DAY CARE FOR TODDLERS: STUDY OF STAFF INTERACTION WITH THE TODDLER AGE AND THE DAY CARE ENVIRONMENT

By

JUDITH MARIE DANIEL

Bachelor of Science

University of Illinois

Urbana, Illinois

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Thesis Approved:

Frances Stromberg
Thesis Adviser

Judith A. Powell

Alta Wright

Norman N. Durham
Dean of the Graduate College

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CHAPTER I

INTRODUCTION

Statement of Problem

This study was designed to examine specific aspects of the day care environment of children between the ages of 10 to 24 months. The aspects in the day care environment studied included the interaction between caregivers and toddlers under their care and also the type of physical environment set up for the children. The physical environment was examined in terms of the number and selection of toys available to this age group, interesting objects to look at, and the diversity of situations available to this age group. The researcher attempted to determine what types of interactions were used by caregivers and how this related to the physical environment at each center.

Need for the Study

By the time a child is two years old a difference can be seen among those children who are competent both intellectually and socially and those who are not. The pattern for the rest of the child's life in regards to competence is already well formed at two years of age (White and Watts, 1973). White and Watts (1973) believe some of the most important contributing factors to the development of this competence are the attitudes of the mother (or primary caregiver) and

the physical environment. White and Watts (1973) report some differences could be seen between mothers of competent two-year-old children and mothers of less competent two-year-old children. Differences were also reported in how the mothers of competent children designed the child's physical environment as compared to mothers of less competent children.

More specifically, White and Watts (1973) found that a critical period in a child's life for the development of the foundations of competence is between 10 to 18 months. Although the toddler age is a very important time in a child's life, it has been the subject of little study.

The study of the environment of a toddler's life is, therefore, of extreme importance. Besides the home environment, for many children there is also the day care environment. With the institution of day care mushrooming, serious study must be given to the type of care children are given during this critical period of their life. Children in day care facilities spend more of their waking hours at the facility than at their home, five days a week. At present not much is known about these infant programs for children less than three years (White, 1971). It is obvious that there is a need to find out what caregivers in day care facilities are doing to arrange an environment which will help in the development of competence in toddlers or if they are providing an environment which will not help in the development of competence.

Some studies today are asking if group care for children under two is good or bad. Keister (1970) judged that group care for infants (children under two) is acceptable if it is of a high quality.

Schwartz, Strickland, and Krolick (1974) reported children in day care arrangements from infancy were physically and verbally more aggressive, less cooperative, and less tolerant of frustration than home reared children. The question of whether day care for infants and toddlers produces ill effects on children still exists.

The question of this research, then, is whether day care facilities are helping in the development of competence during the toddler age. There are certain qualities of staff and certain physical environmental factors which are considered important in quality care. Since little is known about what is actually happening in day care, this researcher feels it is of great importance to study day care for children between 10 months and two years to see what conditions are provided.

Purposes

The specific purposes of this study included the following:

1. Developing an instrument for observing caregivers and the day care environment. This includes the caregiver's interaction with the child (Interaction Inventory) and a record of the equipment, interest of physical environment, and situations available.

2. Testing the following hypotheses:

   Hypothesis I. The items are not significantly different from each other within categories of the Interaction Inventory.

   Hypothesis II. There is no relationship between each category of behaviors on the Interaction Inventory and each of the following ratings in the Day Care Environment Inventory:

   A. Average Total Number of Toys Available

   B. Physical Environment Score

   C. Exploring Score

D. Socializing Score

E. Cognitive-Stimulation Score

F. Custodial Care Score

Hypothesis III. There is no relationship among the categories of the Interaction Inventory.

3. Reporting through descriptive statistics the types of interaction between the caregiver and the child to develop a profile for each center-caregiver based on observed units of interaction.

CHAPTER II

RELATED LITERATURE

Observation as a Research Method

The observation method of research is used frequently in early childhood studies. With this technique the observer can note items the subject may not report, or that a person or child may not be able to verbalize.

According to Cartwright and Cartwright (1974) the first step in observational research is to determine the purpose, which would include who will make the observation, who will be observed, where the observation will take place, when the observation will occur, and how it will be recorded. The various types of records used to make the observation might include anecdotal records, participation charts, checklists, rating scales, behavior tallying, and charting procedures. The goal of these records is to make them objective and clearly definitive so that there is high agreement among observers. The type of records must be specific; the behaviors to be observed must be clearly defined or described.

Mussen (1960) described various types of sampling used in observational child study. One of these methods is time sampling, which fixes the attention of the observer upon selected aspects of behavior as they occur within uniform and short time intervals. The time of

observation might range from 5 seconds to 20 minutes. The level of interobserver agreement is usually good on this type of sampling. The length, spacing, and number of intervals are intended to secure representative "time samples."

Rummel (1964) listed some basic guides to good observation. These include such items as, obtain prior knowledge of what to observe, examine general and specific objectives, devise a method of recording results, including a blank space to record items not anticipated, observe carefully and critically, and become well acquainted with the recording instrument. He listed further advantages of observation as, most direct means of studying a wide variety of behavior, demands less of subjects under observation, permits collection of data in typical behavior situations, permits recording of behavior simultaneous with occurrence, does not depend largely on retrospection or reflection, allows for emergence of data which subjects might not have thought of in an interview. In the list of limitations, Rummel (1964) included, people may not react as normal while being observed, observer may not be present at the time of occurrence, unforseeable factors may interfere in the observation, some subjects of a personal nature are difficult to observe.

Cartwright and Cartwright (1974) listed some additional problems related with observational research. This author stated there may be logical errors, whereas a person thinks two things are the same. For instance, a child good in baseball is not necessarily good in all sports. Objectivity is not completely possible in observation and the observer may be influenced by a bad mood, need for approval, or sex or age may make a difference. One other problem noted by this

author is the halo effect. If the subject made a favorable impression on the observer, then there is a general tendency to give a higher rating. In these cases the observer must remember to only record behavior observed, not evaluate.

Cartwright and Cartwright (1974) stated there are methods of controlling errors. These include being aware of error tendencies and watching for them by consciously monitoring them, and checking for objectivity by having more than one observer and pooling findings.

Mussen (1960, p. 122) stated, "A respectable recourse for the investigator without enough (or any) direct evidence that his observations are reliable remains in any case." The observer must look at his findings and ask the following questions:

1. Are they internally consistent?
2. Are they in line with tenable theories?
3. May they even fulfill derivations from theory?
4. Do they show relationships that outdo chance?

A yes answer to all these above questions would diminish the doubts of reliability.

Importance of Environment in a Child's Development

White (1971) and his colleagues found repeatedly that experience can play an important role in early development. From the research, there seems to be no question that the environment of a child can influence his development. White and Watts (1973, pp. 25-26) stated, "Our view was, and is, that there was good reason to believe that environmental factors do play an important role in early human development."

Many studies have been done on animal and human deprivation. The evidence is strong that inadequate experiential environments cannot meet the needs of infants. It takes more than a meal and a clean diaper to produce a good learning environment (Honig, 1974). For example, Dennis and Najarian (1957) described an Iranian orphanage where the infants were given relatively adequate physical care but little personal attention or play time. The infants were left on their backs on soft mattresses in curtained cribs. They were characterized by apathy and lags in sensorimotor development. By one year of age they could not sit up. Caldwell (1967, p. 8) stated, "A truism in the field of child development is that the milieu in which development occurs influences that development." She stated it is a fact that environment affects development. Prescott (1972, p. 3) concurred when she wrote, "Although factors within the child have been demonstrated to affect the course of growth, the impact of physical and social environment has always been recognized."

