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An investigation into the importance of the quantity and quality of the mother-child relationship in preschool children

Ross, Annette

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resulting from nursery-school or day-care attendance. This hypothesis has been supported (Blehar, 1977; Ainsworth, 1973; Bowlby, 1969; Rutter, 1979) and refuted (Doyle, 1975; Braun and Caldwell, 1973; Portnoy and Simmons, 1978). The quality of attachment has been assessed chiefly via the manifestation of three behavioural organizations:- (a) reactions to separation (separation anxiety); (b) reactions to strangers (stranger fear/anxiety - both terms will be used due to the disagreement on definition); (c) exploratory play - the ability to use the mother as a secure base from which to explore the environment (Ainsworth et al., 1978; Sroufe, 1979).

These three behavioural systems, together with the behavioural manifestations of the attachment system, are presently seen to co-ordinate and interact giving an overall indication of healthy or pathological adjustment and development in the individual child (Sroufe, 1978; 1979).

The practice of determining psychological adjustment or maladjustment by using frequency counts and by focusing on an isolated specific behaviour has been found to be confusing and meaningless (Sroufe, 1976; 1979; Sroufe and Waters, 1977). The balance and interaction of behavioural and emotional factors throughout childhood has therefore become primary. This is the approach in which the present research is embedded - Does daily quantitative separation interfere with attachment of child and mother, and if so what are the consequences for the separation anxiety, stranger anxiety, frustration tolerance and

coping behavioural systems of the child? The focus of the study is on the consequential developments mentioned and not on the quality of attachment per se.

In addition to the quantitative dimensions of mother-child interaction, the qualitative dimension has been found to be of equal if not greater importance. If a mother is accepting, responsive and sensitive in the interaction with her child, the attachment of the child to the mother is likely to be secure, unambivalent and unanxious in nature (Ainsworth, 1973; 1979; Ainsworth et al., 1978; Fein and Clarke-Stewart, 1973). This allows for the development of an ability to deal with separations, of trust in and receptivity to novel persons and events, and of a tolerance for frustration and healthy coping mechanisms.

In summary, the primary aims of the present study are:-

1. To determine whether a part-time (nursery-school attendance), and a full-time (day-care attendance) quantitative disruption in mother-child interaction, affects the child's separation anxiety, stranger anxiety/fear, frustration tolerance and general coping mechanisms.
2. To determine whether the quality of mothering, i.e., the degree of maternal acceptance and responsiveness, affects the child's separation anxiety, stranger anxiety/fear, frustration tolerance and general coping mechanisms.

Secondary factors that have been found to influence a child's general psychological adaptation to different

situational conditions are.- (a) the age of the child, and (b) the sex of the child. The secondary aims of the present study are therefore:-

3. To determine whether there are sex differences in children's ability to cope with separation, stranger confrontation and frustration and in their general coping mechanisms.
4. To determine whether age of the child influences the development of separation anxiety, stranger anxiety/ fear, frustration tolerance and coping mechanisms.

The success of a child's adaptation to the absence of its mother and to new surroundings has been found to be greatly determined by the quality of the substitute care-centres (Etaugh, 1979; Hoffman, 1979). The results of the present study were expected to generate some suggestions for the improvement of care-centres in the community.

As mentioned, attachment, separation reactions, stranger reactions and coping ability have been conceptualised as inter-dependent, interacting behavioural systems (Sroufe, 1977; 1979).

The fourth aim of the study was therefore:-

4. To determine whether there is a relationship between a child's separation anxiety, stranger anxiety, frustration tolerance and general coping mechanisms.

CHAPTER VI

RATIONALE FOR SUBJECT AND INSTRUMENT SELECTION

6.1 Subject Sample

As already mentioned in Chapters I and V, the organizational viewpoint of child development allows for a longitudinal, interactional investigation of behavioural system development. Therefore, inferences regarding the quality of initial child-mother attachment within the first year of life, can be made from an examination of the child's successful or inadequate coping with later developmental issues, e.g., peer interaction, separation from mother, adaptation to school, ego-control and resiliency, etc., (Waters, 1978; Main, 1973; Gove and Sroufe, 1979; Matas et al., 1978).

