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I am submitting herewith a dissertation written by Sandra Leigh Lookabaugh entitled "Children's Arrival Time Behaviors at Child Care." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Human Ecology.

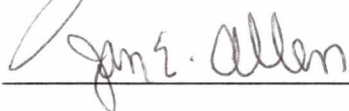


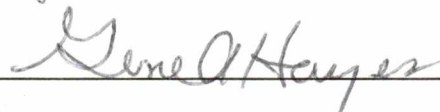
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We have read this dissertation
and recommend its acceptance:









Accepted for Council:



Associate Vice Chancellor
and Dean of the Graduate School

CHILDREN'S ARRIVAL TIME BEHAVIORS
AT CHILD CARE

A Dissertation
Presented for the
Doctor of Philosophy Degree
The University of Tennessee, Knoxville

Sandra Leigh Lookabaugh

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Appreciation is expressed to the children, their parents and the teachers who participated in the study. It is very exciting for the participants to be as enthusiastic as the researcher. A big thank you goes to Tamara Lane and Jamie Pryor for their assistance in data collection -- 6:00 does come very early!

And finally, a very special thank you to my parents and Pete. I have held onto the words " you can be anything you want to be and do anything you want to do". I have now completed one of those dreams and I am counting on your love and support for all the ones to come!

ABSTRACT

The purpose of this study was to investigate the nature of differences in: (1) children's separation behaviors and to whom/what these behaviors were directed upon arrival at child care; and (2) length of transition time into the classroom between three groups of children (classified by their type of attachment to inanimate transitional objects). The sample consisted of 105 children 18-36 months of age enrolled in 11 child care centers. Data were collected using direct observation, parent questionnaires, and teacher questionnaires. Results indicated that there were no statistically significant differences between the three groups in length of time needed to transition into the classroom environment, but children who are attached to inanimate transitional objects and use the objects at arrival time engaged in more touching behaviors than the other two groups. The results are discussed with regard to the ritualistic behaviors associated with the transitional phenomena.

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1. INTRODUCTION

In 1987 5.3 million children under the age of 5 years were cared for in out-of-the home, non-relative care (family day or child care centers) (Hofferth, 1989). For many of these young children, daily separations from parents to child care centers are potentially stressful. Children exhibit a variety of behaviors and employ various coping strategies when transitioning from their home to classroom environment. This study provides information as to the nature of this transition and how some children's use of inanimate transitional objects may facilitate this process by making it a less stressful daily occurrence. The purpose of this study was to investigate the nature of differences in (1) separation behaviors and the target(s) of these behaviors upon arrival at child care and (2) length of time to transition into the classroom environment among children who are attached to an inanimate transitional object(s) and use the object(s) at arrival time, children who are attached to an inanimate transitional object but do not use the object(s) at arrival time, and children who are not attached to an inanimate transitional object.

2. REVIEW OF LITERATURE

Theoretical Understanding of Attachment and Transitional Objects

An understanding of children's use of inanimate transitional objects can be found by investigating the origins of mother-infant attachment. John Bowlby (1958) attempted to understand the origins, function and development of humans' early social interaction, and particularly attachment by integrating several perspectives within the biological and social sciences. Bowlby (1969) drew from primate studies (Harlow & Zimmerman, 1959) and maternal deprivation studies (Tizard & Tizard, 1972; Rutter, 1972) to conclude that there is an innate, biologically-based need for social interaction among human infants and that this need for interactions becomes increasingly focused toward a specific figure(s). This need is most often satisfied by physical contact with the individual, and an infant's disposition to become attached is an independent system built into primate biology to ensure survival (Bowlby, 1969).

It appears that many of the same biologically and evolutionary-based behaviors of clinging, sucking, crying, smiling and following may be exhibited not only toward the primary attachment figure, but substitute(s) as well (Bowlby, 1969). These behaviors can be directed toward soft

objects like blankets and cuddly objects like teddy bears in much the same way that they are directed and redirected toward the "natural" object (Bowlby, 1969, p.312).

Similarly, attachment theorists are in agreement that a child must have first formed an attachment with a person(s) prior to forming an attachment to an inanimate object.

Bowlby (1969) and Ainsworth, Blehar, Waters and Wall (1978) proposed that children require a secure attachment to mother-figure before they can establish a substitute for her, and Winnicott (1953) postulated that indeed a child must have a "good enough" mother before an attachment to a transitional object develops.

Donald Winnicott (1953) combined the psychoanalytic work of Freud, Klein and Fairbairn in an attempt to systematically describe the transitional objects, thereby giving them scientific legitimacy. Winnicott (1953) stated that every individual, as a unit, is composed of not only an internal and external reality, but a third part as well. He called this third part an intermediate area of experiencing to which inner and outer reality contribute. This intermediate state is one between an infant's inability and growing ability to recognize and accept reality -- it is the substance of illusion, an illusion that what the child creates really exists (Winnicott, 1953; Roiphe, 1979). Winnicott (1953) introduced the term transitional phenomena to designate this intermediate area of experiencing. The

transitional phenomena can be illustrated by the babbling of an infant or the way an older child goes over a repertory of songs when going to sleep or by the use of objects that are not part of the infant's body yet are not fully recognized as belonging to external reality (Winnicott, 1953). Out of the transitional phenomena emerges the notion of transitional objects -- a process during which the infant begins to "weave other-than-me objects into their person pattern" (Winnicott, 1953, p.90).

The transitional object relates to the intermediate area of experiencing in which a bond between the infant and mother is preserved in the mother's absence "by the intervention of the inanimate transitional object which can be, on the one hand, a fusion of the aspects of the mother and on the other hand, be a separate inanimate object in its own right" (Grotstein, 1982, p. 52). A transitional object may be the corner of a blanket, a teddy bear, a word, a mannerism or the like and becomes very important when going to sleep, as a defense against anxiety or stress, and in times of loneliness (Winnicott, 1953). The transitional object helps the child in the process of becoming able to accept difference and similarity, to distinguish between fantasy and fact, and between inner and external objects (Winnicott, 1953). The transitional object comes to stand for the live, real, good-enough mother -- one who makes active adaptation to the infant's needs. In many ways it

represents the ideal caregiver, one that is omnipresent and always accessible (Winnicott, 1953).

The literature presents two ways of examining children's use of inanimate transitional objects -- as a substitute for the primary caregiver(s) (Winnicott, 1953; Bowlby, 1969; Ainsworth et al., 1978), as well as serving compensatory functions such as reducing anxiety, soothing in the face of distress, promoting exploration and play, and facilitating separation from parents (Passman & Weisberg, 1975; Halonen & Passman, 1978; Boniface & Graham, 1979; Mahalski, 1983; Van Ijzendoorn, Goossens, Tavecchio, Vergeer & Hubbard, 1983). While there is some empirical support for the compensatory functions of inanimate transitional object (Passman & Weisberg, 1975; Halonen & Passman, 1978; Boniface & Graham, 1979; Mahalski, 1983), there appears to be no conclusive empirical support for the inanimate transitional object serving as a substitute for the primary caregiver(s). Boniface and Graham (1979) provided empirical evidence of inanimate transitional objects serving compensatory functions but were only able to hypothesize that these objects served as substitutes for the primary caregiver(s).

Empirical Studies: Development of Inanimate Attachments

Empirical studies examining children's use of transitional objects did not emerge until the 1970's and it

was Busch, Nagera, McKnight and Pezzarossi (1973) who operationally defined transitional object attachment, thus paving the way for empirical investigation. In a large-scale survey of mothers of 690 infants and children between 1.5 and 63 months of age, Passman and Halonen (1979) found that blanket attachment is rare before 12 months of age. Soon after, the intensity of blanket attachment, as measured by a 10-point behaviorally validated scale developed by Weisberg and Russell (1971), was found to increase rapidly until 18-24 months and then remains stable until 36 months and gradually subside after 48 months of age. It appears that children are infrequently attached to multiple objects but it is not uncommon for children to suck their thumb or fingers while holding their transitional object (Litt, 1986). In a year long study of 160 mothers (mean age of children, 18.9 months), children rated as having a strong attachment to a blanket object were more likely to suck a finger, thumb or part of their hand than children rated as having a strong attachment to soft toys (Mahalski, 1983). Thus, the period between 18 and 36 months appears to represent the developmental period when attachments to transitional objects are most intense.

Inanimate Transitional Objects and Stressful Situations

Van Ijzendoorn et al. (1983) surveyed 140 mothers of Dutch children, whose mean age was 26 months, and questioned

them about their children's attachment to objects and thumb-sucking. The findings suggest that, indeed, both attachment objects and thumb-sucking appear to have soothing properties in stressful situations. A limitation of this study is reflected in the fact that higher SES groups were overrepresented in the study. In addition to their soothing properties, transitional objects are assumed to serve many of the same functions as the primary attachment figure, such as to reduce anxiety, promote exploration and play, and facilitate separations (Bowlby, 1969). In an experimental laboratory setting using blanket-attached and blanket non-attached children, Passman and Weisberg (1975) examined the play and exploration behaviors and anxiety-reducing functions of blankets for 64 white children between 24-39 months of age whose parents were associated with a large university in the southeast. The findings revealed that among 4 groups of children, blanket-attached children with blankets present showed no distress and explored and played (a) as much as children with their mother present, (b) more than blanket non-attached children in situations when blankets were available, and (c) more than all children in situations where their favorite toy or no object was available. This study empirically supports the theoretical proposition that transitional objects serve many of the same functions as the primary attachment figure, that is, compensatory functions.

Inanimate Transitional Objects and Separation

Using questionnaires and semi-structured interviews with 702 mothers of 3 year old children from an outer London borough, Boniface and Graham (1979) found that children's transitional objects often facilitate a smooth separation experience at bedtime and in other routine aspects of the child's life. The researchers suggested that in many ways the transitional object serves a "substitute mother" function, however their data clearly supports only the premise that inanimate transitional objects serve compensatory functions. King and Perrin (1987) examined one such routine separation for young children -- daily separations from parents to child care centers. Observations of arrival time and separation behaviors of 20 children ages 24-36 months enrolled in full-time child care programs were made on 15 consecutive days. The findings of the study were only reported using percentages, thus leaving details and specifics unanswered. Nonetheless, the subjects displayed a variety of separations patterns such as using classroom materials to transition into the child care environment and seeking solitude. In 36% of the separations, children used attachment objects such as blankets, stuffed animals and dolls to make the transition from parent to child care classroom. Using 130 children ages 1.5 to 4 years enrolled in eight municipal day nurseries in Helsinki, Lahikainen and Sundquist (1979)

surveyed parents and teachers about the children's separation behaviors to day nursery. Results indicated that crying, clinging to parent, and following the parent around the room were common resistant reactions at separation time. Upon separation from parents, trying to get into a nurse's lap and seeking proximity to a nurse were common.

These studies all lend support to the purpose of the present project: to explore the nature of differences in separations behaviors upon arrival to child care centers between children who are attached to inanimate transitional objects and those who are not attached to such objects. The source of information for several of the previously mentioned studies was parent/teacher surveys and interviews. Although parents and teachers are a valuable source of information, questionnaires and interviews actually tap parental/teacher perceptions; and the few observational research studies focused on experimental settings and manipulated variables rather than naturalistic observations. The present research addressed these limitations by combining naturalistic observations with both teacher and parent questionnaires and by extending the observations of children ages 18-36 months as they go through the process of separation from parents and transition into the classroom environment.

In this study, it was hypothesized that children who are attached to a inanimate transitional object would

transition into the classroom environment more quickly than children who are not attached to an inanimate transitional object(s). It was also hypothesized that there would be significant differences in separation behaviors and the target(s) of these behaviors between children who are attached and those who are not attached to an inanimate object(s). Children who are attached to an inanimate transitional object(s) were expected to direct their attachment behaviors toward their object while children not attached to an inanimate object were expected to focus their attachment behaviors toward teachers and peers.

