric group (F 2.44, p-value = < .10) (see Appendix N). There were no other significant third-period differences.

Dimension 4 assessed the social class differences without considering caretaking method. The upper-middle class children interacted with their peers significantly more than either of the other two classes (F 7.92, p-value = < .01). Otherwise, there were no class differences (see Appendix O).

Dimension 5 measured the sex differences without considering caretaking method. The boys tended to approach their peers and their teachers more than the girls (F 3.22 and 3.10, respectively, p-value = < .10). There were no other sex differences (see Appendix P).

D. TEACHER-PARENT RATINGS

Both teachers and parents tended to favorably assess or predict the child's first day adjustment. The teacher's mean rating was 3.26 (SD = 1.64) and the parents' rating was 3.64 (SD = 1.61). There were no

significant differences between groups when the teacher's or parent's ratings were statistically compared (see Appendix Q).

The relationship between the teacher's ratings and the parent's ratings was assessed with a Pearson r. The ratings by parents of the monomatric children tended to correlate highly and positively with the teacher's ratings of the same children (r = .71). The polymatric and day-care group correlations, however, were negative (-.34 and -.17, respectively) and show poor teacher-parent agreement.

E. GENERAL ADJUSTMENT INDICATIONS

The individual behavior frequency counts were converted to a percentage of the highest score obtained in each behavior category. They were then divided by 100 and summed for each caretaking method. This method transformed the data to allow a between behaviors comparison.

Those scores are shown in Table 1, page 17. Where two or more behavioral categories were used to describe a teacher reported behavior the transformed scores were averaged. In the case of "withdrawal" the noninteraction score was considered a negative number.

F. PARALLEL RESEARCH PROJECT

Forty-six percent of the 156 children in the families contacted had been exposed to a variety of substitute caretaking approaches and did not fit one of the three methods. Fifty-two of the remaining 84 children had been designated as adjusting well to the first day of kindergarten and 32 were designated as having difficulty adjusting.

See Table 2 for a summary of these results. The chi-square of 12.03 shows that more of the monomatric children were in the "difficulty adjusting" group when compared to the day-care children who were generally rated as adjusting well.

TABLE 2

A 3 X 2 CONTINGENCY TABLE FOR TEACHER'S JUDGEMENT OF FIRST DAY ADJUSTMENT BY CARETAKING METHOD

	Adjusting Well	Difficulty Adjusting
Monomatric	15	20
Polymatric	8	6
Day-care	29	6

x^2 = 12.04, p-value = < .01.

CHAPTER IV

DISCUSSION

Several interesting and perhaps noteworthy findings have resulted from this research. There has been no evidence as measured by either: (a) teacher or parent ratings of adjustment, (b) separation anxiety, (c) in-class behavioral measures of adjustment, or (d) general indicators of adjustment based on teacher reported behaviors that the polymatrically reared children showed any fewer signs of healthy, adaptive behavior than did the monomatrically reared children. There is, in fact, a tendency for the polymatric children to show more signs of positive social-emotional adjustment to a novel situation.

The multiple-mothered children tended to display less separation anxiety upon leaving the caretaker, more smiling during the first one-half hour of class, and more smiling overall than did the monomatric children. Also, the polymatric children had the highest scores on four of the teacher reported adjustment indicators and second highest on the other two. (Crying and clinging were not included because of a sparsity of data.) While these individual figures do not differ significantly, they do suggest, on the whole, a tendency for the polymatric children to display more signs of positive adjustment.

These results tend to confirm the hypotheses. The polymatric children in this study have been reared in constant, multiple-mothering environments where new attachments can be formed and where they have greater social-emotional exposure.

Caution in interpreting these results is warranted, however, because this is an ex post facto experimental design (Campbell and Stanley, 1963) and provides, at best, correlational evidence. A better design would have the experimenter randomly assign newborn children to different caretaking methods and follow them longitudinally for several years.