Between the ages of ± 8 months to three years the major developmental tasks facing a child are separation, interactions with peer and adult strangers, exploration of the environment with resulting cognitive and intellectual skill attainment, language acquisition, dependence-independence, autonomy and ego-control (Lefrançois, 1973; Helms and Turner, 1976). By the age of three and a half to four, a child should have resolved many of these issues and should be able to tolerate brief separations from mother and home, to interact adequately, even if slightly apprehensively, with strange adults and peers, to delay gratification of needs and wishes, and to be fairly independent in coping with social and cognitive tasks, but with the ability to [illegible] on help if necessary.

It is on the basis of these assumptions that most nursery-schools and day-care centres have used three years as the minimum age of enrollment. It is equally due to these developmental changes that the four year-old was choses as the focus of study in the present research. The selection also allows for a minimum of one year attendance at a preschool centre at the time of observation.

With the increasing number of working mothers worldwide (Hoffman, 1979; Etaugh, (1979), the need for day-care centres for younger children arose. Therefore, there are nos many centres offering daily care for children of ± six months to six years.

As noted in Chapter III, the age of enrollment in a day-care centre affects the attachment relationship, separation and stranger reactions in different ways (Blehar, 1977; Schwarz et al., 1973). It was therefore necessary, in the present study, to include two groups of children attending day-care centres:- a group who had been enrolled at ± one year of age, and a group enrolled at ± three years of age.

In summary, the subject sample of the present study consisted of 56 mother-child pairs:- (a) a group of 14 mothers and their ± four year old children who had attended a day-care centre from the age of approximately one year (9 boys, 5 girls); (b) a group of 14 mothers and their ± four-year old children who had attended a day-care centre from the age of approximately three years (7 boys, 7 girls); (c) a group of 14 mothers and their ± 4-year old children who had attended a half-day nursery-school

from the age of approximately three years, spending the afternoon with their mothers (7 boys, 7 girls); (d) a control group of 14 mothers and their ± four-year old children who remained at home with their non-working mothers for the greater part of the day (7 boys, 7 girls).

The variables of socio-economic status and intactness of the families were controlled, i.e., all were middle-class white families; none of the parents were divorced, separated, unmarried or widowed.

It was decided to control for ordinal position in the family in order to minimize possible emotional conflict and turmoil that often results in a child when a younger child is introduced into the family. Focusing on the youngest or only child also usually assures maximum mother-child interaction as compared to the interaction between a mother and a more independent and individuated older sibling. Forty-four of the subjects were the youngest in the family and eleven were only children. Three of the home group were only children, two of the children attending day-care from the age of three were only children, and six of the children attending day-care from one year of age were only children. The ages of the children when observed ranged from 40 to 67 months. Mean age was 52.09 months.

The nursery-school and day-care centres were all of approximately equal middle-class standing. Staff-child ratios varied between one caretaker - 19 children and one caretaker - 10 children. Most of the day-care centres

ran half-day nursery-school programmes for the children three years and older.

6.2 Instruments

6.2.1 The Porter Parental Acceptance Scale (PPAS)

The present study focused on one parenting factor, acceptance, which is viewed as the chief measure of the quality of the mother-child relationship as elucidated in Chapter IV.

The PPAS sets about specifically to examine the parent's ability to accept the child in four equally important ways:-

(a) The parent "regards his child as a person with feelings and respects the child's right and need to express these feelings". The definition includes parental tolerance and understanding in the face of negative expressions which are necessary for the maintenance of the child's mental health; the ability to convey to the child that it is permissible to have certain feelings without feeling guilty; the ability to communicate with and listen to the child's perception of conflict and admit one's fault.

(b) The parent "values the unique make-up of his child and does what he can to foster that uniqueness within the limits of healthy personal and social adjustment". This definition includes parental tolerance for differences between his/her child and others, parental active encouragement and aid in the child's particular interests and assets, with acceptance of the child's limitations and without attempting to force the child

towards the parent's own preferred aspirations. This aspect also includes evaluation of the child in terms of its own growth patterns rather than by comparison with other children.

(c) The parent "recognizes the child's need to differentiate and separate himself from his parents; to become an autonomous individual". This definition includes parental encouragement of the child's growth in independence, and sense of responsibility. It also includes allowing the child to experience failure and to learn from mistakes, and allowing the child to identify with other adult models without feelings of rejection engendered on the parent's behalf.

(d) The parent "loves the child unconditionally", (Porter, 1954, p.176). This definition includes parental love and support at all times (following the child's success and failure), physical affection, criticism of certain behaviours rather than of the child him/herself, and a willingness to spend time and energy to be with the child. This aspect also includes never using love withdrawal as a means of discipline.