3. METHOD

Sample

The sample consisted of 105 children (65 males and 40 females) between 18 and 36 months of age (mean age 29 months; SD, 5.40), their parents and 41 teachers. The children were enrolled in full-time child care, five days a week and a minimum of six hours a day, at one of 11 child care centers in a southeastern city and surrounding suburbs. The participating child care centers included two university laboratory schools, two church-affiliated centers and seven non-profit centers. Only those child care centers that allowed children free access to their object(s) during the day were considered for participation in the study. No center that was approached to participate in the study reported that children were not allowed free access to their object any time during the day. Ninety percent of the children participating in the study were white and the remaining 10% percent were black, Hispanic or of Asian descent.

Based on information obtained from parent questionnaires, children were divided into groups depending upon their attachment to inanimate transitional object. To be classified as being attached to an inanimate transitional object, a parental rating of 5 or higher on a scale of 1 (no attachment) to 10 (extremely strong attachment) was necessary (Weisberg & Russell, 1971). Seventy children were

classified by their parents as being attached to an inanimate transitional object(s) and 35 were classified as not being attached to an inanimate transitional object. Among the children classified as being attached to a special object(s), 25 used their object(s) at arrival time at child care and the remaining 45 did not. All statistical analyses performed were based on three groups: those children classified as being attached to an inanimate transitional object(s) and using the object(s) at arrival time, those children classified as being attached to an inanimate transitional object but not using the object(s) at arrival time, and those children classified as not being attached to any object.

Procedure

Parental permission for children to participate in the study was obtained prior to observations of children's arrival time behaviors. Parents also completed a brief questionnaire describing any attachments their child may have had to an inanimate transitional object(s) (referred to as attachments objects in parents questionnaires) and qualitative information surrounding the nature of the object(s) and general separation behaviors upon arrival at their child care center. Teachers at participating child care centers also were asked to sign letters of informed consent as they were included in observational data when

children chose to interact with them. In addition, teachers completed a questionnaire similar to the parent questionnaire describing any attachment a child may have with an inanimate transitional object(s), the use of these attachment objects in the child care environment, and general information about each child's typical separation behaviors upon arrival at the child care center.

Direct observations of children were conducted in the classroom by one of three trained observers who used a running record of all behaviors in continuous one minute time intervals (Appendix A). The observations began when the target child separated from the parent(s) and the parent(s) was no longer within the child's sight. The observation continued until the target child met one of the following criteria: (a) child was alone, with peers, with a teacher, or with peers and a teacher for two consecutive minutes (indicating that he/she has transitioned into the classroom environment); or (b) a total of 30 minutes of observation was recorded. The target child was considered to have successfully transitioned into the classroom environment when he/she had engaged in an activity alone, with peers and/or a teacher without sustained physical contact with the teacher during those two consecutive minutes. Observations ended when the target child had engaged in an activity for two consecutive minutes or the total duration of the observation was 30 minutes, whichever

occurred first. The range for duration of observation was 2-17 minutes, with a mean of 4 minutes.

Following each observation session, observers coded all behaviors that occurred during the observation along with the total duration of the observation. All predetermined behavior classifications, except for seeking solitude, were considered to be part of a larger set of behaviors referred to as "patterns of attachment " which include sucking, clinging/touching, following/proximity-seeking, crying and smiling (Bowlby, 1958) and included in the behavioral rating system in the "Strange Situation" (Ainsworth, et al., 1978). This repertoire of behaviors help humans attain and maintain proximity and contact with significant caregivers (Bowlby, 1958). It has been suggested that these patterns of behaviors are more stable across situations and time rather than individual behaviors and targets of these behaviors (Ainsworth, 1982). The original 58 behavior classifications (Appendix B) were then collapsed into the following categories for data analyses: (1) crying/ vocalizing behaviors directed toward teachers, peers, object, or no one in particular (CT, CP, CO, CN); (2) touching behaviors directed toward teachers, peers or objects (TT, TP, TO); (3) hand motions directed toward teachers or peers (HT, HP); (4) interactive behaviors with teachers, peers, objects or behaviors prior to play (IT, IP, IO, IN); (5) proximity-seeking behaviors directed toward teachers, peers, or

objects (PT, PP, PO); (6) seeking solitude (SO). In addition to the above categories, four additional classifications were added to the list of behaviors: eating breakfast (ET), sucking (SK), sleeping (SL), and watching television (TV).

All behavior classifications were then collapsed into the following categories and used in data analysis: crying/vocalizing behaviors (R), touching behaviors (T), hand motions (H), interactive behaviors (Z), proximity-seeking behaviors (P), eating (E), seeking solitude (S), sucking behaviors (K), sleeping (L), and watching television (V), behaviors directed toward teachers (Teacher), behaviors directed toward peers (Peer), behaviors directed toward objects (Object), and behaviors not directed toward a teacher, peer or object (Non).

The percent of interobserver agreement among 3 observers ranged from 90-100% with a mean of 97%.

4. RESULTS

Of the list of 25 possible behavioral categories, eight behaviors did not occur in any of the observations and were excluded from Table 1. Means and standard deviations for all observed variables of the total sample are reported in Table 1. Means and standard deviations for all observed variables for each of the three groups are reported in Table 2.

Analysis of variance was used to examine differences in the length of time needed to transition into the classroom environment among those children who are: (a) attached to an inanimate transitional object(s) and use the object(s) at arrival time, (b) those children who attached to an inanimate transitional object(s) but do not use the object(s) at arrival time, and (c) those children who are not attached to an inanimate transitional object. No significant differences were found among the three groups $F(2, 102) = .74, n.s.$

Multivariate analysis of variance was conducted using the General Linear Model procedure (SAS, 1989) to examine differences in behaviors upon arrival to child care among the three groups of children. Test statistics for the MANOVA reported are Rao's approximate F , which was used to convert Wilk's Lambda to F statistics. Tukey's multiple comparison test was performed to determine which differences

Table 1. Means and Standard Deviations for Total Group

Variable	Mean	Standard Deviation
CT	0.20	0.03
CN	0.01	0.10
TT	1.23	1.53
TO	0.58	1.65
HT	0.05	0.21
IT	1.86	2.11
IP	1.82	1.32
IO	0.05	0.40
IN	1.37	1.15
PT	0.79	1.64
PP	0.14	0.45
PO	0.08	0.35
ET	0.74	1.39
SO	0.03	0.22
SK	0.22	0.82
SL	0.05	0.49
TV	0.06	0.36
R	0.21	0.83
T	1.81	2.45
H	0.05	0.21
Z	5.10	3.22
P	1.01	1.71
E	0.74	1.39
O	0.03	0.22
K	0.22	0.82
L	0.05	0.49
V	0.06	0.36
Teacher	4.12	4.75
Peer	1.96	1.37
Object	0.70	1.81
Non	1.38	1.14

Table 2. Means and Standard Deviations of Behaviors and Targets for Attached and Unattached Groups

Behavior/Target	Attached w/object (N=25)	Attached w/o object (N=45)	Unattached (N=35)	Attached with or w/o object (N=70)	Total Group (N=105)
(1) Touching Teacher(s)	1.24 (1.42)	1.33 (1.71)	1.08 (1.38)	1.30 (1.60)	1.22 (1.53)
(2) Touching Object(s)	2.44 (2.05)	----	----	0.87 (1.95)	0.58 (1.64)
(3) Interactive w/Teacher(s)	2.04 (1.81)	2.04 (2.46)	1.48 (1.80)	2.04 (2.24)	1.86 (2.11)
(4) Interactive w/Peer(s)	1.64 (1.22)	1.98 (1.13)	1.74 (1.59)	1.86 (1.17)	1.81 (1.32)
(5) Onlooker Play Prior to Interaction/ Solitary Play	1.24 (1.01)	1.35 (1.27)	1.48 (1.12)	1.31 (1.16)	1.37 (1.14)
(6) Touching Behaviors	3.68 (3.61)	1.33 (1.71)	1.08 (1.37)	2.17 (2.77)	1.80 (2.44)
(7) Interactive Behaviors	5.12 (2.65)	5.38 (3.00)	4.71 (3.25)	5.28 (3.20)	5.09 (3.21)
(8) Proximity-Seeking Behavior	1.24 (1.61)	1.17 (2.11)	0.63 (1.05)	1.20 (1.94)	1.01 (1.71)
(9) Target:Teacher	4.28 (3.45)	4.60 (5.89)	3.40 (3.84)	4.48 (5.13)	4.12 (4.74)
(10) Target:Peer	1.76 (1.26)	2.11 (1.24)	1.91 (1.59)	1.98 (1.25)	1.96 (1.37)
(11) Target:Object	2.96 (2.70)	----	----	1.06 (2.13)	0.70 (1.81)
(12) Target:N/A (Solitary/ Onlooker Play)	1.24 (1.01)	1.37 (1.23)	1.48 (1.12)	1.33 (1.15)	1.38 (1.14)

between the various classifications of means were statistically significant.

A MANOVA was computed to evaluate the differences for touching, proximity-seeking and interactive behaviors between the three groups of children: (a) attached to an inanimate transitional object(s) and use the object(s) at arrival time, (b) children who are attached to an inanimate transitional object(s) but do not use the object(s) at arrival time, and (c) children who are not attached to an inanimate transitional object. A significant transitional object effect was found for these three behaviors, $F(6, 200) = 5.03$, $p < .0001$.

Corresponding univariate analysis showed a significant transitional object effect on touching behaviors, $F(2, 102) = 11.64$, $p < .0001$. Post hoc analysis indicated that children who are attached to an inanimate transitional object(s) and use the object(s) at arrival time (mean = 3.68) exhibited more touching behaviors than children who are attached to an inanimate transitional object(s) but do not use the object(s) at arrival time (mean = 1.33) and children who are not attached to an inanimate transitional object (mean = 1.08).

Analysis of variance procedures were performed to examine gender and age differences between the three groups. No significant differences were found : (a) sex: $F(2, 102)$, $p = .08$; (b) age: $F(2, 102) = 0.37$, n.s.

5. DISCUSSION

This study investigated the nature of differences in: (1) separation behaviors and the target(s) of these behaviors upon arrival at child care centers, and (2) length of time to transition into the classroom environment between children who are attached to an inanimate transitional object(s) and used the object(s) at arrival time, children who are attached to an inanimate transitional object but did not use the object(s) at arrival time, and children who are not attached to an inanimate transitional object.

There were no statistically significant differences between the three groups in length of time needed to transition into the classroom environment. This finding does not support the hypothesis that children who are attached to an inanimate transitional object would transition into the classroom environment more quickly than children who are not attached to such an object. This finding can partially be explained by the fact that children employ a variety of coping strategies when dealing with potentially stressful situations, such as separation from the significant caregiver(s) at child care. For children who are attached to an inanimate transitional object(s), that object(s) may serve compensatory functions when the primary caregiver(s) is inaccessible; while other children who are not attached to an object may be using other, more

abstract strategies in the form of mental representations (Van Ijzendoorn et al., 1983; Winnicott, 1953). Though this explanation appears to be theoretically sound and hypothetically plausible, it is virtually impossible to test empirically.

The results also indicated that there were not significant age or gender differences between the three groups. The lack of significant age differences are consistent with Boniface and Graham's (1979) study of 702 three-year-old children in an outer London borough, and Ekecrantz and Rudhe's (1972) study of 390 children ages 1-16 years. The lack of significant gender differences is consistent with those found by Van Ijzendoorn et al. (1979), Boniface and Graham (1979) and Litt (1986). It appears that object usage is not related to age or gender differences among children ages 18-36 months.