Importance of the Early Years

Bloom (1964) stated there are three reasons he believes that early environment is of crucial importance. First, there is a very rapid growth of certain characteristics (intelligence, intellectuality) in the early years. This early environment shapes these characteristics when they are developing the most. Second, there is a sequential nature of much of human development. Each characteristic is built on a base of that same characteristic at an earlier time. Third, it is much easier to learn something new than it is to eliminate one set of learned behaviors and replace them by a new set. It is easier

to learn something the first time. Bloom (1964) also estimated that by the time a child is age four, 50% of his intellectual development has taken place. The first four years are years for rapid learning.

White and Watts (1973) suggested that the 10-18 month period in life is in effect a critical period for the development of the foundations of competence. They stated that children who are developing very well first show fairly clear precocity at about 18 months. A difference between highly competent children and those who are less competent can be seen by two years. Most of the basic foundations of educational and general development will receive their shape and quality during this time. White and Watts (1973) reported that,

> Our test data, like that of many other studies, indicate that children who are going to develop well or poorly (during the preschool period, at least) begin to reveal which course they are on at about the middle of the second year of life (p. 236).

Caldwell (1967) stated that because so much is learned during the first three years of life and more evidence is

> pointing to the relative permanence of deficit acquired when the environment is inadequate during this period to make it mandatory that careful attention be given to the preparation of developmental environment during the first 3 years (p. 9).

Fowler (1969) stated,

> It is clear from several classes of studies--including studies on early deprivation and social disadvantage, surveys on high ability children, and experimental work with children--that early childhood is a period of extreme malleability (p. 160).

Optimal Learning Environment

Bloom (1964) stated that he cannot describe in detail what constitutes abundant and deprived environments for the development of

intelligence. However, on the basis of research he is beginning to tell what may contribute to some of the environmental variables in some extreme environments. Some areas he listed include:

1. It is likely that environments which include good models of language usage and which encourage development of language will stimulate the development of general intelligence. Whereas environments where models of language usage are poor and discourage language development will retard or block the development of general intelligence.
2. Abundant and deprived environments differ in the opportunities for direct contact and interaction with the world around them and with vicarious experiences represented by books, pictures, films, television, etc. General knowledge of the world is definitely measured on intelligence tests.
3. An environment which encourages problem solving and clear thinking is likely to facilitate the development of intelligence, but an environment which restricts opportunities for this and even discourages attempting to attack and solve problems on their own is likely to retard intelligence.
4. Minimal interaction between adults and children would give little opportunity for the development of the above skills and abilities.

White and Watts (1973) listed a number of behaviors which the most effective mothers in his study used with the children who were considered competent. They stated that the most effective child

rearing practices were found where mothers talked a great deal to their children; talked at a level the child can handle; made the child feel that whatever he is doing is interesting; provided access to many objects; provided access to diverse situations; led the child to believe that he can expect help and encouragement most, but not all of the time; demonstrated and explained things, but mainly on the child's instigation rather than her own; prohibited certain activities, consistently and firmly; felt secure enough to say "no" without being afraid the child will not love her; were imaginative; strengthened the child's motivation to learn; gave a notion that it is desirable to do things well and completely; made the child feel secure; and where mothers did not devote the majority of the day to rearing the young children.

White and Watts (1973) continued by noting items in the physical environment which these same mothers provided. These mothers played the role of the designer and consultant excellently. They designed a physical world suitable to the growing curiosity of the one- to three-year-old. The child's physical world was full of small, manipulative, visually detailed objects. Some of these toys were designed for use with young children and some were household items normally used for other purposes. These mothers provided things to climb, such as chairs, benches, sofas; had available equipment to nurture more mature motor development; and supplied a variety of interesting things to look at.

In the psycho-social environment, White and Watts (1973) noted these same mothers were also permissive and indulgent, and encouraging. They usually, but not always, responded when the child needed help. These mothers frequently taught "on the fly," rather than sitting down

and teaching the child in a learning session. Teaching usually took place on the child's instigation.

The preliminary results of White and Watts' work provide evidence that the environments of children who are exceptionally competent intellectually are different from children who are not. The mothers of those intellectually competent children interact more with the child, engage in more intellectually stimulating activities, teach them more often, encourage them more often, initiate activities for them more often, and are more successful in controlling their children (White and Watts, 1973).

White and Watts (1973) stated that the implications of their study are that competent children have daily experiences in their homes that systematically promote their intellectual development. The curriculum of the home is not hidden nor unsystematic; it is observable and focused on intellectual development as an important goal for the young child.

Sameroff (1975) stated that there are certain basic characteristics of an environment which help to ease early problems in a child's cognitive and social development. These traits are flexibility, openness, and adaptability. Where the environment encourages rigidity, stereotyping, and concreteness in thought and behavior, early problems can become very difficult to manage.

Honig (1974) cited some information from a study by Ainsworth and Bell in 1972 of mother-infant interaction. The article reported,

> Mothers who are both sensitive to infant signals and permit their babies freedom to move about on their own account tend to have babies who are relatively accelerated in psychomotor development, whereas mothers who

> are insensitive to signals and who limit their infant's opportunity to interact with their physical environment tend to have babies who are relatively retarded in development (p. 14).

Babies whose signals were responded to promptly appeared to build up communication skills and hence social competence.

Bell (1970) made the following assumption about infant-mother attachment:

> A harmonious relationship between mother and infant seems to be the preconditions for eliciting the type of 'interest' in the baby which, Piaget hypothesized, so pervasively affects the development of sensorimotor intelligence (p. 309).

The evidence from Bell's study with the mother-infant attachment strongly supports this assumption. The mothers in the positive group with a favorable relationship with their infant tended to go on frequent outings with babies, avoided even brief daily separations, commented on their baby's positive features, never showed physical rejection or mistreated their infant. The other group of mothers showed their babies more rejection, rarely took their babies on outings and openly found fault or commented negatively. They also used physical punishment inappropriately and exhibited refusal to establish contact with their baby. The findings of this study suggest that the quality of a baby's interaction with his mother is one of the crucial dimensions of "environment influence" to affect this type of sensorimotor development.

Beckwith (1972) found that in developing desirable social behavior it is not the quantity of available social contact with the mother, but the quality of the social contact which makes the difference. In this study a high-level infant crying and/or a high level of maternal

ignoring were associated with the infants' lessened responsiveness in social play with their mothers.

Ainsworth (1969) suggested five experiential variables in developing a good infant-mother relationship. They were:

1. Frequent physical contact.
2. Sensitive responses to the baby's signals.
3. Freedom to explore.
4. An environment in which the baby derives a sense of consequence for his own actions.
5. Mutual delight of the baby and mother in transactions with each other.

The literature is supporting the fact that quality of interaction between the mother and child is very important to a child's intellectual development. Another optimal condition for learning is, therefore, one in which the mother-infant relationship is harmonious.

Caldwell, Wright, Honig, and Tannenbaum (1970) reported on the study done at Syracuse comparing mother-child attachment between home-reared children and a sample of children in a day care program. The results showed one can have infants in quality day care without jeopardizing the child's primary emotional attachment to the mother. The findings do not guarantee that socio-economic deficit would never be associated with infant care. It was found that in this day care setting there was no socio-economic deficit and there was no breakdown of the mother-child attachment.

Learning Environment in Day Care Facilities

Caldwell (1967) reported that a project in Syracuse concluded that for "optimal conditions for learning" the environment of day care must:

1. include warm and responsive people who by their own interests invest objects with value.
2. be a supportive environment.
3. be as free of disease as possible.
4. include people who know where a child is developmentally and know where he needs to go.
5. contain objects and events similar enough to what the child has experienced to be absorbed and yet new enough to stimulate and attract.
6. be perfectly responsive.
7. provide carefully timed experiences.