Collard (1967) has given randomly assigned kittens three different caretaking approaches starting at age five-weeks. One group of kittens was handled and played with by one person, five days a week, for four weeks. Another, multiple caretaking group, was handled and played with for the same amount of time but by five different persons. The third group of kittens received no human handling at all. When the three groups were tested in the presence of a stranger the multiple-caretaking kittens showed significantly less fear. The kittens who had been handled by one experimenter or who had not received any handling made many attempts to escape, or froze, or retreated when called.

Ribble (1943) has pointed out that the independence of the young child is the outgrowth of a feeling of security and completeness. Yarrow (1963) has studied infants awaiting adoption and has shown that social initiative, the ability to cope with stress, and exploratory behavior, which partially defines independence, correlate highly with the foster mother's degree of physical contact, soothing, immediacy of response, individualization, emotional involvement, and acceptance. Perhaps the child that is cared for by both his mother and his grandmother, as were most of the polymatric children in this study, gets a

double dose of this kind of attention with the result being greater independence.

A second, interesting finding is how the behavior codes SI_c and Smile tended to differentiate the three groups while the other eight behavioral measures generally did not. The meaning of this is not clear except that there is an apparent relationship between caretaking method and these behaviors, at least in novel situations.

Including the day-care children in the study provided the following results: They tended to interact with their peers less than the polymatric children but to smile about the same amount. This is difficult to explain. The day-care children may have been accustomed to being around other children in a school setting so they were not stimulated to interact more. Their noninteraction score rises by the third one-half hour observation session, possibly indicating boredom and/or a lack of novel stimulation.

The additional data provided by the parallel research project clearly suggests that children with at least two years of day-care experience adjust more readily to their first day of kindergarten than do monomatric children. Also shown by this study was that more monomatric children were rated as having difficulty adjusting than were shown to be adjusting well. However, when the day-care children were systematically observed in the classroom in the primary study they did not show better signs of adjustment than the monomatric children. One important variable is that the day-care children in the primary study were first-born, but those in the parallel study were of any sibling

position. The latter group had the caretaking and stimulation benefits of older brothers and sisters which may have accounted for the unusually high percentage of well adjusted day-care children reported.

When the data was analyzed for sex and social class differences the boys tended to approach their peers and their teacher more than the girls. There may be a tendency for boys to be bolder in this age group. Maccoby (1966) reports that one clear observed difference between boys and girls at age six is that boys tend to be more aggressive.

One of the strongest differences observed was the upper-middle class children's high SI_c score. Lesser, Fifer and Clark (1965) have found that social-class differences in regards to verbal ability hold up under carefully controlled conditions with middle-class children showing greater verbal ability than lower-class children. Bee (1974) in an overview of social-class differences states that there is little information available on social-emotional factors but she does suggest, however, that lower-class children tend to have a poorer self-image. Upper-middle class children with greater verbal ability and a more positive self-image could be expected to interact socially more with their peers.

Throughout this study the judgements of teachers have been valued highly and have served as a cornerstone for the methodological approach. There is evidence to support our confidence in their judgement. Bower (1960) in an extensive study asked teachers to identify the emotionally disturbed children in their classroom who had been identified earlier by mental health personnel. The teachers impressively identified 87% of the clinically designated children.

CHAPTER V

SUMMARY AND CONCLUSIONS

First-born four and five year old children reared polymatrically, that is with another primary female caretaker in addition to the mother, tend to display social-emotional correlates of adjustment to a novel situation which equal, and in some cases surpass, monomatric children. The two groups, neither of which had prior nursery school experience, were systematically observed during the first two hours of their first day of kindergarten. Both groups showed about the same tendency to spontaneously approach other children and their teacher, to interact socially with their teacher, to laugh, to participate in schoolwork, and to show periods of noninteraction with people and objects.

The polymatric children tended to display less separation anxiety as they left their caretakers, to smile more the first one-half hour in class, and to smile more overall.