The results indicated that children who are attached to an inanimate transitional object(s) and use their object(s) at arrival time exhibited more touching behaviors in general than children who are attached to an inanimate transitional object(s) but do not use the object(s) at arrival time and children who are not attached to an inanimate transitional object. This finding does not support the hypothesis that children who are attached to an inanimate transitional object(s) and use the object(s) at arrival time would direct their attachment behaviors toward their object, while the

other two groups would direct their attachment behaviors toward teachers and peers. This difference in touching behaviors by children who are attached and use their object(s) at arrival time may partially be explained in terms of what Winnicott (1953) describes as the transitional phenomena, the process through which a child begins to understand that he/she is separate from yet connected to the primary caregiver(s). The transitional phenomena includes such rituals as babbling and chanting along with rubbing, stroking, sucking and caressing. Out of this transitional phenomena stems the use of transitional objects -- objects such as blankets, stuffed animals, diapers, pillows, and dolls often used in conjunction with such ritualistic behaviors as rubbing, stroking, hugging, sucking, and twisting. Children who are attached to an inanimate transitional object(s) and used their object(s) at arrival time were rated by their parents as being significantly more attached to their object (mean = 7.76) than children who are attached but do not use their object at arrival time (mean = 6.53). Parents of attached children who use their object(s) at arrival time reported the following: hugging their attachment object(s) (68%), rubbing their object(s) (40%), sucking their object(s) (36%), and twisting their object(s) (20%) during mildly stressful situations such as separation to child care, as well as periods of inactivity and when feeling tired or ill as compared to those the parents of

those children who are attached to an object(s) but do not use the object(s) at arrival time: 68%, 31%, 24%, and 6% respectively.

The ritualistic behaviors of rubbing, stroking, caressing, etc. are characteristic of the transitional phenomena lend support to the idea that children who are attached to an inanimate transitional object(s) and use them during routine separation such as arrival at child care may possibly be more tactile-oriented and more likely to focus touching behaviors toward a variety of targets in the child care environment. This notion seems plausible as the results indicated that this group displayed touching behaviors toward teachers and peers as well as their object(s).

While the literature has suggested that inanimate transitional objects may serve compensatory functions or as a substitute for the primary caregiver(s), the findings of the present study do not support either of these suppositions as there were no statistically significant differences in the amount of time needed to transition into the classroom between children with and without inanimate transitional objects. Likewise, children attached to an inanimate transitional object(s) and using the object(s) at arrival time did not exhibit more attachment behaviors toward their object which further supports the idea that inanimate transitional objects were not serving compensatory

or substitute functions as theorized. It may be that children possess a variety of ways for dealing with mildly stressful situations, and some of these behaviors may be unobservable and difficult to test empirically. In this study, children attached to an inanimate transitional object(s) and used the object(s) at arrival time engaged in more touching behaviors in general. This finding supports the idea that this group children used touching as a means of interacting with the environment, more than the other two groups -- serving neither substitute or compensatory functions.

Limitations

The significant finding of touching behaviors related to those children who are attached to an object(s) and use the object(s) at arrival time assumes the reliability and validity of the parent ratings of attachment upon which children were classified into groups. Although combining parent and teacher questionnaire responses with observational data is an apparent strength of this study, the fact that behaviors and targets of these behaviors were observed for each child only one time is considered a limitation of this study. An alternative methodology would be to observe the same group of children repeatedly over a period of several weeks, thus examining the variability in each child's typical arrival time behaviors. The degree of

variability within each child's behaviors would determine the limitations of the single observation methodology used in this study. Although these data do not support the premise that inanimate transitional objects serve substitute and compensatory functions, the limitation of the methodology used in this study may temper the strength of the findings. Inconclusive theoretical conjectures surrounding the functions of inanimate transitional objects cannot be made based on the limitation of the methodology used in this study.

Future studies should explore the following: (1) observe the same group of children repeatedly over several weeks to examine variability of behaviors and targets of these behaviors; (2) observe children several times during the day (group-time, nap-time, and late afternoon) to see if the behaviors observed at arrival time are consistent throughout the day or unique to arrival time; and (3) expand the context of the observation to include behaviors exhibited prior to arrival at child care (i.e. as the child is preparing to depart for child care, the ride to the child care, etc.), as the events of the morning prior to arrival at child care may set the tone for the actual separation at child care.

Implications for Research

This study was the first to investigate the differences in children's arrival time behaviors between children who are attached to inanimate transitional object(s) and those who are not. Only one study (King and Perrin, 1987) has examined children's arrival time behaviors and their focus was more exploratory in nature to identify what strategies children use as they enter the child care environment each day. The focus of the present study was to expand upon one of the strategies King and Perrin (1987) identified, the use of inanimate transitional objects, and use attachment theory as the guiding framework. An original contribution of this study was the combination of direct observation, parental reports and teacher reports for each subject. This information provided enormous insight into each child's "typical" arrival time behaviors at child care as well separation behaviors from the parent(s). In most instances, parental and teacher reports were validated with direct observational data. For example, parents and teachers reported that most children had little difficulty separating from parents and transitioning into the classroom (mean = 2.66 and 2.82 respectively). The mean length of time to transition into the classroom environment was 4 minutes, confirming that children had relatively little difficulty making the transition into the classroom and becoming involved in an activity.

Implications for Theory

This study provides evidence that attachment behaviors such as crying, following, proximity-seeking, sucking and clinging do occur in mildly stressful situations. This study also validates the notion that these attachment behaviors can be exhibited toward not only significant caregivers but also toward substitutes such as teachers, peers and inanimate transitional objects. Children's use of inanimate transitional objects in mildly stressful situations, such as separation from parents at child care, and display of attachment behaviors reiterate the idea that attachment theory and Winnicott's (1953) transitional phenomena are interconnected. This study lends credence to the idea that perhaps some children use an inanimate object in their journey of realizing and accepting that they are connected yet separate from their primary caregiver(s).

By acknowledging this relationship between attachment behaviors and children's use of inanimate transitional objects as substitutes from the primary caregiver(s), it is interesting that no relation between attachments to inanimate objects and security of attachment to the mother has not been empirically demonstrated in the published literature (Van Ijzendoorn et al., 1983). Future studies should focus on the nature of the relationship between

mother-child attachment and children's use of inanimate transitional objects.

Implications for Practice

Children exhibit a variety of behaviors when separating from their significant caregiver(s) and transitioning into the child care environment each day. Some children use the inanimate transitional object while others use teachers, peers, classroom materials or a combination of these, while still others may seek solitude. Whatever their means of facilitating this transition, it is important for both teachers and parents to be sensitive to and respect individual differences.

Both parents and teachers can support the transition from home to school making it a less stressful daily occurrence. Parents may:

- (a) Escort the child into classroom and spend a few minutes with the child as he/she acclimates to a new school day.
- (b) If the child is attached to a special object, encourage the child to bring that treasured object and have it close at hand at arrival time.
- (c) Allow the child to decide what classroom activity, if any, in which he/she they would like to become involved.
- (d) Tell the child good-bye face to face and reaffirm that he/she will be picked up later in the day (often providing a

frame of reference such as "after outside play-time" is very helpful).

Teachers may:

- (a) Greet all children and their parents as they arrive at the child care center.
- (b) Recognize that children exhibit different behaviors when separating from their significant caregiver(s) upon arrival at child care (some children seek out teacher interaction while others may choose to be alone initially).
- (c) If a child is attached to a special object, encourage him/her to bring that treasured possession to school and have control over it (this include when/where/by whom it is used and when it is put into their locker).
- (d) Provide a variety of activities that are inviting to children as they enter the classroom -- especially activities that provide tactile stimulation.

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APPENDICES

APPENDIX A
DATA COLLECTION CODE SHEET

CW=Crying/Whining CV=Calling/Vocalizing	SW=Signaling/Waving RE=Reaching/Extending arms	FF=Following around room SS=Sitting/Standing near
TT=Touching CH=Cuddling/Hugging	PL=Playing with TK=Talking with HT=Hitting	SO=Seeks Solitude MD=Misbehavior/Disruption BT=Biting

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APPENDIX B
BEHAVIOR CODE SHEET

APPENDIX C
INFORMED CONSENT

January 15, 1991

Dear Parent(s) or Legal Guardian:

I am a graduate student in the Department of Child and Family Studies at the University of Tennessee, Knoxville. I will soon begin a research project to study young children's behaviors as they arrive to their child care center. I am asking for your cooperation in allowing your child to participate in this project.

Participation in this project will involve only one observation of your child in his or her usual child care environment. Your child's participation in this project is voluntary. You may choose not to participate or to withdraw your child from the study at any time and of course this will have no negative effect on your child in his/her child care center. There are no anticipated risks to your child from participation.

Observations will be done by trained observers. They will be instructed to use subject numbers instead of names, ensuring confidentiality. In addition, the data will be stored in my locked office and the master list of subject numbers and names will be secured in the office of Dr. Deborah Tegano (Advisor). This master list will be destroyed at the completion of the study. No names will be associated with the results of this study.

I am requesting that you complete a brief questionnaire describing some of your child's behaviors. Your child's teacher will also be completing two questionnaires describing your child's typical behaviors. Blank copies of all questionnaires will be maintained in the director's office at the child care center for your examination.

This project will be conducted during the Spring 1991 term and your child will be observed only once during the term. Your cooperation will greatly facilitate the success of this project. For additional information about the nature of this project or any information about the rights of research subjects, please contact me at 974-5316 or Dr. Tegano at 974-4538.

Sincerely,

Sandra L. Lookabaugh
Doctoral Student
Department of Child Family Studies

Dr. Deborah Tegano
Associate Professor
Department of Child and Family Studies

**PLEASE SIGN THE ATTACHED FORM AND COMPLETED QUESTIONNAIRE
AND RETURN TO THE ENVELOPE LABELED "ARRIVAL TIME BEHAVIOR"**

**INFORMED CONSENT (PARENTS)
ARRIVAL TIME BEHAVIORS PROJECT**

I have read the attached letter which explains the purpose of the proposed research study about young children's behaviors as they arrive to their child care center.

Specifically, I understand that:

- * my child will be observed in his/her usual child care center one time during the spring of 1991 (observations at his/her child care center will last about 2 weeks);
- * I will complete and return the attached questionnaire describing my child's arrival time behaviors and other related information (this form will take approximately 5 minutes to complete);
- * my child's teacher will complete two questionnaires describing my child's typical behaviors and other related information;
- * my child's participation in this study is voluntary and I may choose not to participate or may withdraw my child from the study at any time without penalty;
- * there are no anticipated risks to my child and I will be contributing to a better understanding of young children's behaviors within the child care environment;
- * confidentiality will be maintained, subject numbers will be used instead of children's names, data will be stored in a locked facility separate from the master list of names and subject numbers, and no children's names will be associated with the results of the study;
- * I may address questions about this project to Sandra Lookabaugh at 974-5316 or Dr. Deborah Tegano (Advisor) at 974-4538.

Parent/Guardian Signature_____

Date _____

Child's Name_____

Date of Birth_____

Sex of Child _____female _____male

Name of Child Care Center _____

**PLEASE RETURN A SIGNED COPY TO THE ENVELOPE LABELED
"ARRIVAL TIME BEHAVIORS PROJECT" LOCATED ON THE DOOR OF
THE CENTER DIRECTOR OR GIVE TO YOUR CHILD'S TEACHER.
KEEP ONE COPY OF THIS FORM FOR YOUR RECORDS.**

**INFORMED CONSENT (TEACHERS)
ARRIVAL TIME BEHAVIORS PROJECT**

The purpose of this research study is to better understand young children's behaviors as they arrive to their child care center and separate from their parent(s) each day.

Specifically, I understand that:

- * my interactions with children in the classroom may be observed, that I am participating voluntarily, and that I may withdraw my participation at any time;
- * my name will not be associated with any of the results of this study and that data will be kept in locked offices;
- * there are no foreseeable risks associated with this project and that I will be contributing to a better understanding of young children's separation behaviors within the child care environment;
- * observations will begin during the spring of 1991 and last about two weeks at my child care center;
- * I will complete two questionnaires describing separation behaviors for each of the children in my classroom participating in the project (questionnaires for each child will take approximately 10-15 minutes to complete);
- * I may contact Sandra Lookabaugh at 974-5316 or Dr. Deborah Tegano (Advisor) at 974-4538 with questions about this project or about the rights of research subjects.