White and Watts (1973, p. 247) stated that the ideas they were espousing for mothers are relevant to good infant day care practices. They also stated that in light of their study that it does not appear that day care personnel should hover over their charges, constantly overseeing every move and pumping a barrage of language. "The fact that well-developing infants initiate the vast majority of their own experiences has implications for practice, as does our observation that television viewing is rare during the first 2 years of life."

Chapman and Lazar (1971, p. 37) in The Present Status and Future Needs in Day Care Research, stated: "One issue on which there is unanimous agreement by all researchers is that the staff of the day care center or service is the single most important determinant of the

quality of care provided." From research being done, the paper suggested that the following factors should be taken into account for day care centers, since children are there so long: (1) variety of stimulation, (2) similarity to a "real home" setting, (3) contact with community resources, and (4) provision for privacy.

Honig and Lally (1975) studied four master teachers of infants and toddlers. They found that language inputs were very prominently contributed by teachers of both younger and older babies. They found with teachers of children under 18 months that a variety of language interactions accounted for about one-third of all teacher behavior. Teachers of children from 18-36 months provided language in almost one half of their total behavior. They also found that neither time of day nor day of week was associated with changes of more than a few percentage points in these language patterns.

Prescott and Jones (1972) found that high quality centers (those which elicited a strong positive response from children) had sensitive teachers who tended to behave toward children in an encouraging rather than restrictive fashion. This behavior was more likely to occur within a free choice program format and in a medium size center in which space quality was relatively good. However, insensitive restrictive teachers gained less response from children. Settings characterized by large center size, relatively poor physical space and an adult-centered role concept on the director's part were more likely than other types of settings to elicit such teacher behavior. High quality centers did not rank low in encouragement nor high in guidance and restriction.

Lambie and Weikart (1970) described the Ypsilanti-Carnegie Infant Education Project. The project was based on the assumption that preventive programming must be started earlier than normal preschool programs since the essential framework for intellectual growth is completed by age three. The most important observation to come from the project after one year was that the relationship between the caregiver and infant was the essential condition of any educational growth. Honig (1974) concluded her article on how developmental needs of infants can be met in the day care setting with,

> The day care environment which provides babies with a broad experience base, chances to explore and people who enjoy them physically as they care for them--talking to them, playing with them, and cheering on their smallest achievements and triumphs--will be meeting infant needs very well indeed (p. 60).

The Final Report - A Demonstration Project (Infant Care Project, 1970) reported that they could not say at that point what is a necessary minimum, what is sufficient, and what is optimal care for young children. The report summarized the Infant Care Project at the University of North Carolina, which provided the best experience for infants this project could provide. They described the quality care as full, rounded experience of affectionate thoughtful care day after day. Keister (1970) described their model in "The Good Life" for Infants and Toddlers and some aspects were:

1. Consistency in caregiving persons. These caregivers were warm and affectionate, took pleasure and enjoyment in children, and were encouraging.
2. Resemblance to a good natural home setting.

3. Freedom for children to explore on own; vivid and varied environment; lots of household items used for play materials.
4. Meticulous attention given to cleanliness and health of children.

Caldwell, et al. (1970) described a program set up at Syracuse aimed at providing an environment which would foster optimal cognitive, social and emotional development in young children from disadvantaged families. A brief description of the program stated that people and objects give proper levels of quantities of stimulation to young children in a context of emotional warmth, trust, and enjoyment. The teachers were warm, affectionate and empathetic. There were numerous rocking chairs which were always used. The staff ratio was high. The schedule revealed alternate cycles of action and rest, of adult-initiated and child-initiated activity, of group activities and pursuit of individual interests, of playing for fun and working to learn. It was a place where children would be happy.

Caldwell (1967) asked if day care facilities can provide an optimal learning environment. She stated that evidence shows that it is not the group care per se that produced the frequently reported deficits. It is possible to keep the advantages while eliminating the negative aspects. It all depends on the environmental adequacy of the setting.

The influences of substitute care were studied by Schwartz, Strickland, and Krolick (1974). Children in day care arrangements from infancy were found to be physically and verbally more aggressive, less cooperative, and less tolerant of frustration than home reared

children. The home reared children entering day care for the first time at the ages of three and four did not become like the group of day care children who started as infants. Macrae and Herber-Jackson (1976), using the same traits as Schwartz, et al. (1974), found different results and concluded that generalizations from just one study cannot be applied to all others. This study reported that those infants in day care were significantly higher in their ability to get along with peers, problem solving, ability to abstract, and "planfulness."

McCutcheon and Calhoun (1976), studying infants' adjustments to a day care center, found that after one month positive changes occurred in the behavior of the children. There was an increased adjustment in both social and emotional areas of behavior. Infants and toddlers adjusted rapidly to day care of this high quality. Fowler (1972) commented:

> Programs for infants in group care can be developed to a level of quality that insures adequate to high level development for all types of children in all areas--cognitive, motor, socioemotional (p. 166).

He reported gains in cognitive development were influenced by the early entry into the program and length of participation. Doyle (1975), comparing infants and toddlers cared for in high quality centers to home reared children, found that very young children who experienced high quality day care differed very little from home reared children.

Final Report - A Demonstration Project (Infant Care Project, 1970) found that from studying children in the center and those in a home atmosphere that there were few significant differences on any individual tests, but any differences found did favor the center children. From this evidence it is pointed out that one cannot assume

that all day care for infants and toddlers is good. Only when a center provides a certain quality of care can it provide an optimal learning environment.

Summary

Findings from the literature suggest that the first three years of a child's life are critical in the development of intelligence. A child's environment is one of the determining factors during this first three years. Findings seem to agree that when a child is in a day care environment, the staff is the single most important determinant of quality of care provided. Another factor considered important in quality day care is a physical environment which is vivid and varied, allows for curiosity, and resembles a good natural home setting. Day care can provide an optimal learning environment if precautions are taken to provide the best quality of care.

CHAPTER III

PROCEDURE

Subjects

The subjects for this study were day care center caregivers who were observed giving care to children from 10 to 24 months. All subjects observed were those directly involved in caring for toddler age children and were working in licensed facilities in Tulsa and Wagoner Counties in Oklahoma. The researcher gathered this information while on her job as a Licensing Service Worker. All center caregivers of toddlers in the researcher's area were included in the study. This is a diverse area, including part of the city of Tulsa, the city of Broken Arrow, and Wagoner County, all in Oklahoma.

In cases where more than one caregiver was directly responsible for the care of the toddlers, only one was included in the sample. The staff member who was primarily involved in caring for the toddlers was chosen. If the responsibility was equally divided, the researcher drew one of the names to determine who would be observed.

The total sample included 11 day care centers, which included 11 caregivers in the sample. All of the caregivers in the study were females. They ranged in age from 19 to 61 years; however, eight of the caregivers were between 26 and 36 years of age. Six of the caregivers had less than six months experience in a day care situation; two

caregivers had from six months to one year experience; three caregivers had more than one year of caregiving experience. Ten of the 11 caregivers completed high school; two of these women had some college education, but it was less than two years; one caregiver completed eighth grade only.