The PPAS consists of forty, five-optioned, multiple choice items, ten directed at each qualitative form of acceptance. The first ten items measuring the parents unconditional love for the child were of a different format, adapted from Jenkins (1941), Wang (1932) and Young (1940) (cited in Porter, 1954),requiring an indication of the parent's degree of affection felt toward the child in various situations. The five-point rating scale ranged from "much more than usual" to "much less than usual".

The following thirty items, consisting of fifteen items repeated, required an indication of the parent's feelings and probable behaviour in each situation. The total score of the PPAS and the individual scores of the four categories of acceptance were used in the computation of results.

6.2.2 Reliability

A significant reliability coefficient of 0.766 ($p < 0.00$) was obtained by Porter (1954) who used a split-half method with a sample of forty-three male and fifty-seven female respondents. In order to provide an estimate for all forty items of the PPAS the Spearman-Brown prophecy formula was applied which gave a coefficient of 0.865. Hawkes, Burchinal, Gardner and Porter (1956) provided support for Porter's (1954) findings with their split-half reliability coefficient of 0.666, using a bigger sample of 512 mothers and fathers. Similarly Burchinal (1958) reported a split-half reliability coefficient of 0.79 for forty-nine fathers and 0.78 for fifty mothers. Overall, it can therefore be concluded that the PPAS is considerably reliable and it would be possible to generalize results substantially.

6.2.3. Validity

In order to determine whether the PPAS validly measured acceptance, Porter (1954) used the ratings of five judges who were academically and/or clinically experienced. As the parents did their own ratings on the first ten items, the judges were asked to mark the five statements which comprised the choices within each of the

thirty items. They ordered the choices of a scale of one to five, with one indicating low acceptance and five indicating high acceptance. Overall not less than three out of the five judges agreed on all ratings. Forty-six percent received full concurrence from the judges, 26% from four out of five judges and 28% from three out of five judges. In only 18,67% was the marking difference as much as two scale points. Therefore, overall the validation of the PPAS is good. Nevertheless the validity measure is an internal reference for the scoring of the scale and does not provide a measure of the level of parental acceptance as judged by raters compared with the level indicated by responses on the scale.

However, Porter outlines the method of selection of items to boost the validity of the PPAS. The items chosen were based on an operational definition of parental acceptance which was embedded within a conceptual framework. The criteria taken from the framework when selecting the items were that they should reflect salient aspects of the parents' feelings, eliminate attitudes of some acceptance but which in reality are not accepting, e.g., indulgence, reflect the actual feelings and behaviour of the parents, refer to the parents' natural child and be applicable to all ages in the child's development.

Burchinal, Hawkes and Gardner (1957) assessed the degree of internal consistency of the PPAS. Two groups of respondents were selected from the respondents within the highest and lowest quantities of total scores. The mean

scores of the items of the test were then compared in an attempt to discriminate between high and low scoring groups. All the items, except for one, showed a significant ($p < .001$) ability to discriminate the high and low groups with sixty-four respondents in each group. This validity measure indicates a high degree of homogeneity in the test.

The construct validity of the PPAS remains questionable (Brownlee, 1980) and an external validation is required. However, it does have a high level of homogeneity and internal validity within a definitional and conceptual framework and thereby can be regarded as consistently measuring the same construct. Subsequent to the present study Brownlee (1980) found that, the PPAS correlated significantly with an observational measure of Autonomy-Control rather than Acceptance-Rejection. This provided a severe limitation in the measurement of the quality of mothering in the present research. Future research must take heed in employing the PPAS due to the apparent revelation that acceptance is not the sole factor being examined.

6.2.4. The Observational Rating Scales of Acceptance and Responsiveness

Due to the unsure construct validity of the PPAS and because of the frequently enumerated limitations of pencil and paper tests (Anastasi, 1968; Kerlinger, 1973) observational ratings of maternal acceptance and responsiveness were conducted.