Signed _____

Printed Name _____

Name of Child Care Center _____

Address of Child Care Center _____

Phone Number of Child Care Center _____

Date _____

PLEASE RETURN A SIGNED COPY TO THE ENVELOPE LABELED "ARRIVAL TIME BEHAVIORS PROJECT" LOCATED ON THE DOOR OF THE CENTER DIRECTOR AND RETAIN A COPY FOR YOUR RECORDS.

APPENDIX D

PARENT QUESTIONNAIRE

PARENT QUESTIONNAIRE

INSTRUCTIONS: Please answer the following questions about your child.

1. How old was your child when he/she enrolled in full-time child care away from the parent(s)? _____ (months)

2. Has your child been continuously enrolled in full-time care since then?
 _____ yes _____ no

If no, please describe the child care arrangements.

3. Is your child attached to a special object (for example, a teddy bear or blanket)?

_____ yes

_____ no

4. Please describe this special object.

5. How attached is your child to this object?

1	2	3	4	5	6	7	8	9	10
								extremely	
								strong	
no								attachment	
attachment									

6. Please indicate the times/situations when your child really seems to want or need this object close by. (Check all that apply)

_____ when going to sleep

_____ when waking up from sleeping

_____ quiet times (reading books, watching TV, etc.)

_____ traveling (car, plane, etc.)

_____ new situations/new people

_____ separation from parents (babysitter, day care, etc.)

_____ when feeling ill

_____ when playing (alone or with others)

_____ when shopping (grocery store, shopping mall, etc.)

7. Please indicate what your child does with their special object. (Check all that apply)

_____ rubs/strokes it

_____ sucks it

_____ wraps it around themselves

_____ twists it

_____ hugs it

_____ wants it close by

Please list any other behaviors associated with their special object. (For example, some children may twist their hair or suck their thumb while holding or rubbing their special object)

8. Describe your child's usual/typical "overall" response to separation from parent(s):

1 = never has difficulty separating from parent(s)

2 = rarely has difficulty separating from parent(s)

3 = sometimes has difficulty separating from parent(s)

4 = often has difficulty separating from parent(s)

APPENDIX E

TEACHER QUESTIONNAIRE

TEACHER QUESTIONNAIRE (1)

INSTRUCTIONS: Please answer the following questions for each child in your class participating in the research project.

1. Is this child attached to a special object (for example, a teddy bear, blanket etc.)?

yes _____

no _____

2. If yes to question #1, please describe this object.

3. If yes to question #1, how attached is this child to this special object?

1	2	3	4	5	6	7	8	9	10
no									extremely
attachment									strong
									attachment

4. If yes to question #1, please check the times during the day that the child asks for it and/or actively seeks it out:

A. arrival at school (while parent is still present) _____

B. immediately following separation from parent(s) _____

C. nap-time _____

D. quiet activity periods during the day _____

E. circle-time / group-time _____

F. end of day before departure _____

G. other (please list)

5. Please indicate what the child does with their special object. (Check all that apply).

_____ rubs/strokes it
 _____ sucks on it
 _____ wraps it around themselves
 _____ twists it
 _____ hugs it
 _____ wants it close by
 _____ other (please list) _____

Please list any other behaviors associated with their special object. (For example, some children may twist their hair or suck their thumb while holding or rubbing their special object)

6. Please indicate which of the following typically describe the child's behavior at arrival time:

		never	rarely	sometimes	often
A. clinging to parent	1	2	3	4	
B. clinging to teacher	1	2	3	4	
C. crying/whining		1	2	3	4
D. seeks teacher's attention		1	2	3	4
E. seeks peer's attention		1	2	3	4
F. chooses to be alone		1	2	3	4
G. begins playing easily	1	2	3	4	
(H.) wants attachment object with him/her	1	2	3	4	

*** for those children with objects

7. Please circle the child's usual/typical overall response when separating from his/her parent(s) each morning:
- 1 = never has difficulty separating from parent(s)
 - 2 = rarely has difficulty separating from parent(s)
 - 3 = sometimes has difficulty separating from parent(s)
 - 4 = often has difficulty separating from parent(s)

APPENDIX F

TODDLER TEMPERAMENT SCALE

It was hypothesized that temperament could partially explain a child's attachment or lack of attachment to an inanimate transitional object. To explore this notion, a shortened version of the Toddler Temperament Scale (Fullard, McDevitt & Carey, 1978) was completed by teachers for each child in the study. The following subscales were included: activity, rhythmicity, approach, adaptability, intensity, and distractability.

Analysis of variance procedures revealed that there were no significant differences between the three groups on: activity $F(5,99) = .50$, n.s.; rhythmicity $F(5,99) = .50$, n.s.; approach $F(5,99) = 1.02$, n.s.; intensity $F(5,99) = 1.12$, n.s.; distractability $F(5,99) = 1.08$, n.s.; and adaptability $F(5,99) = 1.66$, n.s.

The lack of significant differences as related to temperament characteristics is consistent with those found by Garrison and Earls (1982) who found no significant differences between those children who were attached to an inanimate transitional object and those who were not, with the exception of persistence/attention span. Their findings revealed that children reported as being attached to a special object were rated by their mothers as higher in the persistence/attention span characteristic than children without an object. Unfortunately due to error in data collection, this subscale was not included in the

temperament scale so complete comparison is not possible. Caution also must be taken when examining the results of the previously mentioned subscales as the validity and reliability of the scale could be jeopardized by not using the full scale. Consequently, the question of whether some children, because of certain temperamental predispositions, develop inanimate object attachments while others do not remains unanswered by this study.

USING THE SCALE SHOWN BELOW, PLEASE MARK AN "X" IN THE SPACE THAT TELLS HOW OFTEN THE CHILD'S RECENT AND CURRENT BEHAVIOR HAS BEEN LIKE THE BEHAVIOR DESCRIBED BY EACH ITEM.

Almost never 1	Rarely 2	Usually does not 3	Usually does 4	Frequently 5	Almost always 6			
1. The child is moody for more than a few minutes when corrected or disciplined.	almost never	1	2	3	4	5	6	almost always
2. The child seems not to hear when involved in a favorite activity.	almost never	1	2	3	4	5	6	almost always
3. The child can be coaxed out of a forbidden activity.	almost never	1	2	3	4	5	6	almost always
4. The child runs ahead when walking with the parent.	almost never	1	2	3	4	5	6	almost always
5. The child laughs or smiles while playing.	almost never	1	2	3	4	5	6	almost always
6. The child moves slowly when working on a project or activity.	almost never	1	2	3	4	5	6	almost always
7. The child responds intensely to disapproval.	almost never	1	2	3	4	5	6	almost always
8. The child needs a period of adjustment to get used to changes in school or at home.	almost never	1	2	3	4	5	6	almost always
9. The child enjoys games that involve running or jumping.	almost never	1	2	3	4	5	6	almost always
10. The child is slow to adjust to changes in household rules.	almost never	1	2	3	4	5	6	almost always
11. The child has bowel movements at about the same time each day.	almost never	1	2	3	4	5	6	almost always
12. The child is willing to try new things.	almost never	1	2	3	4	5	6	almost always
13. The child sits calmly while watching TV or listening to music.	almost never	1	2	3	4	5	6	almost always
14. The child leaves or wants to leave the table during meals.	almost never	1	2	3	4	5	6	almost always
15. Changes in plans bother the child.	almost never	1	2	3	4	5	6	almost always
16. The child notices minor changes in mother's dress or appearance (clothing, hairstyle, etc.).	almost never	1	2	3	4	5	6	almost always

Almost never 1	Rarely 2	Usually does not 3	Usually does 4	Frequently 5	Almost always 6			
17. The child does not acknowledge a call to come in if involved in something.	almost never	1	2	3	4	5	6	almost always
18. The child responds to mild disapproval by the parent (a frown or shake of the head).	almost never	1	2	3	4	5	6	almost always
19. The child settles arguments with playmates within a few minutes.	almost never	1	2	3	4	5	6	almost always
20. The child shows strong reaction to things, both positive and negative.	almost never	1	2	3	4	5	6	almost always
21. The child had trouble leaving the mother the first three days when he/she entered school.	almost never	1	2	3	4	5	6	almost always
22. The child picks up the nuances or subtleties of parental explanations (<u>example</u> : implied meanings).	almost never	1	2	3	4	5	6	almost always
23. The child falls asleep as soon as he/she is put to bed.	almost never	1	2	3	4	5	6	almost always
24. The child moves about actively when he/she explores new places.	almost never	1	2	3	4	5	6	almost always
25. The child likes to go to new places rather than familiar ones.	almost never	1	2	3	4	5	6	almost always
26. The child sits quietly while waiting.	almost never	1	2	3	4	5	6	almost always
27. The child spends over an hour reading a book or looking at the pictures.	almost never	1	2	3	4	5	6	almost always
28. The child learns new things <u>at his/her level</u> quickly and easily.	almost never	1	2	3	4	5	6	almost always
29. The child smiles or laughs when he/she meets new visitors at home.	almost never	1	2	3	4	5	6	almost always
30. The child is easily excited by praise.	almost never	1	2	3	4	5	6	almost always
31. The child is outgoing with strangers.	almost never	1	2	3	4	5	6	almost always
32. The child fidgets when he/she has to stay still.	almost never	1	2	3	4	5	6	almost always
33. The child says that he/she is "bored" with his/her toys and games.	almost never	1	2	3	4	5	6	almost always

Almost never 1	Rarely 2	Usually does not 3	Usually does 4	Frequently 5	Almost always 6			
34. The child is annoyed at interrupting play to comply with a parental request.	almost never	1	2	3	4	5	6	almost always
35. The child practices an activity until he/she masters it.	almost never	1	2	3	4	5	6	almost always
36. The child eats about the same amount at supper from day to day.	almost never	1	2	3	4	5	6	almost always
37. Unusual noises (sirens, thunder, etc.) interrupt the child's behavior.	almost never	1	2	3	4	5	6	almost always
38. The child complains when tired.	almost never	1	2	3	4	5	6	almost always
39. The child loses interest in a new toy or game the same day.	almost never	1	2	3	4	5	6	almost always
40. The child becomes engrossed in an interesting activity for one half hour or more.	almost never	1	2	3	4	5	6	almost always
41. The child cries intensely when hurt.	almost never	1	2	3	4	5	6	almost always
42. The child reacts strongly to kidding or light-hearted comments.	almost never	1	2	3	4	5	6	almost always
43. The child approaches children his/her age that he/she doesn't know.	almost never	1	2	3	4	5	6	almost always
44. The child plays quietly with his/her toys and games.	almost never	1	2	3	4	5	6	almost always
45. The child is outwardly expressive of his/her emotions.	almost never	1	2	3	4	5	6	almost always
46. The child is enthusiastic when he/she masters an activity and wants to show everyone.	almost never	1	2	3	4	5	6	almost always
47. The child is sleepy at his/her bed-time.	almost never	1	2	3	4	5	6	almost always
48. The child stops an activity because something else catches his/her attention.	almost never	1	2	3	4	5	6	almost always
49. The child is hungry at dinner time.	almost never	1	2	3	4	5	6	almost always
50. The child holds back until sure of himself/herself.	almost never	1	2	3	4	5	6	almost always

Almost never 1	Rarely 2	Usually does not 3	Usually does 4	Frequently 5	Almost always 6			
51. The child looks up when someone walks past the door-way.	almost never	1	2	3	4	5	6	almost always
52. The child becomes upset if he/she misses a regular television program.	almost never	1	2	3	4	5	6	almost always
53. The child reacts strongly (cries or complains) to a disappointment or failure.	almost never	1	2	3	4	5	6	almost always
54. The child accepts new foods within one or two tries.	almost never	1	2	3	4	5	6	almost always
55. The child has difficulty getting used to new situations.	almost never	1	2	3	4	5	6	almost always
56. The child will avoid misbehavior if punished firmly once or twice.	almost never	1	2	3	4	5	6	almost always
57. The child is sensitive to noises (telephone, doorbell) and looks up right away.	almost never	1	2	3	4	5	6	almost always
58. The child prefers active outdoor play to quiet play inside.	almost never	1	2	3	4	5	6	almost always
59. The child dislikes milk or other drinks if not ice-cold.	almost never	1	2	3	4	5	6	almost always
60. The child notices differences or changes in the consistency of food.	almost never	1	2	3	4	5	6	almost always
61. The child adjusts easily to changes in his/her routine.	almost never	1	2	3	4	5	6	almost always
62. The child eats about the same amount at breakfast from day to day.	almost never	1	2	3	4	5	6	almost always
63. The child seems to take setbacks in stride.	almost never	1	2	3	4	5	6	almost always
64. The child cries or whines when frustrated.	almost never	1	2	3	4	5	6	almost always
65. The child repeats behavior for which he/she has previously been punished.	almost never	1	2	3	4	5	6	almost always
66. The child looks up from playing when the telephone rings.	almost never	1	2	3	4	5	6	almost always
67. The child is willing to try new foods.	almost never	1	2	3	4	5	6	almost always