Development of Instrument

Interaction Inventory

The instrument for recording the observation consists of two parts, the Interaction Techniques and the Environment. The first section consists of categories developed by White and Watts (1973) as a part of the "Human Interaction Scale." The particular sub-scale used in this study is called by White and Watts (1973) Interaction Inventory and identifies types of behavior used by an adult when interacting with a child. There are 15 behaviors on this scale (see Appendix A). The Interaction Inventory was used by this researcher in categorizing individual caregiver's interactions with the toddlers. The same definitions were used as described by White and Watts (1973) on pages 482-490. Definitions and examples of each type of interaction may be found in Appendix B. The examples were obtained from actual observations in the current study of caregivers interacting with toddlers. The researcher added one category, which shows when a caregiver focused on a task other than direct care of the toddlers. This additional category allowed the observer a method of accounting for all staff time during an observation period, since all time was not spent in giving direct child care.

Space was allowed for recording a mark for the appropriate behavior each time the caregiver interacted with the toddlers. A score was obtained by counting the total number of marks in each of the 16 behavioral categories during all periods of observation. White and Watts (1973) grouped the 15 behavioral interactions into seven general categories, and for part of the analysis these same groupings were used. A score for each general category was obtained by totalling the ratings for each item in that category.

Environment

The second part of the instrument deals with the environment in the day care setting. Included in this section is a list of equipment available, an assessment of the interest value of the physical environment, and an assessment of the situations available to children which encourage exploring or socializing behavior, provide cognitive stimulation, and reflect the amount of custodial care provided. The equipment available to the toddlers was all listed on the instrument by the observer during each visit. Only those pieces of equipment which were within reach of the toddlers and which the staff permitted them to use were noted. Only the equipment which was functional or useful to the children was listed. For example, a piece of a put-together plastic animal was not listed unless enough pieces were available to make an animal. On the basis of the investigator's three and one-half years' experience observing day care situations as a Licensing Service Worker, it was believed that she was capable of determining this equipment inventory accurately.

The total number of toys available was determined for each center on each day. If the particular toy was considered a set or unit, it was counted as one toy. For instance, if there was a set of blocks or set of pots and pans, each set was counted as one. To determine the environment score reflecting the number of toys, an average number of toys available was figured for both days of observation. In one center some toys were available to only certain toddlers. For this center, the average number of toys available to each toddler during the visit was the score used for that observation.

Assessment of the interest value of the physical environment was based on the variety of interesting things to look at in the toddler area. As a base for this assessment the researcher obtained a list of items from 12 professional people in the field of early childhood education. Each of the 12 people was asked to list 10 things he or she felt would make the inside environment interesting for toddlers to look at. The 10 items listed most frequently have been chosen for rating the physical environment (see Appendix A). On each visit the toddler area was examined by the investigator and each of the 10 items on the Physical Environment Scale received a YES or NO check. A score was obtained by adding the number of YES checks on both observations.

The situations available to the toddlers have been divided into four groups: opportunities for exploring, socializing, cognitive stimulation, and custodial care. On each visit, the investigator checked those situations observed which were available to the toddlers. A score was obtained by adding the number of checks for each of the four sections for all observation periods. The exploring section was scored in a slightly different manner to get a more accurate picture

of this category. If the opportunities for exploring were available to all the toddlers a check mark was made. If an opportunity was available to only a few of the toddlers a fraction of a score was shown. For example, if two toddlers were allowed to play on the floor, but if three others were kept in playpens, a score of 2/5 was given, rather than a check mark, which would count as one in adding the score. Another exception in this category was where the situations were available to the toddlers only part of the observation period. A fraction of a score was given to correspond with the amount of time the situations were available. For example, if all the toddlers were in playpens half of the time and played on the floor the rest of the time, a score of 1/2 would be given to "play on floor," instead of a check mark. To determine a score the checks (counted as one) and fractions were added for each of the four sections. A total was given for both days of observation. The researcher developed the category system for scoring the situations available to the children from her past observations of day care situations (see Appendix A).

All parts of the instrument were tested several times by the researcher and two other experienced observers of children in day care situations. Appropriate changes were made to aid in ease of using and exactness. The categories of behavior in the Interaction Inventory as used in White and Watts (1973) study are assumed to have validity as much effort by professionals was spent in preparing and revising them. White and Watts (1973) stated, however, that there is nothing inherently correct about the scales used in their work.

Administration of the Instrument

The observer first established observer reliability with another experienced observer of children who has a Master of Science Degree in Family Relations and Child Development from Oklahoma State University. The two observed independently five, three-minute periods for a total of 60 minutes. Percentage of agreement on four caregivers between the two observers' recordings was calculated and found to be 86%. Upon examination of the results, it was apparent that the major source of difference between the two observers was the number of marks in each interaction category. The type of behaviors checked seemed much the same.

The researcher (licensing service worker) selected specific days of the month to do the observations; the date of observation at each facility was selected at random from the pre-selected dates. Each caregiver was observed on two separate days. Each observation was conducted the same way. Four three-minute observations were made on each caregiver using the Interaction Inventory section of the instrument, giving a total of 24 minutes on both days of observation with this tool. After the first three-minute observation using the Interaction Inventory, the Equipment List was completed, followed by the second three-minute observation using the Interaction Inventory. Following this the Physical Environment Section was completed and then the third three-minute observation was made. The last section, Situations Available, was completed, and then the final three-minute observation using the Interaction Inventory.

All of the observations were made during a morning inside play time. Some caregivers who were observed were caring for a mixed-age group of children. The Interaction Inventory only applied to the interaction between the caregiver and any toddler (10-24 months) age child.

In using the Interaction Inventory section of the instrument, each mark represented a unit of behavior. That is, if a caregiver spent several seconds helping a child wipe his hands and face, the entire interaction was considered one unit and one mark was made in the appropriate category. As long as the interaction related to the same subject, only one mark was made, and was considered a unit of behavior. When the behavior or subject changed, another mark was made for a new unit of behavior.

However, two types of behavior were sometimes going on simultaneously and both of these were recorded. For instance, a caregiver might have been helping a child by changing his diaper and at the same time playing peek-a-boo with a clean diaper. In this case both "Helps Child" and "Actively Participates" were marked.

Analysis of Data

The three hypotheses were tested in the following ways:

Hypothesis I. Friedman two-way analysis of variance was used to test if the items within each category on the Interaction Inventory were significantly different from each other. Further testing of categories C and F of this inventory utilized the Spearman rank correlation.

Hypothesis II. Spearman rank correlation was used to test the relationships between each category on the Interaction Inventory and each rating in the Day Care Environment Inventory.

Hypothesis III. Spearman rank correlation was used to test the relationship among the categories of the Interaction Inventory.

The third purpose of the study, developing a profile for each center caregiver, was determined by percentages of the units of behavior on Interaction Inventory.

CHAPTER IV

RESULTS AND DISCUSSION

The present study was designed to learn more about toddler care in day care centers. Major emphasis was put on the types of interaction used by the caregiver, and this was compared to the physical environment as provided by the caregiver or center. Much of the study was based on the results obtained from using the Interaction Inventory. White and Watts (1973) grouped their 15 interaction techniques into seven general categories. The sixteenth item added by the researcher made the eighth category. The following shows the items and categories as grouped by White and Watts (1973):

	Item
Category A: (Teaching)	1. Didactic Teaching
	2. Justification or Statement of a Rationale
	3. Active Participation
Category B: (Informing)	4. General Information Giving
Category C: (Directive)	5. Suggestion or Command
	6. Positive Reinforcement or Affection
	7. Focusing on a Task

Category D: (Restrictive)	8.	Restriction or Prohibition
	9.	Negative Reinforcement or Hostility
	10.	Distraction or Ignoring
	11.	Refusal to Help or Comply
Category E: (Help)	12.	Providing Service or Assistance
Category F: (Preparatory)	13.	Providing Materials
	14.	Changing Location
Category G: (Neutral)	15.	Observing or Interpreting
Category H:	16.	Focuses on a Task other than Toddler Care

Examination of Hypotheses

Hypothesis I. There is no significant difference among the set of items in each category on the Interaction Inventory. The relationship among Items 1, 2, and 3 in Category A was tested using the Friedman two-way analysis of variance (χ^2 = 1.65, df=2). The hypothesis that all came from the same population cannot be rejected. Therefore, it was accepted that the items in Category A were related. They were then lumped together for further analysis. This finding was consistent with the grouping system of White and Watts (1973). Category A was labelled "Teaching" and the finding of this research was that all three items had a relationship in this category.