Acceptance was defined as:- the mother does not show disturbance at hearing negative f[illegible]ings expressed by her child, i.e., indicates to the child that all his/her feelings are understandable; the mother does not judge the child's underachievements but accepts him/her at his/her own pace; the mother does not overprotect the child or block his/her attempts at independence. This definition corresponds with two of Porter's (1954) definitions of the concept of acceptance: the parent "regards the child as a person with feelings and respects the child's right and need to express these feelings" and the parent "recognizes the child's need to differentiate and separate himself from his parents; to become an autonomous individual." Acceptance and rejection have been described by Becker (1964) and by Schaefer (1965) as bipolar opposites. Therefore rejection was used as the other pole of the scale and was defined as: the mother pushes the child to act according to her wishes rather than at the child's own pace (directiveness); maternal open hostility to and criticism of the child. The actual five-point scale ranged from: "very accepting; no attempts to direct or criticize the child's actions or verbalizations", to, "little or no acceptance, mother is very directive, critical or overprotective" (see Appendix).

Responsiveness was defined as: a readiness of the mother to respond to the child's needs and demands. Unresponsiveness was defined as: the mother shows little interest in the child's thoughts and activities;

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Responsiveness was defined as: a readiness of the mother to respond to the child's needs and demands. Unresponsiveness was defined as: the mother shows little interest in the child's thoughts and activities;

she is primarily concerned with her own activities and prefers not to be bothered by the child; the mother ignores the child's demands. The five-point scale ranged from: "mother responds immediately"; "mother seems to anticipate, at times, the child's need to be responded to from non-verbal cues" to, "the mother ignores the child or responds only after many demands by t ild." The distinctions were drawn from Fein and Clarke-Stewart's (1973) concept of being "tuned in" to the child's needs, and Ainsworth and Bell's (1974) concept of maternal sensitive responsiveness to the child's cues. The Acceptance and Responsiveness scores were computed separately and in combination as an index of the quality of mothering.

6.2.5 Reliability

In order to obtain a measure of reliability for the scales, two raters were used throughout the observations. Their concordance rates were high with a correlation of .90 ($p < 0.01$). When the ratings differed the mean values were used.

6.2.6. Validity

The strongest limitative effect of observational rating scales is the degree of subjective interpretation required by the observer (Kerlinger, 1973). In order to reduce this effect, the scales used category ratings, i.e., condensed descriptions of the different degrees of behaviour (see Appendix). In addition, both acceptance and responsiveness were defined within a theoretical,

conceptual framework thereby lessening the diffuseness of the bipolar extremes.

6.2.7 The Frustration Tolerance Scale

The scale measuring frustration tolerance consisted of three five-point sub-scales: task endurance, emotional reaction and reference to mother or interviewer (help-seeking). The format of a category rating scale was used, the categories comprising condensed descriptions of behaviour. The task endurance sub-scale ranged from - "keeps trying consistently until convinced piece will not fit" (high frustration tolerance), to, "if piece does not fit the first time, child abandons the piece or task" (low frustration tolerance). The emotional reaction sub-scale ranged from-"no apparent emotional reaction (anger, distress)", (high frustration tolerance) to,"extreme emotional reaction, enough to abandon task, or aggressive attacks on the task, or verbalizations of anger or distress" (low frustration tolerance). The reference to mother or interviewer sub-scale ranged from - "even if angered or distressed the child keeps to the task on his/her own" (high frustration tolerance), to, "the child almost immediately calls for help and won't continue task till helped for most of the time" (low frustration tolerance).

6.2.8 Reliability

The two observers ratings were highly concordant (0.95, $p < 0.01$). The scores for each sub-scale were added to give an overall index of frustration tolerance.

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The two observers ratings were highly concordant (0.95, $p < 0.01$). The scores for each sub-scale were added to give an overall index of frustration tolerance.

6.2.9 Validity

The three measures used as an index of frustration tolerance can be regarded as highly valid as they each are drawn from substantiated theoretical and empirical frameworks

Persistence and endurance in problem-solving situations have been found to be indicative of healthy ego-development (Maier and Ellen, 1959; Sears, 1972; Feiring and Lewis, 1979; Bandura, 1973). To be able to overcome the obstacles often present in day-to-day situations and to cope with the impatience of and frustration with delayed success and gratification, persistency and endurance are essential attributes. The tolerance of frustration demands "staying power"which was thus measured by the task endurance subscale.

If one is to cope effectively with frustrating tasks, control of one's emotional expression is also necessary (Block and Martin, 1958; Matas. 1977). Inability to moderate anger and distress in the face of frustration results in cognitive disorganization resulting in diminished problem-solving strategies (Main and Londerville, 1978, cited in Ainsworth, 1979; Matas et al., 1978). Hence rating of the child's emotional reaction to frustration was used as a measure of frustration tolerance.