Almost never 1	Rarely 2	Usually does not 3	Usually does 4	Frequently 5	Almost always 6			
68. The child needs encouragement before he/she will try new things.	almost never	1	2	3	4	5	6	almost always
69. The child cries or whines when ill with a cold or upset stomach.	almost never	1	2	3	4	5	6	almost always
70. The child runs to get where he/she wants to go.	almost never	1	2	3	4	5	6	almost always
71. The child's attention drifts away or lapses when listening to parental instructions.	almost never	1	2	3	4	5	6	almost always
72. The child becomes angry with one of his/her playmates.	almost never	1	2	3	4	5	6	almost always
73. The child is reluctant to give up when trying to do a difficult task.	almost never	1	2	3	4	5	6	almost always
74. The child reacts to mild approval from the parent (a nod or smile).	almost never	1	2	3	4	5	6	almost always
75. The child requests "something to eat" between meals and regular snacks.	almost never	1	2	3	4	5	6	almost always
76. The child rushes to greet the parent or greets loudly after absence during the day.	almost never	1	2	3	4	5	6	almost always
77. The child looks up when he/she hears voices in the next room.	almost never	1	2	3	4	5	6	almost always
78. The child protests when denied a request by the parent.	almost never	1	2	3	4	5	6	almost always
79. The child ignores loud noises when reading or looking at pictures in a book.	almost never	1	2	3	4	5	6	almost always
80. The child dislikes a food that he/she had previously seemed to accept.	almost never	1	2	3	4	5	6	almost always
81. The child stops what he/she is doing and looks up when the parent enters the room.	almost never	1	2	3	4	5	6	almost always
82. The child cries for more than a few minutes when hurt.	almost never	1	2	3	4	5	6	almost always
83. The child watches a long (1 hour or more) TV program without getting up to do something else.	almost never	1	2	3	4	5	6	almost always
84. The child spontaneously wakes up at the usual time on weekends and holidays.	almost never	1	2	3	4	5	6	almost always

Almost never 1	Rarely 2	Usually does not 3	Usually does 4	Frequently 5	Almost always 6	
85. The child responds to sounds or noises unrelated to his/her activity.				almost never	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	almost always
86. The child avoids new guests or visitors.				almost never	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	almost always
87. The child fidgets when a story is being read to him/her.				almost never	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	almost always
88. The child becomes upset or cries over minor falls or bumps.				almost never	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	almost always
89. The child interrupts an activity to listen to conversation around him/her.				almost never	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	almost always
90. The child is unwilling to leave a play activity that he/she has not completed.				almost never	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	almost always
91. The child is able to fall asleep when there is conversation in a nearby room.				almost never	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	almost always
92. The child becomes highly excited when presented with a new toy or game.				almost never	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	almost always
93. The child pays attention from start to finish when the parent tries to explain something to him/her.				almost never	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	almost always
94. The child speaks so quickly that it is sometimes difficult to understand him/her.				almost never	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	almost always
95. The child wants to leave the table during meals to answer the doorbell or phone.				almost never	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	almost always
96. The child complains of events in school or with playmates that day.				almost never	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	almost always
97. The child frowns when asked to do a chore by the parent.				almost never	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	almost always
98. The child tends to hold back in new situations.				almost never	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	almost always
99. The child laughs hard while watching television cartoons or comedy.				almost never	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	almost always
100. The child has "off" days when he/she is moody or cranky.				almost never	<u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u>	almost always

APPENDIX G
EXTENDED LITERATURE REVIEW

Any discussion of infant-mother attachment seems to begin from a psychoanalytic perspective, as this theory holds that a child's first human relationship is the foundation stone of his personality (Bowlby, 1969). Psychoanalysts have long been perplexed by the bond that ties a child to his mother. In the following discussion, it is the origins of this tie that will be explored. This journey will investigate the infant-mother attachment using four "frameworks" of infant-mother attachment, namely the psychoanalytic theory, the secondary drive theory, theories of maternal deprivation and finally the evolutionary ethologically-based theory of attachment. Each theory has made significant contributions to the study of infant-mother attachment, but it is the ethological-based theory, originated by John Bowlby, that will be the focus of the discussion. Bowlby has, in my opinion, successfully integrated concepts from seemingly incongruent disciplines to form a comprehensive theory of infant-mother attachment.

Using Bowlby's theory as the foundation, the link is made between infant-mother attachment theory and transitional object theory. D.W. Winnicott's (1953) classic work on transitional objects and the transitional phenomena serves as the basis for the discussion of children's attachment to inanimate objects. Winnicott (1953) theorizes that a the transitional object can in many ways be a symbol of the mother. The child's relationship with his transitional object is very similar to the primary infant-mother relationship,

both serving comparable functions. By tracing the progression of infant-mother attachment theory, one is better able to understand the origin, development and meanings underlying children's use of inanimate transitional objects.

Psychoanalytic Theory:

Sigmund Freud focused very limited attention to the reality of the infant's tie to his mother. Interestingly enough, it was not until 1926 that he seriously discussed the issue of mother-infant attachment. Up until this point Freud held the view that aside from a "fleeting moment which the oral component has the mother's breast as an object, all components of libido start as being auto-erotic" (Bowlby, 1969, p. 351). His initial emphasis was on oedipal experiences (actual events and fantasized events), and it was not until some time later that he shifted his focus on preoedipal events -- namely the mother's role as a need-gratifying love-object. Freud goes on to suggest that component instincts start by being auto-erotic and are not until later directed onto an external object. It is this fulfilled nourishment through the mother's breast that later becomes the prototype of later love relations. "And even after sexual activity becomes detached away from the nourishment, an important part of this first love and most significant of all sexual relations is left over" (Freud, 1954). Freud (1954) states that these initial mother-infant interactions assist

children in learning "to feel for other people who help them in their helplessness and satisfy their needs, a love which is a model of, and continuation of, their relation as sucklings to their nursing mother" (p. 222-223). It appears then that "love, in its beginning attaches itself to the satisfaction of the need for food" (p. 223) -- and mother playing the role of need-gratifying love-object (Lamb, Thompson, Gardner & Charnov, 1985).

Freud (1926) briefly addresses the issue of proximity-seeking and proximity-maintaining behaviors by the infant as anxiety that he may lose his mother and his bodily needs will consequently not be satisfied -- this leading to growing tension against which the infant is helpless. The essence of this tension involves the "economic disturbance caused by an accumulation of amounts of stimulation which require to be disposed of" (Freud, 1926, p.39). It is the threat of possible loss of mother (satisfier of needs) that keeps him close to her.

Within the psychoanalytic framework, it is clear that the mother is the object of libidinal energy, yet one is still unclear how this relationship between mother and infant develops. Even though he stresses the significance of the infant-mother tie, his account is incomplete, somewhat scattered and even sometimes contradictory. Central to the psychoanalytic perspective is the notion of mother's breast being the child's first erotic object which feed him -- yet

the child makes no distinction between the breast and his own body (part of the original narcissistic cathexis) is thus carried over on to the breast as an outside object. This breast is then incorporated into the whole person as mother -- the one who not only nourishes him, but also looks after him and thus arousing other physical sensations (both pleasant and unpleasant) (Freud, 1926). Mother thus becomes the child's first seducer -- possibly the root of her importance. Freud (1926) does describe this relationship as "unique, without parallel, laid down unalterably for a whole lifetime, as the first and strongest love-object and as the prototype of all later love relations - for both sexes" (p. 45), but with very limited explanation describing the development of it.

Secondary Drive Theory:

It is from this perspective that we see the gaps in the psychoanalytic theory beginning to be bridged. Central to this theory is the notion that infant-adult relations stem from the infant's need for food and the caretaker's provision of nourishment. The infant's need for nourishment is considered a primary drive -- the gratification of it being considered rewarding. The repeated association of this gratification by the caretaker (namely the mother) becomes the secondary drive -- the desire for interaction with this caretaker, even in the absence of food (Lamb, Thompson, Gardner, Charnov, 1985). It is this secondary drive that

forms the basis of the infant-adult relationship. It appears that the secondary drive theory brought together a common bond between psychoanalytic theorists and learning theorists.

Expanding on this notion was Anna Freud's (1954) suggestion that initially an infant's relationship with mother is one of convenience. The infant has vital bodily need and drives and the mother is an object that serves the purpose of wish fulfillment -- the libidinal cathexis is attached to the experience of satisfaction and relief rather than to mother herself (Freud, 1954). As the infant transitions from primary narcissism to object-love, the libidinal interest within the infant moves away from the exclusive focus on one's own body and begins to be directed toward persons in the outside world who are providing the satisfaction -- be it the mother or a mother substitute (Freud, 1949). Freud (1949) postulates that in some instances when the mother fails to be a steady source of satisfaction, the transition from narcissistic libido into object-love may be carried out inadequately resulting in the persistence of auto-eroticism.

Yet Anna Freud seems to diverge from the straight and narrow path of secondary drive theory on several issues. Based on work done with Dorothy Burlingham, Freud (1942) firmly states that it is not until the second year of life that a child forms a personal attachment to his mother -- it is not until that time that this attachment becomes full developed. Furthermore, both Freud and Burlingham observed in

their Hampstead Nurseries studies that "attachment of the small child to his mother seems to a large degree independent of her personal qualities -- children will cling even to mothers who are continually cross and cruel to them" (p. 47). A final discrepant point that is made by Burlingham and Freud (1944) describes the child's need for early attachment to the mother as an important instinctual need. Thus far the mere mention of instinctual needs has yet not made its way into attachment literature. Bowlby (1958) suggests that these ideas hardly seem compatible with the theory of secondary drive discussed elsewhere.

Melanie Klein, another proponent of the secondary drive theory, advocated the view that an infant's relation with mother is more than the mere satisfaction of physiological needs. Yet, as with Anna Freud, we see the inter-related themes of food, orality and the mother's breast creeping into her discussions. Klein (1952) suggests that the infant's first relations to his first object (the mother) are bound up together from the beginning and we can gain a better understanding of their relationship by studying their attitudes toward food. Accordingly, the close bond between an infant and his mother centers on the relation to her breast -- "the infant feels that an object of unique goodness exists, from which a maximal gratification could be obtained and that object is the mother's breast" (Klein, 1952, p. 265).

As with Freud, Klein's perspective also takes a twist. Despite the dominate emphasis on food, orality and the mother's breast, Klein (1952) continues by stating that "some children who, although good feeders, are not markedly greedy, show unmistakable signs of love and of a developing interest in the mother at a very early stage" (p. 239). Infants as young as 3 weeks stopped sucking for short periods of time to play with the mother's breast and look toward her face, while other infants as young as 2 months would lay in the mother's lap and look at her, listen to her voice and respond to her with facial expressions (Klein, 1952). It is obvious that Melanie Klein progresses from an emphasis on the primacy of the breast and orality to what she describes as "some indefinite connection between the breast and other parts and aspects of the mother the whole of the infant's instinctual desires and unconscious phantasies imbue the breast with qualities going far beyond the actual nourishment it affords" (p.3-4).