When compared to well experienced day-care children in the same setting the polymatric group showed no signs of inhibited social-emotional adjustment.

Other findings were that the boys tended to spontaneously approach their peers and teacher more than girls. Also, the upper-middle class children interacted with their peers significantly more.

A second, parallel research project where teachers from 17 city and county schools were asked to rate their first-day kindergarten children who showed signs of adjusting well or having difficulty

adjusting revealed a significant tendency for the teachers to designate day-care children as well-adjusted. These children were not necessarily first-born. The first-born day-care children in the main study did not appear better adjusted, however.

It appears that children reared with stable multiple-mothering, even when started during their first year, show signs of social-emotional adjustment that, in a novel situation, is comparable and in some ways better than the adjustment displayed by the single-mothered child. Further research of the effect of polymatric care in early childhood is needed. Do polymatric children differ from monomatric children in other ways? Also, how important is sibling position? Is it more important for first-born children to have the exposure of an additional mother-figure than for later-born siblings? First-born children may be more likely to get caught in mutually-dependent trap situations with their primary caretaker and therefore need more time away from the parents.

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APPENDICES

APPENDIX A

CARETAKING BACKGROUND QUESTIONNAIRE

Child_____ Parents_____ & _____

Address_____ Occupat._____ _____

Ph._____Call Date_____ Edu._____ _____

Method M P D Entry date _____ Soc. Class I II III IV V

School_____ Principal_____ Teacher_____

Hello, M._____? I'm David Jefferson and I got your name from (principal) at _____ school where I know _____ will be entering kindergarten in the fall. I've been working with the help of the Board of Education doing research for my Ph.D. observing children on their first day of kindergarten and I'm looking at ways other people besides the parents may have helped in caring for the child during his preschool years and how that might relate to the child's behavior as he enters school.

Would you tell me if _____ has ever been to a day-care center or nursery?

YES

Would you say that over _____'s first five years he/she spent at least a total of two years in day-care centers?

YES: ask permission to observe

NO: reject

NO

Have you had any help from relatives, friends or baby sitters?

YES

Would you say that, over _____'s first yrs. he/she was on the avg. not with a baby sitter or caretaker for more than five hrs. per week?

YES: ask permission to observe

NO: ask permission to observe

YES

Would you say that, besides you and _____, one or more people spent an avg. of ten hrs. per week with _____ during one half of his/her first two years?

YES	NO
Would you say that, after _____'s second birthday, one or more people spent an avg. of ten hrs. per week with him/her for at least a year?	reject permission granted___denied___ will send letter_____ will send name tag_____ will debrief_____

APPENDIX B

LETTER OF INTRODUCTION TO PARENTS

Memorandum

Department of Instruction
Knoxville City Schools
101 East Fifth Avenue
Knoxville, Tennessee 37917

Date: August 5, 1975

To: Selected Parents

From: Tom Underwood, Supervisor of Elementary Education

Subject: Research Program

This is to introduce Mr. David Jefferson who is working in cooperation with the University of Tennessee and the Knoxville City Schools in conducting a research project concerning early social and academic adjustment of boys and girls entering Knoxville City Schools for the first time.

We hope you will cooperate with this project since we hope to learn how we can better assist you as parents and other boys and girls in making this very important adjustment.

Thomas R. Underwood
Supervisor
Elementary Education

APPENDIX C

SEPARATION ANXIETY BEHAVIORAL CATEGORIES RATING SHEET

Subject's name_____ Observer's name_____

School_____ Date_____ Time obs. st._____ End_____

Behavior	Rating
1. Clings to mother	
2. Cry, scream	
3. Whimpers	
4. Verbal protest	
5. Runs after mother	
6. Shadows mother	
7. Periodic return to mother	
8. Periodic visual contact with mother	
9. Vacillates in permitting separation	
10. Pulls mother into room	
11. Hesitant entrance	
12. Sucking and mouthing	
13. Fingering	
14. Stereotyped postures	
15. Avoiding contact with teachers or peers	
16. Holding a transition or comfort object	

Scoring Key: 0 is none. 1 is occasional (1 - 3 times), or low intensity. 2 is frequently (4 or more times), continuously, or high intensity.