Reliance on another's contribution to solve one's problems entirely, reflects an inability to take responsibility for one's situation, over-dependence and an evasion of any attempt to cope with delayed gratification, i.e.,

frustration (Matas et al., 1978). This would therefore indicate poor frustration tolerance, and the child's degree of help-seeking was thus included in the frustration tolerance scale.

6.2.10 The Separation and Stranger Anxiety Scales

A modified version of the Ainsworth and Wittig (1969) Strange-Situation Procedure, developed by Tizard and Tizard (1971) was used to assess a child's reaction to separation from and reunion with the mother and the reaction to a stranger, in the presence of the mother.

Ainsworth and Wittig (1969) developed the procedure detailed in Chapter I, in order to assess the quality of attachment and its effects on separation and stranger reactions as well as on exploratory behaviour and the ability to use the mother as a secure base. The procedure has been severely criticized by Belsky and Steinberg (1978) who have stated that the unnatural, stressful laboratory setting cannot evoke valid and generalizeable reactions of the child to separation and strangers. Nevertheless many employers of the method have reported that the Strange-Situation Procedure validly and reliably differentiates anxiously from securely attached infants and children with subsequent differentiation of well-adjusted and maladjusted separation, stranger and exploratory play reactions and ability to use the mother as a secure base (Ainsworth et al., 1978; Sroufe and Waters, 1977; Waters, 1978; Connell, 1976). Ainsworth et al. (1978) compared Strange Situation reactions and home-based reactions of

one-year-old children to the same procedure and found that the patterning of behaviour in the home paralleled that occurring in the strange-situation. Therefore, although intensity and the exact forms of behaviour may vary in the two settings, it can be conclusively stated that the Strange-Situation Procedure is valid and reliable and can be put to continued use.

Quality of attachment, exploratory behaviour and the ability to use the mother as a secure base were not used in the present study as dependent variables. Therefore, Tizard and Tizard's (1971) version of the Strange-Situation Procedure was selected for use as it chiefly examines children's separation and stranger reactions, two of the dependent variables of the present research.

The child's response to the mother's departure was rated on a four-point scale:-(1) child follows, looks miserable; (2) child follows, no emotion shown; (3) child stays, looks miserable; (4) child stays, no emotion shown. The two observers ratings concurred with a correlation of 0.88 ($p < 0.01$).

After three minutes the mother was asked to return and the child's reaction to reunion was rated on a five-point scale, ranging from - child ignores mother, continuing what he/she is doing, to, child moves onto mother's lap or holds onto her, or initiates close physical contact (see Appendix). Observers' ratings concurred significantly, with a correlation of 0.93 ($p < 0.01$).

Reunion behaviours have been found to be more reliably

indicative of the degree of separation anxiety evidenced by the child (Blehar, 1977; Ainsworth, 1977). Thus, separation and reunion reactions were examined separately and in combination in relation to the independent and other dependent variables.

The stranger anxiety/fear procedure was adapted from Ainsworth and Wittig's (1969) research, but was elaborated by Tizard and Tizard (1971) using Rheingold and Bayley's (1959) assessment scale.

To gage stranger anxiety/fear, the interviewer, in the presence of the mother, made a series of standardized overtures to the child whose responses were rated on a seven-point scale for each of the three overtures. The interviewer first turned to the child, smiled and said "hello". She then opened a book and asked the child : "Would you like to come and look at it?" Finally, she smiled and asked the child : "Would you like to come over here and sit on my lap and see?" The seven-point ratings after each overture ranged from - child cries or runs away, to, smiles and vocalizes or approaches smiling. The scores for each episode were summed, a high score indicating low stranger anxiety/fear, a low score strong stranger anxiety/fear. Again the observers' ratings concurred highly with a correlation of 0.85 ($p < 0.01$).

6.2.11 Reliability

The high correlation found between the observers' ratings on both the separation anxiety indices and stranger anxiety scores suggests that the procedures employed have

a high rate of reliability. Tizard and Tizard (1971) similarly found their experimenters' ratings to be highly correlated, $r = 0.92 - 0.96$, $(p < 0.01)$. As already noted, the basic Strange-Situation Procedure has been found to be a reliable method of assessing stranger and separation reactions among other behavioural systems, in infants and young children (Sroufe and Waters, 1977; Marvin, 1977; Maccoby and Feldman, 1972; Ainsworth et al., 1978; Feldman and Ingham, 1972; Connell, 1976; Main, 1973; Waters, 1978).