It appears that both Anna Freud and Melanie Klein observed and described the social interaction between infant and mother -- suggesting a primary social bond. However, both address nourishment and warmth as primary needs and the developing social interactions as secondary. The infant's first love for the mother is directed toward material satisfaction (egoistic love, stomach love -- to be fed) and it is only later that object love is directed toward non-material

satisfaction i.e. to receive love, affection, approval from mother and to be loved (Freud, 1946).

Maternal Deprivation:

Theories of maternal deprivation present yet another angle in infant-mother attachment. It is essential for mental health that the infant and young child should experience a warm, intimate, and continuous relationship with his mother (Bowlby, 1951). If an attachment is to form, the infant must have contact with the same person over a prolonged period of time (Schaffer, 1965). Attachments are also more likely to develop to persons who can adapt their behavior to the specific needs of the infant and learn to recognize his particular signals (Schaffer, 1971). And finally, attachments are reciprocal interactions and it is the intensity of these interactions, rather than the duration of them, that are crucial in developing attachments (Schaffer, 1971). If one holds these ideas to be true, what are the consequences, both short-term and long-term, of different types of maternal deprivation?

It appears that there are no clear-cut delineations between the short-term and long-term effects of maternal deprivation -- they tend to blend into one another (Rutter, 1972). The effects are usually considered short-term when they refer to the immediate response to a depriving experience and to the behavior over the following few months, while long-

term effects are the effects seen some years later (either following a brief period of deprivation or after continuous and prolonged privation) (Rutter, 1972). Much research has focused on the impact of early life experiences on later functioning -- especially their effects on attachments (Vernon, Foley & Schulman, 1967; Tizard & Tizard, 1972; Hinde, 1970; Thompson & Grusec, 1970). Evidence of the factors influencing children's short-term separation or deprivation have concluded that distress (protest, despair, detachment) is probably due to a disruption or distortion of the bonding process, while developmental retardation is probably due to a privation of social, perceptual and linguistic stimulation (King, Raynes & Tizard, 1971; Prugh, Straub, Sand, Kirschbaum & Lenihan, 1953; Rheingold, 1956; Schaffer, 1965). Outcomes such as mental retardation, dwarfism, delinquency, affectionless psychopathy and possibly depression have been suspected as long-term effects of maternal deprivation (Brofenbrenner, 1968; Yarrow, 1961; Douglas, 1964; Pringle & Bossio, 1960; Rutter, 1972).

When examining issues surrounding maternal deprivation, the question of "failure to form bonds vs. disruption of bonds" is of great theoretical and practical importance, yet has received limited attention and with inconclusive findings (Rutter, 1972). Patchy findings from diverse studies (Pringle & Bossio, 1960; Tizard & Tizard, 1971) suggest that the effects of bond disruption and a failure to form bonds are

different. Quite possibly a combination of factors such as whether or not the child had formed a bond prior to institutionalization, temperament of the child, nature of the environment, quality of care received, along with a host of other variables is what influences whether a child fails to form bonds altogether or merely experiences a disruption.

Issues within the broader classification of maternal deprivation can be broken down into smaller components such as sensory privation, social privation, nutritional privation and emotional privation. It appears that emotional deprivation that is central to the discussion of bonding (attachment) or the lack of bonding. Harry Harlow's (1958, Harlow & Zimmerman, 1959) study of infant rhesus monkeys is probably one of the most influential when considering emotional deprivation. Infant rhesus monkeys were separated from their mothers 6-12 hours after birth and raised by two surrogate mothers -- a wire mannequin with a bottle in the middle of its chest through which the infant was fed exclusively and the other a terry-cloth covered mannequin that played no role in feeding the infant. Contrary to what the Secondary Drive theory would predict, it was the terry-cloth covered "mother" to which infants ran when frightened and used as their "secure base" from which to explore. The infants would cling to the cloth-covered mothers and rub their bodies against hers as a means of comforting themselves. Harlow and Zimmerman (1959) argue that it is the contact comfort that is overwhelmingly

important in the formation of social relationships, rather than nourishment component. Nursing or feeding played either no role or a subordinate one in the development of affection - - soft body contact was by far the most important determinant in the appearance, development and maintenance of the infant-surrogate mother tie (Harlow & Zimmerman, 1959). " A bond developed between the infant and the cloth-covered surrogate that was almost unbelievably similar to the bond established between human mother and child" (Harlow & Zimmerman, 1959, p. 423).

The results of primate studies along with those involving infants in hospitals and institutions support the conclusion that even when physical and nutritional needs are met, emotional deprivation may result. It appears then for an infant is to survive (socially, cognitively, physically and emotionally), there is a "need" for contact comfort, along with continuity in care and stimulation from a small number of individuals (Lamb, Thompson, Gardner & Charnov, 1985).

Attachment Theory:

Bowlby (1958, 1969) concluded from Harlow's research (1959) and maternal deprivation (Tizard & Tizard, 1972; Rutter, 1972) studies that there was an innate, biologically-based need for social interactions among human infants (this need for interactions becomes focused with increasing development toward a specific figure) -- a need most often

satisfied by physical contact with an individual (namely an adult). Bowlby (1969) continues by stating that the disposition to become attached is an independent system, built into primate biology to ensure survival.

Bowlby's attachment theory stems from a convergence of several perspectives in the biological and social sciences. He has integrated a psychoanalytic orientation with the biological discipline of ethology viewing behavior with an evolutionary context; with psychobiology and its focus on neurophysiological processes that interact with behavioral stimuli to activate and terminate the activity of behavioral systems; with control-systems theory which directs attention to links between behavioral theory to an information-processing model of cognition; and with Piaget's structural approach to the development of cognition (Ainsworth, Blehar, Waters & Wall, 1978). The inherent goal of such an integration was to better understand the origin, function and development of an infant's early social relations (Ainsworth, Blehar, Waters & Wall, 1978).

The Behavioral System:

Central to Bowlby's general theory of behavior is the notion of behavioral systems. He postulates that the human species is equipped with several behavioral systems that have evolved to contribute substantially to species survival. For humans, who are born and remain relatively helpless and

vulnerable, they must be protected. Bowlby (1969) argues that human infants must be equipped with a relatively stable behavioral system that operates to promote proximity to the principal caregiver (namely the mother) while this attachment system supplements a complementary behavioral system (maternal behavior) in the adult. These systems are complementary and serve essentially the same function. There is indeed reciprocal behaviors between the adult and child with these complementary behaviors being adapted to one another in an evolutionary sense (Hinde, 1970).

Bowlby (1958) explained the dynamics of the attachment process using an evolutionary biological model. This model emphasizes the importance of natural selection in shaping the behavioral repertoire of any species (spreading the behavior patterns that promote species survival and eliminating those that do not). For example, human infants are equipped with a repertoire of behaviors that aid them in attaining and maintaining proximity. This is accomplished through locomotion, grasping, clinging as well as vocalizations and nonverbal gestures such as smiling (Frodi, Lamb, Leavitt, & Donovan, 1978; Bell & Ainsworth, 1972). The efficacy of these proximity/contact promoting behaviors depends upon the adult's prompt and appropriate responses to these signals. Bowlby (1958) postulates that infants become attached to individuals that consistently and appropriately respond to these proximity/contact promoting behaviors. From this perspective,

it is evident that this process requires mutual and complementary responsiveness and interaction between adult and infant.

Bowlby (1958) drew upon the control systems theory as a means of describing the dynamics of the infant's proximity-seeking behavior. Specifically, Bowlby (1982) conceptualizes attachment as a goal-corrected control system that is composed of feelings of security and actual conditions of safety. From an outsider's perspective the system's set-goal is to regulate behaviors designed to maintain or obtain proximity to and contact with the attachment figure(s), while from the attached infant's perspective the system's goal is the felt security (Bretherton, 1985). By the mere knowledge that an attachment figure(s) is available and responsive provides a strong feeling of security and motivates one to continue the relationship.

For example, although the infant is oriented toward seeking and maintaining contact with responsive individuals (attachment figures), Bowlby (1969) suggested that the degree of proximity/contact needed by the infant (the "set goal") varies over time and is influenced by both internal (fatigue, illness, etc.) and external (natural cues to danger, novel/familiar situations, etc.) sources. Bowlby (1969) also proposed that infants are continually monitoring the need for proximity/contact (the set goal) with the actual situation. In the presence of a stranger/strange environment the infant's

need for proximity to the attachment figure would probably increase, so it would initiate behaviors that promote closer proximity (grasping, clinging, crying, etc.). As the infant becomes less wary and more comfortable with the presence of the stranger or in the novel environment, the felt need for proximity/contact would decline and the infant is more likely to move away from the attachment figure. If the stranger/novel environment is appraised as highly threatening or stressful, then mere proximity probably will not suffice -- contact seeking behaviors will be exhibited.

Depending upon the intensity with which certain conditions may activate the attachment system, the set-goal may abruptly change -- becoming wider or much narrower. Indeed the notion of mother serving as a "secure base" seems to hold true given this perspective (Ainsworth, 1967). This approach shifts the focus of attachment behaviors from discrete behaviors, such as grasping and crying, to the idea of "goal states". Caution, however, must be taken when examining this model of the attachment behavioral system. It appears to be oversimplified and somewhat rigid in its assumptions. It is my understanding that Bowlby conceives of a much more complex model stemming from species-specific behavioral systems relying on reciprocal and complementary feedback processes.

Bowlby's approach represents a shift from the form and structures of such behaviors to an emphasis on their

functions. Numerous investigators (Maccoby & Feldman, 1972; Coates, Anderson & Hartup, 1972; Waters, 1978) have shown that individual behaviors show little stability across situations and time and it is patterns of behavior that have shown remarkable stability across contexts and time (Ainsworth, 1982). Obviously what is important is not separate behaviors but the way they are organized toward a particular figure(s). This is a flexible sort of organization that finds different behavioral expressions in different contexts (Ainsworth, 1982). In this sense, the attachment system is part of a group of behavioral systems (exploratory, fear/wariness, affiliative, etc.) that seek to maintain a relatively stable homeostatic balance between the individual and the environment.

Bowlby's (1969) five patterns of attachment behavior in humans: sucking, clinging, following, crying and smiling are incorporated into sophisticated "goal-corrected systems" between 9-18 months. Even at birth human infants show behaviors that appear to have the function of bringing them into closer proximity/interaction with the caregiver, it is not until the second half of the first year that they begin to be integrated into a coherent system organized toward a specific figure(s). These systems are organized and activated to maintain proximity to the mother. The formation of a more sophisticated systems also coincides with the onset of locomotion by the infant -- a child's explorations do not take

him too far from a protecting figure (Bretherton, 1985). When examining attachment behavior in cows, ducks, sheep as well as humans, two features characterize such behavior: maintaining proximity and restoring proximity when it is impaired (Bowlby, 1969).

Internal Working Models: (Cognitive Realm)

Through continual interactions with the world and people in it, the child begins to construct increasingly complex internal working models of the world and the significant people within it -- including the self (Bowlby, 1969). These models are very useful in appraising and guiding one's behavior in new situations. The idea of internal working model emphasizes the dynamic aspects of internal representations as well as the notion of complex models replacing earlier simpler versions (Bretherton, 1985). Internal working models of attachment figures tends to operate outside of conscious awareness must be revised as development within childhood progresses so rapidly (Bretherton, 1985; Bowlby, 1969). As the child's affective-cognitive understanding grows, internal models of self, social partners and the physical world increase in sophistication (Bretherton, 1985). These working models or "cognitive maps" become more elaborate with cognitive development, especially the acquisition of language (Ainsworth, Blehar, Waters & Wall, 1978). As one's representational model of his attachment figure becomes more

consolidated and elaborated with experience, the child is able to sustain his relationship with that principal figure over increasingly longer periods of absence and without significant distress (Ainsworth, Blehar, Waters & Wall, 1978). Behaviors that are regulated by the attachment system are changing with increasing age while the interrelationships among the component subsystems remain virtually unaltered (Bretherton, 1985). Attachment behavior often becomes more subtle as children continually gain a better understanding of the intentions and motives of their attachment figures and acquire more effective coping skills (Bretherton, 1985).