The relation among Items 5, 6, and 7 in Category C was tested using the Friedman two-way analysis of variance (χ^2 = 17.3, df=2). The result was determined to be significant at the .001 level. Therefore the scores on the three items were apparently not drawn from the

same population. Inspection of the data suggested that Item 7 was very different from Items 5 and 6. A Spearman rank correlation coefficient was calculated between Items 5 and 6. These items were found to be significantly related beyond the .001 level (ρ=.93), lending support to the hypothesis that Items 5 and 6 draw on the same kind of behavior, but 7 does not. White and Watts (1973) lumped these three items together as "Directive Techniques," meaning that all three items were of similar type of interaction. From the caregiver observations, it can be seen that there were very few instances of Item 7, "Focusing on a Task." (A total of two units of behavior toward "Focusing on a Task" as compared to 161 of "Suggestion or Command" and 66 "Positive Reinforcement or Affection.") All three of these behaviors are probably good types of interaction with children. It can be speculated that these 11 caregivers have not had any training or specific help in working with children on focusing on a task. Giving suggestions comes naturally and much emphasis has been put on giving positive reinforcement to children, but a possible training area for caregivers of toddlers could be on encouraging children to focus on a task.

The researcher attempted to compare the items in Category D using Friedman two-way analysis of variance. However, the frequencies of units of behavior in Items 9, 10, and 11 were too small to compare statistically. In view of this, Item 8 was selected as the only one with enough observances to rank, and Items 9 and 10 were eliminated in this study. Therefore, in testing the following hypotheses, Item 8 was used rather than Category D. White and Watts (1973) categorized Items 8, 9, 10, and 11 as "Restrictive" techniques. These

caregivers showed very different responses in Item 8 than they did in the other three, suggesting that perhaps Item 8 did not belong in the same category as Items 9, 10, and 11.

Category F had only two items in the group, therefore the Spearman rank correlation was used to see if there was any relationship between the two items. This test showed no significant relationship between Items 13 and 14. White and Watts (1973) categorized these two items as preparatory types of interaction, which they both seem to be; however, Item 13, "Providing Materials," was generally done by a caregiver who was preparing for a particular activity which was more educationally oriented. Changing a child's location seemed to have been done most by a caregiver who was focusing more on the physical care. A staff who provided materials did not need to then change a child's location as the child's own interest in the materials motivated the child to move. Some staff may be able to change a child's location by motivating children to do so on their own, while other staff members must overtly change the child's location. Since they were grouped together by White and Watts (1973), they have been lumped together for further analysis.

Categories B, E, and G each consisted of only one item. Therefore, no other analyses were made of these categories.

Hypothesis IIA. There is no relationship between each category of behavior on the Interaction Inventory and the average total number of toys available. Spearman rank correlation was used to test this hypothesis. Table I reveals there were no significant relationships between Categories A, B, C, D (Item 8), E, F, G, or H when each was

TABLE I

RELATIONSHIP BETWEEN INTERACTION INVENTORY AND THE ENVIRONMENT SCORES REFLECTED BY SPEARMAN RANK CORRELATION COEFFICIENTS (N = 11)

Interaction Inventory Categories	No. of Toys	Physical Env. Score	Exploring Score	Socializing Score	Cognitive Stimulation Score	Custodial Care Score
A. Teaching	-.49	.56[a]	-.05	-.07	.91[c]	.62[a]
B. Informing	-.32	.29	-.28	-.22	.51	.64[a]
C. Directive	-.44	.28	.44	-.16	.58[a]	.57[a]
D. Restrictive (Item 8)	-.42	.27	.11	-.37	.41	.40
E. Helping	.21	.17	-.23	-.42	.57[a]	.78[b]
F. Preparatory	-.19	.01	-.20	-.56[a]	.18	.68[a]
G. Observing	.04	.09	.11	.29	.36	.41
H. Focusing Elsewhere	.08	-.03	-.10	.73[b]	-.28	-.39

[a] $p < .05$

[b] $p < .01$

[c] $p < .001$

compared to the total average number of toys in each center. On the basis of this finding this hypothesis is held tenable.

Hypothesis IIB. There is no relationship between each category of behaviors on the Interaction Inventory and the Physical Environment Score. There was a significant relationship at the .05 level between Category A, "Teaching," and the Physical Environment Score (ρ=.56). Those centers who scored high on the Physical Environment Score also scored high on Category A. This indicates that for these 11 caregivers, those who used the greatest number of teaching types of interactions were also in a physical environment which was more interesting to look at. The caregivers who used the least amount of teaching types of interaction had a less interesting physical environment. These statements seem consistent with what one would expect. Those staff who are concerned with teaching the toddlers by verbal methods probably realize that interesting visual items are very important for this age child also. Several studies reported that one aspect of quality day care was much visually interesting material in the environment (White and Watts, 1973; Bloom, 1964; Keister, 1970). Therefore, caregivers who instruct the toddlers, provide explanations or reasons, and actively participate are also caregivers who provide an environment with more interest.

By using the Spearman rank correlation no significant relationships were found between Categories B, C, D (Item 8), E, F, G, and H and the Physical Environment Score. The ρ values of each is revealed in Table I.

Hypothesis IIC. There is no relationship between each category of behavior on the Interaction Inventory and the Exploring Score. Table I reveals that there is no significant relationship between Categories A, B, C, D (Item 8), E, F, G, and H and the Exploring Score. On the basis of this finding this hypothesis is held tenable.

Hypothesis IID. There is no relationship between each category of behavior on the Interaction Inventory and the Socializing Score. Category F, "Preparatory," is shown on Table I to be inversely related to the Socializing Score ($\rho = -.56, p < .05$). Those caregivers who were ranked high on "Preparatory" (Item 13), "Providing Materials," and Item 14, "Changing Locations," were ranked low on the Socializing Score. The researcher was not certain of a possible explanation of these findings and therefore did some further investigation. Items 13 and 14 did not show a relationship when tested by the Spearman rank correlation coefficient in Hypothesis I, but were lumped together for further analysis since White and Watts (1973) had done so. In view of this, both Items 13 and 14 were compared separately to the Socializing Score. The results of this showed that there was no relationship between Item 13 and the Socializing Score ($\rho = -.28$, n=11). There was also no relationship between Item 14 and the Socializing Score ($\rho = -.45$, n=11). On the basis of this finding the hypothesis is held tenable, as perhaps Items 13 and 14 should not be lumped together for analysis.

Table I reveals a positive relationship between the Socializing Score and Category H, "Focusing on a Task other than the Toddlers" ($\rho = .73, p < .01$). Those centers which provided toddlers with more

opportunities for interactions with a variety of adults and various age groups of children were the centers who seemed to score high on the Socializing Score. These were, in most cases, centers where mixed ages of children were being cared for by more than one staff member. This hypothesis shows ($p<.01$) that where there were more opportunities for these aforementioned socializing experiences, the caregivers being observed spent more time on activities unrelated to care for the toddlers. The caregiver may have done such things as answer the phone, talk to another adult, or interact with a child not of the toddler age. This relationship seems consistent with what one would expect to happen where children are being cared for in mixed ages and the caregiver has other responsibilities than just the toddler age child.