6.2.12 Validity

Ainsworth and Wittig (1969) and Ainsworth et al., (1978) have successfully used the Strange Situation Procedure to differentiate between anxiously and securely attached infants. From these findings they have been able to predict successfully the separation and stranger reactions of the different groups of children. The procedure can therefore be viewed as highly valid. Similarly, Tizard and Tizard (1971) were able to differentiate their two groups of residential and home-reared two-year olds through the patterns of attachment manifested and via the stranger and separation reactions of the children.

The correlation between stranger anxiety/fear and separation anxiety in the present study was 0.53 ($p < 0.05$). The correlation between the reactions to mother's departure and stranger reactions was 0.49 ($p < 0.05$) and between the reactions to mother's return and stranger

reactions was 0.05 ($p < 0.05$). Overall, therefore the validity of the measures used in the present study can be described as considerably valid.

6.2.13 The Fantasy Test

The fantasy test was administered to obtain a measure of the children's general ego-coping mechanisms. It consisted of 10 items requiring the child to imagine himself/herself in a specific situation. The child was then asked how he/she would cope with a particular problem. For example, "Do you remember Snow White? What would you do if you saw the wicked fairy godmother coming to you?" (See Appendix for complete questionnaire.) The responses were rated on a five-point scale ranging from an inability to cope (e.g., I'll cry/I don't know) to a self-directed solution (e.g., give her a poisened apple/zoom past). Scores for all ten items were added, giving an overall index of coping ability.

The questionnaire and scoring system were devised by Shmukler and Skuy (1979) for use with five-year old nursery-schoolers. Reliability and validity measures were not available before the completion of the present dissertation.

6.2.16 Maternal Interview Schedule

The interview consisted of three questions concerning rearing difficulties experienced with the particular four-year-old child in the study, the child's ability to form friendships, and the mother's own preschool attendance/non-attendance. Between-group differences were then assessed.

CHAPTER VII
PROCEDURE

The experimenter visited ten day-care centres and seven nursery-schools situated in the Johannesburg vicinity. Lists of the ± four-year-old enrolled and wait-listed children from each were obtained. They were initially screened for ordinal position in the family, i.e. youngest or only child, intactness of the family, and part-time, full-time employment, and unemployment of the mother. Only nursery-school and wait-listed children with non-working mothers and day-care children with full-time working mothers were selected.

The mothers of the children were telephonically contacted. They were asked to participate in a university-run research project which was attempting to examine mother-child relationships as well as the effects of day-care centres and nursery-schools on young children. The mother and child were asked to come to the university for approximately one and a half hours. Several mothers refused to participate but eventually 56 mothers and their four-year-old children were recruited. A map and introductory letter were sent to each mother and a time for observation was set.

When each mother-child pair arrived at the experimental room (with a one-way mirror and observation room), they were introduced to the experimenter, interviewer and the two observers. The mother was then seated in the centre of the experimental room in close proximity to the interviewer.

ERRATUM

The final paragraph on page 133 should read as follows:

When each mother-child pair arrived at the experimental room (with a one-way mirror and observation room), they were introduced to the experimenter, interviewer and the two observers. In order to eliminate observer and interviewer bias, the observers and the interviewer were kept blind as to which preschool group (home, day-care, nursery-school) each mother-child pair belonged. The mother was ...

The child was asked to sit at a low table directly in front of the one-way mirror and was given the Frustration puzzle to do. As the child was attempting the puzzle, the interviewer asked the mother several questions about the child's past and present upbringing (see Chapter VI-6.2.16). The two observers rated the child's ability to tolerate frustration on three five-point scales (see Chapter VI-6.2.7).

Tizard and Tizard's (1971) modified version of Ainsworth and Wittig's (1969) Strange Situation Procedure was then instigated. The mother was asked to leave the room for five minutes and the child was left with the interviewer. The child's reaction to the mother's departure was rated by the observers on a four-point scale (see Chapter VI-6.2.10). When the mother returned the child's reaction to reunion was rated by the observers on a five-point scale.

In order to assess the child's stranger anxiety/fear, the interviewer then increased her proximity to the child 3 times (as noted in Chapter VI-6.2.10). The child's reaction to each of these approaches was rated by the observers on a seven-point scale. The mother was present throughout the stranger-approach procedure.