APPENDIX D

DEFINITIONS OF THE SEPARATION ANXIETY

BEHAVIORAL CATEGORIES

1. Clings to mother - holds mother or self to mother, mother's knees, torso, arm.

2. Cry, scream - screams, loud or medium crying, with or without tears; tears rolling down cheeks without sound, eyes welling with tears.

3. Whimpers - mewing or complaining sounds, whining, heavy sighing, etc.

4. Verbal protest - verbalizing not wanting to stay or not wanting mother to go. If part of crying, score that category also.

5. Runs after mother - follows mother energetically when she goes to withdraw from child or to actually leave nursery school room.

6. Shadows mother - follows mother closely if she leads way around or into room; keeps close proximity to mother.

7. Periodic return to mother - makes independent forays out to room or other people, but return to mother's side in between forays.

8. Periodic visual contact with mother - looks towards mother periodically, whether from her side or farther away. Looks at her eyes.

9. Vacillates in permitting separation - periods of spontaneous comfort and exploration alternating with periods of withdrawal or return to mother.

10. Pulls mother into room - pulling or forcefully demanding mother's close proximity in a physical manner at entrance.

11. Hesitant entrance - lagging behind at threshold or before it. Unwillingness to take off outerwear (sweaters, jackets, boots, etc.).

12. Sucking and mouthing - finger or thumb in mouth, body parts (e.g., wrist) in mouth, or clothing in mouth.

13. Fingering - fingering body parts or clothing (e.g., rolling neckbands of shirts, hems or shirt buttons, etc.).

14. Stereotyped postures - carrying self in "unnatural" positions, as hands at shoulders, arms wrapped around body, walking on tip-toe.

15. Avoiding contact with teachers or peers - hiding behind mother, face in mother's lap when addressed by new person, avoiding eye contact, unwillingness to respond verbally or with more than monosyllables, whispered responses, refusing hand offered by teacher or peer. Cringe when addressed.

16. Holding a transition or comfort object - holding an object brought from home, usually a soft cloth object, but may be other things.

APPENDIX E

CLASSROOM BEHAVIOR TALLY SHEET

SUBJECT'S NAME _____ SCHOOL _____ OBSERVER _____ DATE _____ TIME SESSION BEGAN _____

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
APPROACH CHILD		approach child						approach child						approach child						
APPROACH ADULT		approach adult						approach adult						approach adult						
SOCIAL INTERACT CHILD		social interact child						social interact child						social interact child						
SOCIAL INTERACT ADULT		social interact adult						social interact adult						social interact adult						
SUSTAINED SCHOOLWORK		sustained schoolwork						sustained schoolwork						sustained schoolwork						
SUST. NONINTERACTION		sust. noninteraction						sust. noninteraction						sust. noninteraction						
SUSTAINED TOUCH		sustained touch						sustained touch						sustained touch						
CRY		cry			cry			cry			cry			cry			cry			
SMILE		smile			smile			smile			smile			smile			smile			
LAUGH		laugh			laugh			laugh			laugh			laugh			laugh			
INTERVAL COMPLETE																				

SCORE ✓/— if subject's approach or interaction is aversive.

BRIEF DEFINITIONS

APPROACH CHILD/ADULT - any spontaneous physical or verbal contact to attract another's attention - no response necessary. SOCIAL INTERACT CHILD/ADULT - interdependent behavior or subject & other(s), one must be attending or responding to other's behavior, may be physical or verbal, friendly or agressive. SUSTAINED SCHOOLWORK - 10 sec. of school related activities (play or work with toys, learning apparatus, games, etc., as individual or in a group. SUSTAINED NONINTERACTION - 10 sec. of no interaction with people or objects, allowed are self-stimulation, ritualistic, repetitive behaviors, and walking or looking around in order to still score noninteraction. TOUCH - to seconds of child intiated touch to teacher, score as long as touch is maintained. SMILE - lips must be separated. LAUGH - any normal laughing sound. CRY - any type, must have wet eyes.