Table I reflects that there is no significant relationship between Categories A, B, C, D (Item 8), E, and G as each is compared to the Socializing Score. For each of these relationships, this hypothesis is held tenable.

Hypothesis IIE. There is no relationship between each category of behavior on the Interaction Inventory and the Cognitive-Stimulation Score. Table I reveals there is a relationship between Category A, "Teaching," and the Cognitive-Stimulation Score ($\rho = .91$, $p < .001$). Those caregivers who used teaching techniques of interaction rated high in providing activities which would stimulate cognitive development. This is very much in line with what one would expect, as a caregiver who is interested in teaching a child verbally would also be the type of person who would provide activities which would stimulate or

educate a child. Undoubtedly, teaching techniques would be a part of providing activities for cognitive stimulation, thus the strong relationship.

When Category C was compared to the Cognitive-Stimulation Score, a significant relationship was found at the .05 level (ρ=.58). The higher the caregiver rated on the "Directive Category" (giving suggestions, giving positive reinforcement or affection, and encouraging a child to focus on a task), the higher she rated on the Cognitive-Stimulation Score. The items in the "Directive Category" are shown by White and Watts (1973) to be interaction techniques used by mothers of competent children as are activities to stimulate cognitive development. Giving suggestions and encouragement are thought of as good types of interaction to use with toddlers and it seems only natural that the caregivers who use these interactions also provide activities to stimulate cognitive development.

When Category E was compared to the Cognitive-Stimulation Score, a significant relationship was found at the .05 level (ρ=.57). Those caregivers who rated high on Category E, "Help" also rated high on the Cognitive-Stimulation Score. Being helpful to the toddler as needed would be considered a valuable characteristic for a caregiver. These particular caregivers who were most helpful to the children also provided the most cognitive stimulation.

Therefore, the null hypothesis cannot be accepted for Categories A, C, and E. There is a positive relationship between the Cognitive-Stimulation Score and the category of "Teaching," the category of "Directives," and the category of "Help."

Table I reveals that there is no significant relationship between Categories B, D (Item 8), F, G, and H as each is compared to the Cognitive-Stimulation Score. For each of these relationships, the hypothesis is held tenable.

Hypothesis IIF. There is no relationship between each category of behavior on the Interaction Inventory and the Custodial Care Score. Category A, "Teaching," was found to be significantly associated ($\rho = .62$, $p < .05$) with the Custodial Care Score. When Category B, "Informing," was compared to the Custodial Care Score, the relationship was significant ($\rho = .64$, $p < .05$). Category C, "Directive," was found to be significantly associated ($\rho = .57$, $p < .05$) when compared to this same score. When Category E, "Helping," was compared to the Custodial Care Score, a significant relationship was found at the .01 level ($\rho=.78$). Category F, "Preparatory," showed a significant relationship with the Custodial Care Score at the .05 level ($\rho=.68$). Because Items 13 and 14 did not relate to each other, further analysis was done. Both Items 13 and 14 were compared to the Custodial Care Score and no relationship was found for Item 13 ($\rho=.44$). Item 14 was significantly related to the Custodial Care Score ($\rho = .64$, $p < .05$). In other words, those caregivers who rated high in custodial care activities also rated high on many of the interaction techniques, including teaching, informing by routine talk, giving suggestions and encouragement, helping or general assistance, and in changing a child's location. This result points out that day care centers are not of two types commonly thought of--those centers who give good custodial care and those centers who give good developmental

care. The results of this study suggest that good developmental care relates to good custodial care. Among the eleven centers observed a center providing a low level of developmental care also provided a low level of custodial care. The results further suggest that a caregiver who is interested in providing for the cognitive development of a child does not forget that the physical well-being of a child plays a part of the cognitive growth.

Table I reveals that there is no significant relationship between Categories D (Item 8), G, and H and the Custodial Care Score. The hypothesis is held tenable for these relationships.

Hypothesis III. There is no relationship among the categories of the Interaction Inventory. Table II indicates some relationships of some significance. The null hypothesis cannot be accepted for those relationships noted in Table II. Category A, "Teaching," is significantly related to Category B, "Informing" ($\rho = .60$, $p < .05$). Those caregivers who were high in the use of direct teaching, providing explanations or reasons, and who actively participated were the caregivers who rated high in general information giving and routine types of talk. Those caregivers who talk more to the children overall perhaps automatically impart some teaching interactions during their talking. These particular caregivers probably realize that verbalizing to toddlers plays an important part in their language development, thus the two interactions relate to each other.

Category A, "Teaching," is also significantly related to Category C, "Directive" ($\rho = .80$, $p < .01$), indicating that those caregivers who rated high in interacting by direct teaching, justification

TABLE II

RELATIONSHIP BETWEEN THE CATEGORIES OF THE INTERACTION INVENTORY USING SPEARMAN RANK CORRELATION COEFFICIENT (N = 11)

Categories	A	B	C	D (Item 8)	E	F	G	H
A. Teaching	--							
B. Informing	.60[a]	--						
C. Directive	.80[b]	.36	--					
D. Restrictive (Item 8)	.67[a]	.45	.78[b]	--				
E. Helping	.63[a]	.50	.52	.56[a]	--			
F. Preparatory	.11	.58[a]	.14	.20	.37	--		
G. Observing	.19	.37	.09	-.09	.08	-.05	--	
H. Focusing Elsewhere	-.36	-.13	-.46	-.27	-.36	-.26	.36	--

[a] $p < .05$

[b] $p < .01$

or statement of a rationale, and active participation were also rated high in the directive category of giving suggestions or commands, positive reinforcement or affection, and focusing on a task. This result is consistent with White and Watts (1973) report of behaviors of the most effective mothers. They wrote that these mothers use more teaching and facilitative techniques of interaction than less effective mothers. Categories A and C are both teaching and facilitative categories. The caregivers who are rated high in the use of these interactions are probably doing a more effective job as caregivers.

There is a positive relationship between Category A, "Teaching," and Category D (Item 8), "Restrictive" ($\rho = .67$, $\underline{p} < .05$). Those caregivers who scored high on the items of direct teaching, justification or statement of a rationale, and active participation were also the caregivers who rated high in Item 8, restriction or prohibition. This finding also is consistent with what White and Watts (1973) found in regards to mothers of competent children. These mothers were more likely to use restrictive techniques than were mothers of less competent children. The findings in this research suggest that perhaps Item 8 is more closely related to the techniques dealing with teaching, informing, and directions, rather than Category D, where it was placed by White and Watts (1973). The current research has shown that Item 8 "Restriction or Prohibition," does relate positively to "Teaching," but does not relate to Items 9, 10, and 11 on the Interaction Inventory.

There is a positive relationship between Category A, "Teaching," and Category E, "Help" ($\rho = .63$, $\underline{p} < .05$). Those centers in which the caregiver rated high in teaching techniques of interaction were also high in the category of helping or providing a service or assistance.

This finding seems consistent with what one would expect, as the type of person who would be interested in teaching toddlers would probably be a helpful person. The study did not include different categories for giving help when needed and one for giving help when not needed. The researcher would speculate that these caregivers who rated high in teaching techniques would be the caregivers who would rate high in giving help when needed.