The interviewer then left the mother and child together with some toys and their interaction was observed for five minutes. Ratings were made of the mothers acceptance of and responsiveness to the child by the two observers (see Chapter VI-6.2.4). Finally the mother was requested to complete the PPAS, keeping her four-year-old child

specifically in mind when responding to the items (see Chapter VI-6.2.1). Simultaneously, the child was asked by the interviewer to respond to the items on the fantasy questionnaire (see Chapter VI-6.2.13). If the child was apprehensive, shy, or refused to co-operate with the interviewer, the mother was asked to take over the inquiry.

When the father or other siblings accompanied the mother and child to the experimental setting, they were requested to wait in a separate room with magazines and toys. Distractions of the mother and child during the experimental procedure were therefore avoided.

Following the experimental procedure and administration of scales, the data were scored and transferred to punch cards. The Statistical Package for the Social Sciences (Nie, Bert and Hodlaihull, 1970) was used for the computation of results at the University of the Witwatersrand Computer Centre.

Having outlined the subject sample and the measuring instruments selected and the procedure followed, it is necessary to clearly state the hypotheses under investigation in the present study.

7.1 Hypotheses

1a. The quantity of mother-child interaction affects the separation and stranger anxiety, the frustration tolerance and the coping mechanisms exhibited by the child.

1b. A greater quantity of mother-child interaction results in lower levels of separation and stranger anxiety,

higher frustration tolerance and more competent coping mechanisms in the child, than lesser amounts of interaction (i.e. the home-reared children will exhibit less separation and stranger anxiety, greater frustration tolerance and more competent coping mechanisms than children attending half-day nursery-schools or full-day centres).

2a. The quality of mothering affects the separation and stranger anxiety, the frustration tolerance and the coping mechanisms exhibited by the child.

2b. High quality mother-child interaction (accepting, responsive) results in lower levels of separation and stranger anxiety, higher frustration tolerance and more competent coping mechanisms in the child, than mother-child interaction of poor quality (non-accepting, unresponsive).

3. Age of the child determines the degree of separation and stranger anxiety, frustration tolerance and the nature of the coping mechanisms exhibited by the child.

4. Children attending day-care centres from approximately one year of age exhibit greater separation and stranger anxiety, lower frustration tolerance, and less competent coping mechanisms than children attending a day-care centre from approximately three years of age.

5. The degree of separation and stranger anxiety, frustration tolerance and the nature of the coping mechanisms exhibited by the child is different for males and females.

6. Separation anxiety, stranger anxiety, frustration tolerance and the development of coping mechanisms are inter-related behavioural systems.

CHAPTER VIII

RESULTS

Hypothesis 1a has four sub-sections:-

(i) The quantity of mother-child interaction affects the separation anxiety exhibited by the child;

(ii) The quantity of mother-child interaction affects the stranger anxiety exhibited by the child

(iii) The quantity of mother-child interaction affects the frustration tolerance exhibited by the child;

(iv) The quantity of mother-child interaction affects the coping mechanisms exhibited by the child.

To determine whether these hypotheses were supported or refuted a one-way analysis of variance (ANOVA) was computed for each.

(i) The total score for separation anxiety was made up of the scores for the child's reaction to mother leaving and the scores for the child's reaction to her return. Three ANOVA's were therefore computed (Table 1):-

TABLE I

One-way ANOVA: Mother leaves X Group

Source of variation	Sum of Squares	DF	Mean Squares	F	Signif. of F
Between groups	872.770	3	290.923	2.431	0.076
Within groups	6223.176	52	119.676	-	-
Total	7095.945	55	129.017	-	-

No significant differences were found between the four preschool groups on the measure of separation anxiety, the child's reaction to mother's departure ($p < .076$).

The mean values of the reactions to mother leaving for each group reveals that there is a tendency for separation anxiety to increase with an increase in amount of time spent away from the mother (Group 1 = child at home with mother; Group 2 = child attends half-day nursery-school; Group 3 = child attends full-day centre from the age of three; Group 4 = child attends full-day centre from the age of one):-

Group 1	Group 2	Group 3	Group 4	(see (Fig.1)
12.14	18.21	21.43	22.14	

TABLE 2

One-way ANOVA: Mother Returns X Group

Source of variation	Sum of Squares	DF	Mean Square	F	Signif. of F
Between Groups	882.145	3	294.048	1.807	0.157
Within groups	8460.660	52	162.705		
Total	9342.802	55	169.869		

No significant differences were found between the pre-school groups on the measure of separation anxiety, the child's reaction to the mother's return ($p < 0.157$) (see Table 2).