APPENDIX F

RELIABILITY CHECK METHOD

1. Observe the tape and check the behaviors as you see them in the appropriate location on the category code scoring sheets.

2. Upon completion of the tape pick <u>one</u> category code and circle all checks which agree with the script.

3. Place an X over all checks which were wrongly assigned and an X where a check should have been placed.

4. Divide the number of agreements (circles) by the number of agreements plus the number of disagreements (X's).

$$\frac{0}{0 \text{ plus } X}$$ must equal 80% or greater.

Eighty percent reliability is required for each category code on each tape.

Note: Use this same formula for the separation anxiety scale; the rating must agree in behavior rated as well as number assigned to count as an agreement. Eighty percent is the criterion here also.

APPENDIX G

PARALLEL RESEARCH PROJECT GUIDELINES GIVEN KNOXVILLE KINDERGARTEN TEACHERS

Coping Skills and Adjustment of the First Day Kindergarten Child

We are attempting to identify some characteristics of the child's family background and child rearing methods employed by the parents which might relate to his ability to cope and his level of adjustment on his first day of kindergarten. Your help in this research will be greatly appreciated.

Please list any children who, on their first day, are adjusting well or are having difficulty adjusting. Some guidelines we have been using to define "adjustment" are presented below. We have derived them from interviews with several city kindergarten teachers and they are presented as guidelines only. Please feel free to add to them or to disregard that which does not seem to apply.

Classroom Behaviors

1. Crying.
2. Participation or no participation in group activities.
3. Smiling.
4. Laughing.
5. Fearful of entering new activities or enters new activities without fear.
6. Clinging to the teacher.
7. Withdrawal.
8. Responds when spoken to or won't respond when spoken to.

We feel that some of the above behaviors have "sub-behaviors" which can also be defined. Two of them are the child's ability to

approach other children spontaneously and also, to spontaneously approach the teacher. Another two are the child's level of social interaction with his peers and his teacher, as well.

APPENDIX H

TABLE 3

MEAN BEHAVIOR FREQUENCY COUNTS SHOWING DIFFERENCES BETWEEN THE CARETAKING METHODS FOR COMBINED SESSIONS

Behavior Category	Monomatric	Polymatric	Day-care	F	P-value
Approach Child	10.8	15.8	15.6	.69	.51
Approach Adult	19.5	16.6	18.1	.13	.88
Social Interaction Child	34.2	59.4	24.3	2.78	.07
Social Interaction Adult	43.1	41.5	39.0	.20	.82
Sustained Schoolwork	181.4	156.1	155.6	.53	.60
Noninter-action	19.2	18.4	24.6	.42	.66
Sustained Touch	.4	.2	0	1.27	.29
Cry	.9	.4	0	.75	.52
Smile	27.3	55.1	49.4	2.85	.07
Laugh	4.8	7.0	8.0	.54	.59

APPENDIX I

TABLE 4

MEAN BEHAVIOR FREQUENCY COUNTS SHOWING DIFFERENCES ACROSS SESSIONS FOR THE MONOMATRIC CHILDREN

Behavior Category	Session One	Session Two	Session Three	F	P-value
Approach Child	3.9	2.9	4.0	.50	.61
Approach Adult	5.6	7.6	6.3	.39	.69
Social Interaction Child	6.9	10.0	17.5	2.45	.09
Social Interaction Adult	13.1	15.1	14.9	.32	.73
Sustained Schoolwork	53.0	65.9	62.5	.62	.55
Noninter-action	10.2	3.8	5.2	3.19	.05
Sustained Touch	0	.2	.2	.66	.53
Cry	.8	0	.1	.91	.59
Smile	7.2	7.9	12.1	1.37	.26
Laugh	1.5	1.1	2.1	.30	.75