To summarize Category A, "Teaching," it seems that those caregivers who used the most units of teaching behaviors were the same caregivers who used the most units of general information giving, suggestions or commands, positive reinforcement or affection, restriction or prohibition, and helping. The only categories which these caregivers did not also show high scores were "Preparatory," "Observing," or "Focusing on a Task other than Toddler Care." This finding suggests these are the caregivers who are the "doers" in all areas of activity. The question of relation of energy level to behavior might also be raised. There are caregivers who have a high energy level and those who have low energy levels. White and Watts (1973) stated that the most effective mothers in their study had high energy levels.

Category B, "Informing," is significantly related to Category F, "Preparatory" ($\rho = .58$, $\underline{p} < .05$). Because Items 13 and 14 were not significantly related to each other, the researcher also compared each item individually to Category B. The results from using Spearman rank correlation did not support the initial hypothesis. Item 13 was not significantly related to Category B ($\rho=.532$). Item 14 was also not significantly related to Category B ($\rho=.50$). On the basis

of these findings, the hypotheses of no difference relationship is held tenable.

Table II reveals that Category C, "Directive," is significantly related to Category D (Item 8), "Restrictive" ($\rho = .78$, $p < .01$). Those caregivers who gave suggestions or commands, positive reinforcement or affection, and encouraged focusing on a task were also the caregivers who used restrictive or prohibitive techniques of interaction. Here again is support of the idea that Item 8 does not belong grouped with Items 9, 10, and 11, as done by White and Watts (1973) in their Interaction Inventory. Item 9, "Negative Reinforcement or Hostility," Item 10, "Distraction or Ignoring," and Item 11, "Refusal to Help or Comply," are perhaps more negative in nature and should not be categorized with Item 8. Setting restrictions or prohibiting children has been related with more positive techniques of interaction and may be a desirable technique for a caregiver of a toddler age child.

Table II reflects that Category D (Item 8), "Restriction," relates to Category E, "Help," at the .05 level of significance ($\rho=.56$). Those caregivers who used the most restriction and prohibition in handling the toddlers were also the caregivers who rated high in helping the toddlers. This is more evidence to support the proposition that using restrictive techniques which are not hostile in nature is related to helping toddlers. Those caregivers who are not afraid to say "no" to a child are the same caregivers who are helpful to the children.

To summarize Item 8, "Restriction or Prohibition," it can be seen that this item relates to other interaction techniques which are

positive in nature. A staff who rated high in the use of restrictive or prohibitive techniques of interaction also rated high in the interactions of teaching, justification or statement of a rationale, active participation, suggestion or command, positive reinforcement or affection, and providing service or assistance.

For all other relationships among the categories of the Interaction Inventory there were no others of any significance. Table II reflects these results.

Examination of Profile

Table III indicates the percentages of the units of behavior observed on each item of the Interaction Inventory. Each caregiver observed in the study can be assessed by looking at the profile to see how her interactions were divided among the items. Such a profile would be a helpful tool in evaluating staff as far as the types of interactions he or she uses with children. One can definitely tell which caregivers would be desirable for care of young children by looking at the profile. A tool such as this would probably be very helpful for directors of centers, day care licensing workers, or any person involved in observing persons caring for young children.

TABLE III

PROFILES BASED ON PERCENTAGES OF THE UNITS OF BEHAVIOR ON INTERACTION INVENTORY

Items on Interaction Inventory	DAY CARE CENTERS										
	A_m %	B_m %	C_m %	D_s %	E_s %	F_m %	G_m %	H_s %	I_s %	J_s %	K_s %
1. Didactic Teaching	0	0	0	0	0	4	2	3	2	11	8
2. Justification or Statement of a Rationale	0	2	0	2	0	2	0	0	3	4	5
3. Active Participation	0	2	0	2	0	2	5	9	10	7	16
4. General Information Giving	0	10	8	10	8	13	7	5	1	9	8
5. Suggestion or Command	25	18	0	13	8	13	15	29	35	31	18
6. Positive Reinforcement or Affection	11	13	0	5	0	4	4	5	16	14	7
7. Focusing on a Task	0	0	0	0	0	0	0	0	2	0	0
8. Restriction or Prohibition	5	10	0	18	5	2	7	5	14	6	13
9. Negative Reinforcement or Hostility	0	0	0	0	3	0	0	0	0	0	0
10. Distraction or Ignoring	2	0	0	0	0	0	2	0	0	0	0
11. Refusal to Help or Comply	0	0	0	0	0	0	0	0	0	0	2
12. Providing Service or Assistance	7	7	8	6	16	6	11	9	5	7	6

TABLE III (Continued)

Items on Interaction Inventory	DAY CARE CENTERS										
	A_m %	B_m %	C_m %	D_s %	E_s %	F_m %	G_m %	H_s %	I_s %	J_s %	K_s %
13. Providing Materials	7	7	0	2	3	9	2	2	2	1	5
14. Changing Location	2	8	0	6	34	4	0	5	1	2	4
15. Observing or Interpreting	16	8	15	6	0	15	16	7	0	5	4
16. Focuses on a Task other than Toddler Care	25	15	69	30	23	26	29	21	9	3	4

m - Indicates centers in which toddlers were mixed with older children.

s - Indicates centers in which toddlers were separated from other age groups.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

There were several purposes of this study. First, an instrument was developed to use in observing caregivers of toddler age children in day care and their physical environment in the day care center. This instrument was used to see if any relationships existed between the caregiver's interaction with the toddlers under her care and the physical environment for that group of children. This same instrument was used to see if any particular types of caregiver interaction related significantly with each other. From the available data, a profile was made for each center-caregiver showing the percentages of observed units of each behavior on the Interaction Inventory.

The subjects for this study were 11 caregivers of toddler age children who were enrolled in day care centers in Wagoner and Tulsa Counties. Observer reliability was established and then the caregivers were observed in actual caregiving situations. Results were analyzed using Spearman rank-order correlations and Friedman analysis of variance, and the major findings were that those caregivers who used the most teaching interactions with the toddlers were also the caregivers who used the most routine talk with children, gave the most suggestions, positive reinforcement or affection, were the most verbally

restrictive and the most helpful. The caregivers who scored the highest on the Custodial Care Score were the caregivers who used the most units of interaction in the areas of teaching, providing explanations or reasons, active participation, routine talk, giving suggestions, positive reinforcement or affection, helping, and changing a child's location. The item of "Restriction or Prohibition" was related to the items of teaching, providing explanations or reasons, active participation, giving suggestions and positive reinforcement, and helping.

Conclusions

1. Those caregivers who rated high on teaching techniques on the Interaction Inventory were also high on the interest level of the environment.

2. Those centers which rated high on the Socializing Score (involved a greater number of experiences with various age groups of children and various adults) had caregivers who were also high on the item of "Focusing on a Task other than Toddler Care" on the Interaction Inventory.

3. If a caregiver rated high on the Cognitive-Stimulation Score, she also rated high on the Interaction Inventory in the following Categories: (a) "Teaching," (b) "Directive," (c) "Help."

4. If a caregiver rated high on the Custodial Care Score, she also rated high on the Interaction Inventory in the following Categories: (a) "Teaching," (b) "Informing," (c) "Directive," (d) "Help."

5. Those caregivers who rated high on the Teaching Category of the Interaction Techniques were also high on the following categories

of this same instrument: (a) "Informing," (b) "Directive," (c) "Restrictive," Item 8 only, (d) "Help."

6. Those caregivers who rated high on the Directive Category of the Interaction Techniques were also high on the following categories of this same instrument: (a) "Teaching," (b) "Restrictive," Item 8 only.

7. If a caregiver rated high on Item 8, "Restrictive," on the Interaction Inventory she also rated high on the following categories of this same instrument: (a) "Teaching," (b) "Directive," (c) "Help."