The Development of Child-Mother Attachment:

Both Ainsworth (1967) and Bowlby (1969) identified four phases of development of child-mother attachment, although they used somewhat different titles. Three of these phases occur in the first year of life: (1) initial preattachment phase; (2) attachment-in-the-making; (3) clear-cut attachment. The fourth phase, the phase of goal-corrected partnership, does not begin until the end of the third year or later.

The Initial Preattachment Phase: According to Ainsworth (1967), this phase begins at birth and continues for a few weeks. Bowlby (1969) called this the phase of orientation and signals without discrimination of figure". The infant does not discriminate one person from another and orients himself

toward anyone who comes close enough in proximity. The infant is equipped with a repertoire of signaling behaviors that serve to induce others to approach him and perhaps pick him up, thus promoting proximity and contact. Neonates original behavioral equipment consists of fixed-action patterns that become organized together and linked to environmental stimulus situations -- similar to processes of learning in stimulus-response psychology (Bowlby, 1969). This phase is equivalent to Piaget's (1926) reflex schema. Phase 1 is said to come to an end when the infant can fairly consistently discriminate his mother by means of visual cues, which usually occurs between 8-12 weeks of age.

The Phase of Attachment-in-the-Making: Ainsworth (1967) and Bowlby (1969) referred to this phase as the phase of "orientation and signals directed towards one (or more) discriminated figure(s)". During this phase the infant is able to clearly distinguish not only unfamiliar from familiar figures, but also is able to discriminate between one familiar figure and another. Infants in this phase begin to show increasingly clear preferences for a small number of especially familiar people -- such as parents and regular caregivers (Lamb, Thompson, Gardner & Charnov, 1985). This phase of development roughly coincides with Piaget's (1936) second and third stages of sensorimotor development. An

infant is said to have reached phase 3 when he can take active initiative in seeking the proximity of an attachment figure.

The Phase of Clear-Cut Attachment: Ainsworth (1967) and Bowlby (1969) identified this phase as the phase of "maintenance of proximity to a discriminated figure by means of locomotion as well as signals". During this phase the child is much more active (by means of developing locomotion) than before in seeking and achieving proximity and contact with his discriminated and preferred figures on his own account -- rather than relying on his signaling behavior to bring them into proximity. Along with developing locomotor skills, language begins to develop and aids the child in active contact behaviors. During phase 3 the child is actively exploring the environment, manipulating objects and learning about their properties while using the attachment figure(s) as a secure background from which to move about.

It is during phase 3 that a child's behavior becomes organized on a goal-corrected basis and becomes hierarchically organized in terms of overall plans (Bowlby, 1969). It is the way in which a child has learned to organize his behaviors in reference to a specific attachment figure that is central to the attachment system. The specific behaviors becomes increasingly less significant while the set-goal and overall plan for accomplishing it become significantly more important. It is the onset of goal-corrected attachment behavior that is

the acceptable criterion of the onset of attachment (Ainsworth, Blehar, Waters & Wall, 1978; Bowlby, 1969).

Phase 3 commonly begins sometime during the second half of the first year and continuing through the second and third years of life. Its onset appears to coincide with the onset of Piaget's Stage 4 of sensorimotor development and continuing on through the remaining sensorimotor period into the first portion of the preoperational phase. The achievement of object permanence is a necessary condition for a child becoming attached to specific discriminated figures.

Although separation distress may occur before Phase 3 of the development of attachment, it is during phase 3 that is particularly likely to occur. Separation distress represents the infant's attempt to summon the absent adult back into proximity; this represents the infant's awareness of object permanence. It occurs at approximately the same time that locomotion and goal-corrected behavior emerge.

Bowlby (1969) emphasizes that although a child in Phase 3, whose behavior has become goal-corrected, is capable of adjusting his overall plan for achieving proximity/contact, he is too egocentric (Piaget, 1926) to be able to understand how he might influence the attachment figure's behaviors.

The Phase of Goal-Corrected Partnership: According to Ainsworth (1967), the fundamental feature of this phase is the child's lessening egocentricity -- he is able to see things

from the attachment figure's perspective and is therefore capable of inferring what motive, set-goals and plans might influence her behavior (Bowlby, 1969). A partnership develops as the child and attachment figure accommodate one another's plans and achieve some kind of mutually acceptable compromise. Central to this phase is the flexible, hierarchical organization of the child's attachment behavior and the attachment figure's reciprocal behavior.

Summary:

The kinds of interactions between a child and his attachment figure undergo changes throughout time. The forms of behavior through which the attachment system is mediated becomes more varied, although under certain circumstances still feature overt proximity/contact seeking. The processes implicit in Phase 4 are conceived as being characteristic of not only the mother-child relationship but also of other mature attachments. Bowlby (1969) coined the term "monotrophy" to refer to the infant's initial attachment bond (this primary bond is typically formed to the mother) -- one that would serve as the prototype for later attachments. Indeed Bowlby (1969) suggests that attachments to other figures continue throughout the life span and supplement as well as often supersede early attachments.

Attachment vs. Attachment Behaviors:

In any discussion of attachment theory it is necessary to distinguish between attachment and attachment behaviors. Bowlby (1969) views attachment as a bond or tie, or an enduring relationship between a child and his mother -- a bond that tends to be enduring and independent of specific situations (Ainsworth, et al., 1978). Attachment behaviors are through which such a bond is first formed and later serves to mediate the relationship (Bowlby, 1969). Attachment behaviors may be manifested only intermittently and often are closely tied to situational determinants, while attachment as a bond is conceived as more or less constant and tends to be affected little by situational factors (Ainsworth et al., 1978). Ainsworth et al. (1978) suggests that it is useful "to view attachment, as a construct, as an inner organization of behavioral systems which not only controls the stable propensity to seek proximity to an attachment figure, but also is responsible for the distinctive quality of the organization of the specific attachment behaviors through which a given individual promotes proximity with the specific attachment figure" (p. 303). It seems appropriate then to assume the existence of a bond between a child and his mother continues and endures despite the vicissitudes of attachment behavior.

Conclusions:

Although the proportion of the life cycle in which attachment behavior is manifested varies from species to species, it usually continues until puberty though not necessarily until full sexual maturity (Bowlby, 1969). Attachment behavior in monkeys and apes is exhibited strongly in infancy and childhood, and during adolescence the bond to mother begins to wear thin but nonetheless persisting into adult life (Sade, 1965; Goodall, 1965) -- a pattern similar to that in humans. As we attempt to draw inferences about attachment behaviors in humans from studies conducted on birds and other mammals, caution must be taken when examining the behavioral mechanisms mediating attachment behavior (Bowlby, 1969). Bowlby (1969) suggests that mammal studies examining attachment behavior, especially those involving sub-human primates, are probably more analogous and homologous to attachment behaviors found in man.

Nonetheless, Bowlby (1958) suggests that each of the five instinctual responses provides the underlying foundation of the child's tie to his mother and are present because of their survival value. It may appear that the evolution of man through the process of natural selection has resulted in crying, clinging, sucking, following and smiling are species-specific to man. Each of these responses is probably mother-oriented although in principle it seems likely that an infant could be reared so that each of these responses was directed

towards a different object (Bowlby, 1958). While in practice, this is improbable "since all or most of the consummatory stimuli which terminate them habitually come from the mother-figure" (Bowlby, 1958, p. 369). It is likely then that for this reason the mother becomes such a central figure in an infant's life. Therefore, it is in "healthy development that each of these responses is directed toward her ... and it is in relation to her that these responses become integrated into the complex behavior called attachment behavior" (Bowlby, 1958, p. 369-370).

ATTACHMENT OBJECTS

Having presented the "evolution" of infant-mother attachment theory, our discussion will bridge into understanding the etiology of attachment objects. The phenomena of inanimate transitional objects (attachment objects) seems to have found its origins in the psychoanalytic theory much in the same way that infant-mother attachment theory has roots in it. The work of Freud, Klein, Fairbairn leads into the ideas of Winnicott, who was the first to systematically describe transitional objects giving them scientific legitimacy.

Within the psychoanalytic theory, object relations theory has expanded and become a broadly inclusive idea. Freud (1905) first used the term "object" when he referred to the agent upon which (whom) the instinctual drives were discharged

and/or the agent which (whom) facilitated the discharge, the target of drives. Within Freud's system, all of the most important psychic processes are produced by excesses or deficiencies of gratification, while the object is merely the vehicle through which gratification is either obtained or denied. One of the most salient and constant characteristics of Freud's system is the pleasure principle where the ultimate goal of all impulses is the satisfaction accompanying the reduction of bodily tension, experienced as pleasure (Freud, 1926). Impulses are directed towards objects only when the objects prove useful in reducing tension. Interestingly, the particular objects towards which these impulses are directed are the least intrinsic, the most accidental features within Freud's framework concerning the nature of drives (Mitchell, 1981).

Within contemporary psychoanalytic literature, theorists such as Klein and Fairbairn have departed from the somewhat classical tradition concerning object relations theory. Klein argued that objects are built into impulses from the start and are not accidental and added through experience as proposed by Freud (Klein, 1932). Klein is in agreement with Freud in the belief that the fundamental aim of the impulses is satisfaction and the object is a means toward that end (Klein, 1932). Klein emphasizes the idea of internal objects which are established corresponding to real world external objects - not just people but all experiences and situations are

internalized. An individual's representations of all experiences and relations with significant others become internalized in an effort to preserve and protect them. For Klein, the internal world is a "natural, inevitable and continual accomplishment of all experiences" (Mitchell, 1981, p. 392).

Fairbairn further disagrees with the drive theory, which is based on the idea that libido is pleasure-seeking, by proposing that libido is object-seeking. He argues that "the object is not only built into the impulses from the start, but the main characteristic of libidinal energy is its object seeking quality" (Mitchell, 1981, p. 386). For Fairbairn, internal objects are neither "primary nor inevitable but compensatory substitutes for unsatisfactory relations with real, external objects, the 'natural' primary objects of libido" (Mitchell, 1981, p. 392). For Fairbairn, the content of internal objects is derived from real, external objects which may be fragmented and recombined but nonetheless result from the child's experience (Fairbairn, 1946).

The object relations theory within Klein's framework is almost entirely based on the internal object world, while Fairbairn's conception of one based upon experiences in the external world. It was D. W. Winnicott, a member of the British Object Relations School, who attempted to bridge the gap between these theories.

Winnicott (1953) states that every individual, as a unit, is composed of not only of an internal and external reality, but a third part as well. He call this third part an intermediate area of experiencing, to which inner and external reality contribute. "It is an area which is not challenged, because no claim is made on its behalf except that it exist as a resting-place for the individual engaged in the perceptual human task of keeping inner and outer reality separate yet inter-related" (Winnicott, 1953, p.90). This intermediate state is one between an infant's inability and growing ability to recognize and accept reality --it is the substance of illusion (Winnicott, 1953). This intermediate area of experiencing is a significant part of the infant's experience and is made possible by the mother's special "capacity for adapting to the infant's needs, thus allowing the infant the illusion that what he creates really exists" (Roiphe, 1979, p. 119).

Winnicott (1953) introduced the term transitional phenomena to designate this intermediate area of experiencing. The transitional phenomena can be illustrated by the babbling of an infant or the way an older child goes over a repertory of songs when going to sleep, or by the use of objects that are not part of the infant's body yet are not fully recognized as belonging to external reality (Winnicott, 1953). Very early in life infants display a sequence of events that involve a "not-me" possession such as a fist-in-mouth activity

which may eventually lead to an attachment to teddy, doll, soft or hard object (Winnicott, 1953). These sequences exist other than for oral excitement and stimulation, and sooner or later in an infant's development he begins to "weave other-than-me objects into his personal pattern" (Winnicott, 1953, p. 90). Out of this transitional phenomena emerges the idea of transitional object.