APPENDIX J

TABLE 5

MEAN BEHAVIOR FREQUENCY COUNTS SHOWING DIFFERENCES ACROSS SESSIONS FOR THE POLYMATRIC CHILDREN

Behavior Category	Session One	Session Two	Session Three	F	P-value
Approach Child	5.9	3.5	6.4	.84	.56
Approach Adult	5.4	4.7	6.6	.38	.69
Social Interaction Child	15.4	21.1	22.9	.38	.69
Social Interaction Adult	16.3	12.5	12.7	.75	.52
Sustained Schoolwork	44.4	57.1	54.7	.58	.57
Noninteraction	10.0	6.1	2.4	2.33	.11
Sustained Touch	0	0	.2	-	-
Cry	.4	0	0	-	-
Smile	17.6	16.8	20.7	.33	.73
Laugh	1.1	1.9	3.9	1.98	.15

APPENDIX K

TABLE 6

MEAN BEHAVIOR FREQUENCY COUNTS SHOWING DIFFERENCES ACROSS SESSIONS FOR THE DAY-CARE CHILDREN

Behavior Category	Session One	Session Two	Session Three	F	P-value
Approach Child	4.6	4.3	6.8	.76	.52
Approach Adult	6.1	5.2	6.8	.22	.80
Social Interaction Child	8.4	7.4	8.5	.03	.96
Social Interaction Adult	17.1	12.7	9.1	2.85	.07
Sustained Schoolwork	43.7	59.9	52.0	.87	.57
Noninter-action	11.4	4.6	8.6	1.70	.19
Sustained Touch	0	0	0	-	-
Cry	0	0	0	-	-
Smile	12.8	14.3	22.4	1.50	.23
Laugh	2.1	1.1	4.8	2.54	.09

APPENDIX L

TABLE 7

MEAN BEHAVIOR FREQUENCY COUNTS SHOWING DIFFERENCES BETWEEN CARETAKING METHODS FOR OBSERVATION SESSION ONE

Behavior Category	Monomatric	Polymatric	Day-care	F	P-value
Approach Child	3.9	5.9	4.6	.44	.65
Approach Adult	5.6	5.4	6.1	.06	.94
Social Interaction Child	6.9	15.4	8.4	1.05	.36
Social Interaction Adult	13.1	16.3	17.1	.82	.55
Sustained Schoolwork	53.0	44.4	43.7	.45	.64
Noninteraction	10.2	10.0	11.4	.07	.94
Sustained Touch	0	0	0	-	-
Cry	.8	.4	0	.62	.55
Smile	7.2	17.6	12.8	3.26	.05
Laugh	1.5	1.1	2.1	.37	.70

APPENDIX M

TABLE 8

MEAN BEHAVIOR FREQUENCY COUNTS SHOWING DIFFERENCES BETWEEN CARETAKING METHODS FOR OBSERVATION SESSION TWO

Behavior Category	Monomatric	Polymatric	Day-care	F	P-value
Approach Child	2.9	3.5	4.3	.47	.63
Approach Adult	7.6	4.7	5.2	.94	.60
Social Interaction Child	9.8	21.1	7.4	2.02	.14
Social Interaction Adult	15.1	12.5	12.7	.41	.67
Sustained Schoolwork	65.9	57.0	59.9	.21	.81
Noninter-action	3.8	6.1	4.6	.29	.75
Sustained Touch	.2	0	0	-	-
Cry	0	0	0	-	-
Smile	7.9	16.8	14.3	2.22	.12
Laugh	1.1	1.9	1.1	.87	.57