Recommendations for Further Research

This investigator makes the following recommendations:

1. Conduct this or similar study on a larger sample of center caregivers. Very little research has been done in the actual day care setting.

2. If the same study is repeated, the investigator suggests that some changes be made on the Physical Environment Inventory. There were some areas, such as the number of toys and the exploring scores which showed no relationship to the Interaction Inventory. Perhaps some more meaningful items could be tested in relationship to the Interaction Inventory or the items on the instrument could be changed to be more meaningful. Instead of listing the number of toys on each visit, the researcher might analyze the differences in toys from each observation to see if they ever change, or if they are the same day after day. A change might be made in the exploring score from simply how restrained a child is, to also include cupboards, boxes, new toys, or the outside which might be available for exploration.

3. Enlarge the study to test for more items of significance to the life of a toddler. Some possible suggestions to include in a future study are tests for the amount of encouragement used by a caregiver, if a child's own natural curiosity is stifled or encouraged by a caregiver, and if a child's environment is ever changed or does it remain the same day after day.

4. This study did not include any controls for the situations where care was being given in mixed ages by more than one caregiver. The researcher feels this study did not provide a complete accurate picture where two caregivers were caring for children in mixed ages, as sometimes the caregiver being observed attended to the older children while the other caregiver cared for the toddlers.

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APPENDIXES

APPENDIX A

INSTRUMENT USED IN OBSERVATIONS

Name of Center_____ # of Toddlers _____

Caregiver_____ # of Other Children _____

# of Total Staff in Area _____

Interaction Inventory

Item	3 Min.	3 Min.	3 Min.	3 Min.
1. Didactic Teaching				
2. Justification or Statement of Rationale				
3. Active Participation				
4. General Information Giving				
5. Suggestion or Command				
6. Positive Reinforcement or Affection				
7. Focusing on a Task				
8. Restriction or Prohibition				
9. Negative Reinforcement or Hostility				
10. Distraction or Ignoring				
11. Refusal to Help or Comply				
12. Providing Service or Assistance				
13. Providing Materials				
14. Changing Locations				
15. Observing or Interpreting				
16. Focuses on a Task other than Toddler Care				

Equipment: List inside toys available to the toddlers.

Number	Type

Physical Environment
(Interesting Things to Look At)

	YES	NO
Colorful pictures, posters on walls, changed frequently, at child's eye level		
Mobiles		
Low windows		
Mirrors, low and large		
Variety of colors in center: (walls, floors, curtains, furniture)		
Aquarium		
Plants (out of children's reach)		
Books		
Real Animals		
Large pillows, cushions, bean bag chairs, or overstuffed furniture, in good condition		

Situations Available to the Children

Exploring Score	Check if Observed
Play on floor	
In walker	
Play in another room or area	
Choice of play areas	
Socializing Score	
Participate with another group of children	
Older children participate with toddlers	
Volunteer (or other adult) participates with toddlers	
Helper to staff	
Cognitive Stimulation	
Story time, finger plays, etc.	
Music activities	
Art activities	
Dramatic play	
Science activities	
Field trip, walk	
T.V. viewing - Special children's programs	
Custodial Care Situations	
Snack	
Diaper change, bathrooming	
Dressing	
Clean-up, washing faces, hands	
Combing hair	
Nose wiping	
T.V. viewing - Not special children's programs	

APPENDIX B

GENERAL DEFINITIONS AND OBSERVED EXAMPLES OF EACH INTERACTION TECHNIQUE

Didactic Teaching - Instructing the child by labeling, reading, explaining, demonstrating, giving specific knowledge, or assessing what the child knows.
Example: Caregiver showed child how to hold magic marker for drawing.

Justification or Statement of a Rationale - Provides explanation or reason to the child.
Example: "Cover your mouth when you sneeze so you will not spread germs to the other children."

Active Participation - Engages actively in behavior with the child, such as joining in play or roughhousing.
Example: While music was playing, the caregiver marched to the rhythm with the children. Part of the time she carried a toddler and danced.

General Information Giving - Informs the child about routine matters.
Example: While the children were coloring at tables, the caregiver spoke to them about their pictures. She said, "Yes, you may take it home to your mother. We'll put it in your box so you can take it home."

Suggestion or Command - Directs the child to a certain task or behavior by requesting, urging, begging, or commanding.
Example: Caregiver asked children if they wanted to color.

Positive Reinforcement or Affection - Promotes a child's endeavors in a task or behavior, or shows his affection and liking for a child.
Example: Child built a high tower with blocks and the caregiver said, "WOW! Look at your high tower. Good for you!"

Focusing on a Task - Concentrates the child's attention on an ongoing task.
Example: Some children were dancing and marching to music. Caregiver said, "Listen to the music and march. Now listen."

Restriction or Prohibition - Verbally prohibits or restricts the child by stating or implying "no's" and "don'ts."
Example: One child took a toy away from another child. Caregiver said, "No, Jeff, you cannot take his toys. Give it back to him."

Negative Reinforcement or Hostility - Forcefully restrains child or expresses hostility or aggression to child.
Example: One child pushed another child. Caregiver said, "No! Don't push." She then grabbed the child who pushed and shoved her into a flour drum (hole cut in side) and then briskly turned the hole to the wall.

Distraction or Ignoring - Tries to get a child to focus on a different activity or deliberately ignores the child.
Example: Child wanted to be held but the caregiver was too busy. She said, "Wouldn't you like to rock in the boat with the others? Let's try that." She helped the child in the rocking boat with some other toddlers.

Refusal to Help or Comply - Either does not help or postpones help at the time wanted by a toddler.
Example: Child held up her arms to the caregiver, wanting to be picked up. Caregiver said, "No, I can't hold you now."

Providing Service or Assistance - Helps child or performs a service.
Example: Caregiver changed diaper of a toddler.

Providing Materials - Sets up activities or provides materials for such.
Example: Caregiver provided paper and magic markers for toddlers.

Changing Location - Changes child's location by suggesting, carrying, or leading him.
Example: Caregiver observed child with a dirty diaper. She picked child up and carried him to changing table for diaper change.

Observing or Interpreting - Observes child or interprets what child wants or how he feels.
Example: Caregiver observed child while she got a blanket and laid down on the floor. She said, "You are sleepy. Let's find a bed for you to sleep in."

Focuses on a Task other than Toddler Care - Does an activity unrelated to child care of toddlers. She could be helping an older or younger child.
Example: Caregiver received a telephone call and left the area to talk.

VITA

Judith Marie Daniel

Candidate for the Degree of

Master of Science

Thesis: DAY CARE FOR TODDLERS: STUDY OF STAFF INTERACTION WITH THE TODDLER AGE AND THE DAY CARE ENVIRONMENT

Major Field: Family Relations and Child Development

Biographical:

Personal Data: Born in Monroe City, Michigan, December 6, 1946, the daughter of Mr. and Mrs. S. S. Brown; married to David Daniel, January 29, 1971.

Education: Graduated from Greenville High School, Greenville, Illinois, in May, 1965; attended Illinois State University; received Bachelor of Science degree in Home Economics Education from the University of Illinois in 1969; completed requirements for the Master of Science degree at Oklahoma State University in December, 1977.

Professional Experience: Teacher, Waikahala Pre-School and Kindergarten, Honolulu, Hawaii, 1970-72; Licensing Service Worker, Department of Institutions, Social, and Rehabilitative Services, Tulsa, Oklahoma, 1973-77.

Professional Organizations: Southern Association on Children Under Six; Oklahoma Association on Children Under Six, Tulsa Area Association on Children Under Six; Friends of Day Care; Day Care and Child Development Council of America.