The transitional object relates to the intermediate area of experiencing in which a bond between the infant and mother is preserved in the mother's absence "by the intervention of the inanimate transitional object which can be, on the one hand, a fusion of the aspects of the mother and on the other hand, be a separate inanimate object in its own right" (Grotstein, 1982, p. 52). According to Winnicott (1953) the transitional object is not an internal object but a possession. Yet for the infant, it is not an external object either for it is invested with special qualities through the use of projective mechanisms (Roiphe, 1979). "The transitional object is never under magical control like the internal object, nor is it outside control as the real mother is" (Winnicott, 1953, p. 94).

A transitional object may be the corner of a blanket, a teddy, a word, a mannerism or the like and becomes very important when going to sleep, as a defense against anxiety or stress, and in times of loneliness (Winnicott, 1953). The object continues to be important and parents soon begin to

know its value; they take it when traveling and may let it get dirty, even smelly, knowing that by washing it a break in the continuity of the child's experiences may result and possibly destroy its meaning (Winnicott, 1953). Patterns set in infancy may persist into childhood so that the original object may continue to be absolutely necessary and the "need for a specific object or behavior pattern that started at an early date may reappear at a later age when deprivation threatens" (Winnicott, 1953, p. 91).

Winnicott (1953) summarizes some of the special qualities of the infant-object relationship:

- (1) the infant assumes all rights over the object
- (2) the object is affectionately cuddled as well as excitedly loved and mutilated
- (3) the object must never change unless changed by the infant
- (4) the object must survive instinctual loving and hating
- (5) the object is seen by the infant to give warmth, to move, to have texture or to do something that shows vitality and reality in its own right
- (6) over time the object is not forgotten but it loses meaning as the transitional phenomena becomes diffused and spread out over the whole intermediate territory between the inner psychic reality and the external world.

The transitional object helps the child in the process of becoming able to accept difference and similarity, to distinguish between fantasy and fact, between inner objects

and external objects (Winnicott, 1953). "The ability to personalize and to make an external object internally meaningful ... is indeed a developmental milestone" (Horton, Louy & Copollilo, 1974, p. 621). The transitional object comes to stand for the live, real, good-enough mother -- one who makes active adaptation to the infant's needs (Winnicott, 1953). The object may in many ways represent the ideal caregiver -- one that is omnipresent and always accessible. "The transitional object is what we see of the journey toward experiencing" (Winnicott, 1953, p. 92).

Linking together the findings from infant-mother attachment literature with Winnicott's ideas surrounding attachment objects, it seems plausible that indeed a child will exhibit the same biologically and evolutionary-based behaviors of clinging, sucking, crying, smiling and following toward not only the mother but also her substitute. Bowlby (1969) states that these behaviors can be directed toward soft objects like blankets and cuddly objects much in the same way that they are directed and redirected toward the "natural" object (p. 312).

Harlow's (1958) studies involving rhesus monkeys also provide a better understanding of the human infant's attachment to inanimate objects. It was body contact with a terry-cloth surrogate mother that was the overwhelmingly important variable in the development of affectional responsiveness. It seems that these inanimate objects

provided enough emotional security to explore strange situations and manipulate physical objects. More recent studies (Weisberg & Russell, 1971; Passman & Weisberg, 1975) concluded that blankets and mother share similar functional properties -- namely decreasing anxiety and facilitating exploratory and play behaviors. These attachment objects promoted proximity/contact seeking behaviors among children, even in some situations when the mother was present (Passman & Weisberg, 1975).

Theorists are in agreement that a child must have first formed an attachment with a person(s) prior to forming attachment to inanimate objects. Ainsworth et al. (1978) and Bowlby (1969) propose that children require a secure attachment to mother before they can establish a substitute for her and Winnicott (1953) postulates that indeed a child must have a "good enough" mother for an attachment to a transitional object to develop. There appears to be no empirical evidence investigating attachment to inanimate objects and security of infant-mother attachment.

Empirical studies examining children's use of transitional objects did not emerge until the 1970's. It was Busch, Nagera, McKnight and Pezzarossi (1973) that operationally defined transitional object attachment and stated 7 criteria for such an attachment:

- (1) the attachment must be manifested within the first year of life

- (2) it must be of lasting duration (1 year or longer)
- (3) the presence of the object must be soothing and bring about a decrease in anxiety
- (4) the object does not meet a direct or libidinal need (breast or bottle)
- (5) the object is created by the infant and not one provided by the parent
- (6) the object can not be part of the infant's body (thumb or finger)
- (7) the object is familiar not only by sight, but by texture and odor.

Busch et al. (1973) also made a distinction between the two types of attachments objects frequently noted in the literature: primary and secondary transitional objects. Primary transitional objects are soft, malleable cuddly objects such as a blanket, sheet, diaper, bit of cloth, nightgown, etc. that is intimately related to the infant's need for physical contact (Busch et al., 1973). The onset of attachment to such objects typically occurs between 6-12 months. Attachment to secondary transitional objects usually occurs sometime during the second year. Objects under this classification include soft cuddly toys such as teddy bears and soft dolls along with some hard toys. Although these objects may provide contact comfort, they appear to be closely related to the development of autonomy and independence, reflecting a more mature ego and cognitive sophistication

(Hong, 1978). Although a distinction is made between the two types of transitional objects, there is no objective evidence suggesting that children use the two types in different ways or have different attributes and meanings (Litt, 1986).

Whether they are considered primary or secondary transitional objects, children seem to overwhelmingly prefer blankets, diapers or bits of cloth as transitional objects (Litt, 1986), although blanket attachment is rare until 9-12 months (Passman & Halonen, 1979). Blanket attachment then increases rapidly after that and remains relatively stable until 36 months (Passman & Halonen, 1979). Attachments to soft objects are the next most popular and a very small percentage of children prefer hard objects as transitional objects (Litt, 1986). When examining soft and hard object attachment and age, attachment is stable and low compared to blanket attachment (Passman & Halonen, 1979). Regardless of the type of transitional object, they are almost invariably necessary at bed and nap time, in addition to times of fatigue, illness, unhappiness and in the presence of a stranger (Litt, 1986; Van Ijzendoorn, Goossens, Tavecchio, Vergeer & Hubbard, 1983; Winnicott, 1953). The most common behavior pattern with transitional objects is to hold the object and finger/feel it with the hands, while rubbing the face with the object is also fairly common (Litt, 1986). " While few children actually suck or chew the object itself, about one-third to one-half of children with transitional

objects suck their thumb or fingers while holding their transitional objects" (Litt, 1986, p. 388).

The incidence of transitional object attachment varies greatly according to cultural norms and is far from a universal phenomena, as Winnicott (1953) suggested (Litt, 1986). The highest incidence of transitional object attachment is noted by Litt (1981) where 77% of 285 middle-class American children between the ages of 2-5 years were classified as being attached; the lowest incidence figure reported is 18% in a British study of 702 three-year-olds (Boniface & Graham, 1979). A high incidence rate has been found among British and American cultures (Litt, 1981; Sherman, Hertzog, Austrian & Shapiro, 1981; Passman & Halonen, 1979), while low incidence rates have been found in Japanese, Italian, Israeli and Korean cultures (Hong & Townes, 1976; Lozoff, Paludetto & Latz, 1985; Kleiner, 1983).

Quite possibly certain child-rearing practices influence transitional object attachment, namely sleeping arrangement, breast feeding and physical contact (Hong, 1978). It was once thought that children who sleep alone in their own room are more likely to have transitional objects (Gaddini & Gaddini, 1971; Hong & Townes, 1976; Litt, 1981), but more recent evidence suggests that there is little if any association between transitional object use and where the child sleeps (Boniface & Graham, 1979; Lozoff, Paludetto & Latz, 1985; Wolf & Lozoff, 1988). The method of feeding, breast feeding vs.

non-breast feeding, and its influence on attachment to transitional objects is inconclusive. Middle- and upper-class American children show a high incidence of both breast feeding and transitional object use (Litt, 1981), while other cultures with a high rate of breast feeding have a low incidence of transitional object attachment (Gaddini & Gaddini, 1971; Kleiner, 1983). And finally, empirical evidence is lacking to shown any relationship between ordinal family position, sex of the child, age of weaning or number of caretakers on transitional object attachment (Litt, 1986).

While the usefulness and benefits of transitional objects is quite evident: children with transitional objects were found to be more independent, have fewer sleep disturbances, and have a higher overall level of emotional adjustment (Passman & Halonen, 1979; Passman & Weisberg, 1975; Bowlby, 1969; Van Ijzendoorn et al. 1983; Boniface & Graham, 1979; Newson, Newson, Mahalski, 1982), it is difficult to consider inanimate object attachment to be predictive of psychopathology as Sperling (1963) and Wulff (1946) have suggested (Passman, 1987). There have however, been anecdotal reports suggesting that lower income others regard attachments to inanimate objects as indicating weakness or immaturity (Litt, 1981; Mahalski, Silva & Spears, 1985). Bowlby (1969) postulates that attachment to inanimate objects and maladjustment are basically unrelated -- for inanimate objects are nothing more than substitutes when the natural object is

inaccessible. Prolonged attachments to cuddly objects is consistent with satisfactory relations with people and prolongation well into the school years is not uncommon ... indeed attachments to cuddly objects is not indicative of insecurity (Bowlby, 1969). Gerwitz's (1972) along with Passman and Weisberg's (1975) findings also suggest that there is no association between attachment to inanimate objects and later maladjustment. These findings in conjunction with those of Garrison and Earls (1982) reaffirm the notion that psychopathology and maladjustment exist independent of attachment to inanimate objects.

Along with the issues of later maladjustment is the notion of "insecurity" being associated with children's use of transitional objects (as many people refer to these objects as "security objects"). A major problem in addressing this problem cites Passman (1987) is the varied connotations of "insecurity" within developmental and clinical literature. It has been conceptualized in terms of play, exploration, crying, verbal output and learning within unfamiliar environments (Halonen & Passman, 1978; Passman, 1976, 1977); in terms of worrying and nailbiting (Mahalski et al., 1985); in terms of frustration tolerance and ego status (Ekecrantz & Rudhe, 1972); in terms of later adjustment as an adolescent or adult (Horton et al., 1974; Newson et al., 1982); or in terms of personality and temperament characteristics (Cohen & Clark, 1984; Newson et al., 1982). Given these diverse meanings of

insecurity, it is no doubt that there has variable findings regarding children's use of transitional objects and this broad construct of "insecurity".

The onset of attachment to inanimate objects is much more clearly defined than the termination of their use (Passman & Halonen, 1979; Litt, 1983). It appears that the modal age for relinquishing transitional objects is by 7 years in many cultures (Sherman, Hertzog, Austrian & Shapiro, 1981; Passman & Halonen, 1979; Litt, 1983; Shafii, 1986), while attachments into latency and adolescence are not uncommon (Shafii, 1986). Litt (1986) points out that the issue of prolongation into childhood and even adolescence poses a challenge for those theorists who insist that attachment to inanimate objects is only "normal" if it is confined to the first three years of life. Regardless of the exact age of relinquishment, it appears that prolonged attachment to inanimate objects is the norm rather than the exception (Litt, 1986; Bowlby, 1969).

The preceding discussion leads one to conclude that indeed there are many parallels between patterns of behavior involved in infant-mother attachment and patterns of behavior involving inanimate transitional objects. Evidence supports the notion of attachment objects serving many of the same functions as attachment figures. Both attachment objects and attachment figures appear to: promote proximity/contact-seeking behaviors, facilitate exploratory and play behaviors, and both serve as anxiety/arousal-reducing agents. Much more

is to be learned by investigating the interrelatedness of infant-mother attachment and children's attachment to inanimate objects from a more global perspective. Indeed these two "constructs" demonstrate many parallels and each would benefit enormously from research combining them.

It appears that for every empirical finding researchers make, doors to several other questions open up. The body of literature surrounding inanimate transitional objects is quite sizable, yet there remains several important questions that have yet to be answered:

- (1) Why do some children form attachments to inanimate objects and others do not?
- (2) How are specific patterns of infant-mother attachment related to the development of transitional object attachments?
- (3) What (if any) are the personality correlates of attachment to inanimate objects?
- (4) In what ways do children "use" there inanimate transitional object?

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