APPENDIX N

TABLE 9

MEAN BEHAVIOR FREQUENCY COUNTS SHOWING DIFFERENCES BETWEEN CARETAKING METHODS FOR OBSERVATION SESSION THREE

Behavior Category	Monomatric	Polymatric	Day-care	F	P-value
Approach Child	4.0	6.4	6.8	.86	.57
Approach Adult	6.3	6.6	6.8	.03	.97
Social Interaction Child	17.5	22.9	8.5	3.26	.05
Social Interaction Adult	14.9	12.7	9.1	1.74	.19
Sustained Schoolwork	62.5	54.7	52.0	.41	.67
Noninter-action	5.2	2.4	8.6	2.44	.10
Sustained Touch	.2	.2	0	.66	.53
Cry	.1	0	0	-	-
Smile	12.1	20.7	27.4	1.67	.20
Laugh	2.1	3.9	4.8	.77	.53

APPENDIX O

TABLE 10

MEAN BEHAVIOR FREQUENCY COUNTS SHOWING DIFFERENCES BETWEEN SOCIAL CLASS WITHOUT CONSIDERING CARETAKING METHOD

Behavior Category	Upper-middle Class	Middle Class	Lower-middle Class	F	P-value
Approach Child	15.3	13.7	14.0	.04	.97
Approach Adult	9.0	22.3	17.7	1.82	.17
Social Interaction Child	93.8	33.9	27.6	7.92	.002
Social Interaction Adult	42.8	40.3	41.4	.05	.95
Sustained Schoolwork	159.2	140.8	182.8	1.43	.25
Noninter-action	29.5	16.5	21.2	1.01	.37
Sustained Touch	.2	.1	.3	.20	.82
Cry	.8	0	.6	.59	.56
Smile	46.2	41.8	44.9	.05	.95
Laugh	6.8	7.9	5.6	.32	.73

APPENDIX P

TABLE 11

MEAN BEHAVIOR FREQUENCY COUNTS SHOWING DIFFERENCES BETWEEN SEXES WITHOUT CONSIDERING CARETAKING METHOD

Behavior Category	Boys	Girls	F	P-value
Approach Child	18.7	11.5	3.22	.08
Approach Adult	23.3	15.2	3.10	.08
Social Interaction Child	28.4	45.3	1.57	.22
Social Interaction Adult	39.4	42.2	.25	.62
Sustained Schoolwork	144.9	175.3	1.63	.21
Noninteraction	21.7	20.2	.06	.80
Sustained Touch	0	.3	2.14	.15
Cry	.8	.2	1.07	.31
Smile	53.6	38.6	1.92	.17
Laugh	6.7	6.6	0	.97

APPENDIX Q

TABLE 12

MEAN TEACHER-PARENT RATINGS OF THE CHILDREN'S FIRST DAY ADJUSTMENT SHOWING DIFFERENCES BETWEEN CARETAKING METHODS

Monomatric	Polymatric	Day-care	t	P-value
		Teacher Ratings		
3.00	3.21		.36	.72
3.00		3.57	.83	.41
	3.21	3.57	.59	.56
		Parent Predicted Ratings		
3.79	3.79		0	1.0
3.79		3.36	.79	.44
	3.79	3.37	.69	.49

VITA

David Andrew Jefferson was born in Easton, Pennsylvania on November 3, 1942. He graduated from California State College at San Bernardino in 1973 with honors and the following September entered the Clinical Psychology Training Program at the University of Tennessee. He will begin to serve a clinical internship with the Dede Wallace Mental Health Center, Nashville, Tennessee on September 1, 1976.

The author is a member of the Southeastern Psychological Association and has presented papers at annual meetings in 1974 and 1975. He is also a member of the American Orthopsychiatric Association. He has worked as a counselor with the Family Service Association in Redlands, California and has trained as an Assistant Clinical Psychologist at Eastern State Psychiatric Hospital, Overlook Mental Health Center, and the Psychological Clinic, University of Tennessee, Knoxville. Mr. Jefferson has represented psychology students at the Clinical Training Program Committee meetings, the Chairman's Student Advisory Council, and the Graduate Student Council.

He has been married since 1966 to Sandra Jefferson and they have three children: Alexandra, 9; Danisha, 7; and Megan, 6.