The mean values of the reactions to mother's return for each group reveals a tendency for separation anxiety to increase with an increase in the time spent away from the mother:-

Group 1	Group 2	Group 3	Group 4	(see (Fig.2)
20.00	23.21	28.21	30.00	

Figure 1

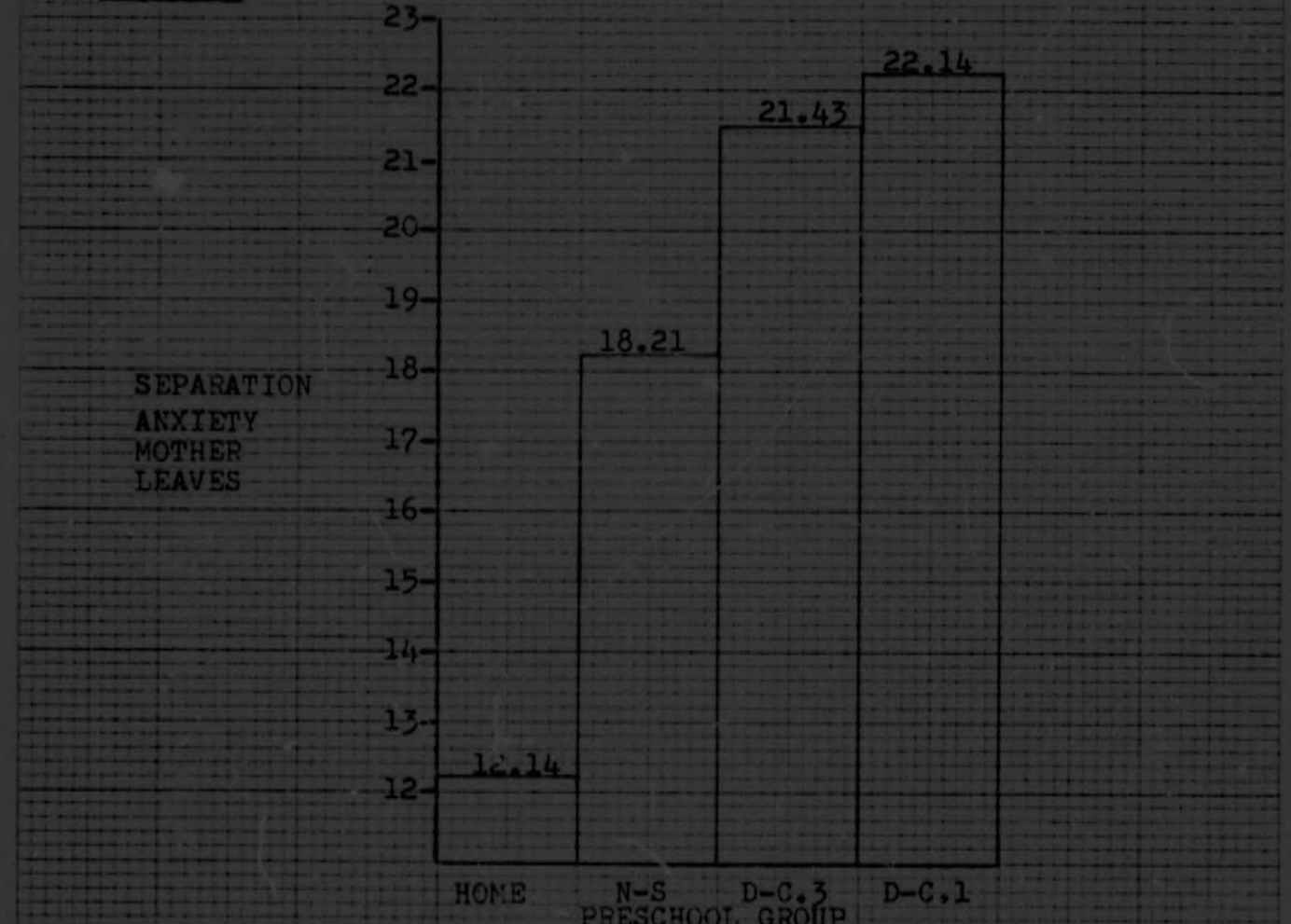


Figure 2

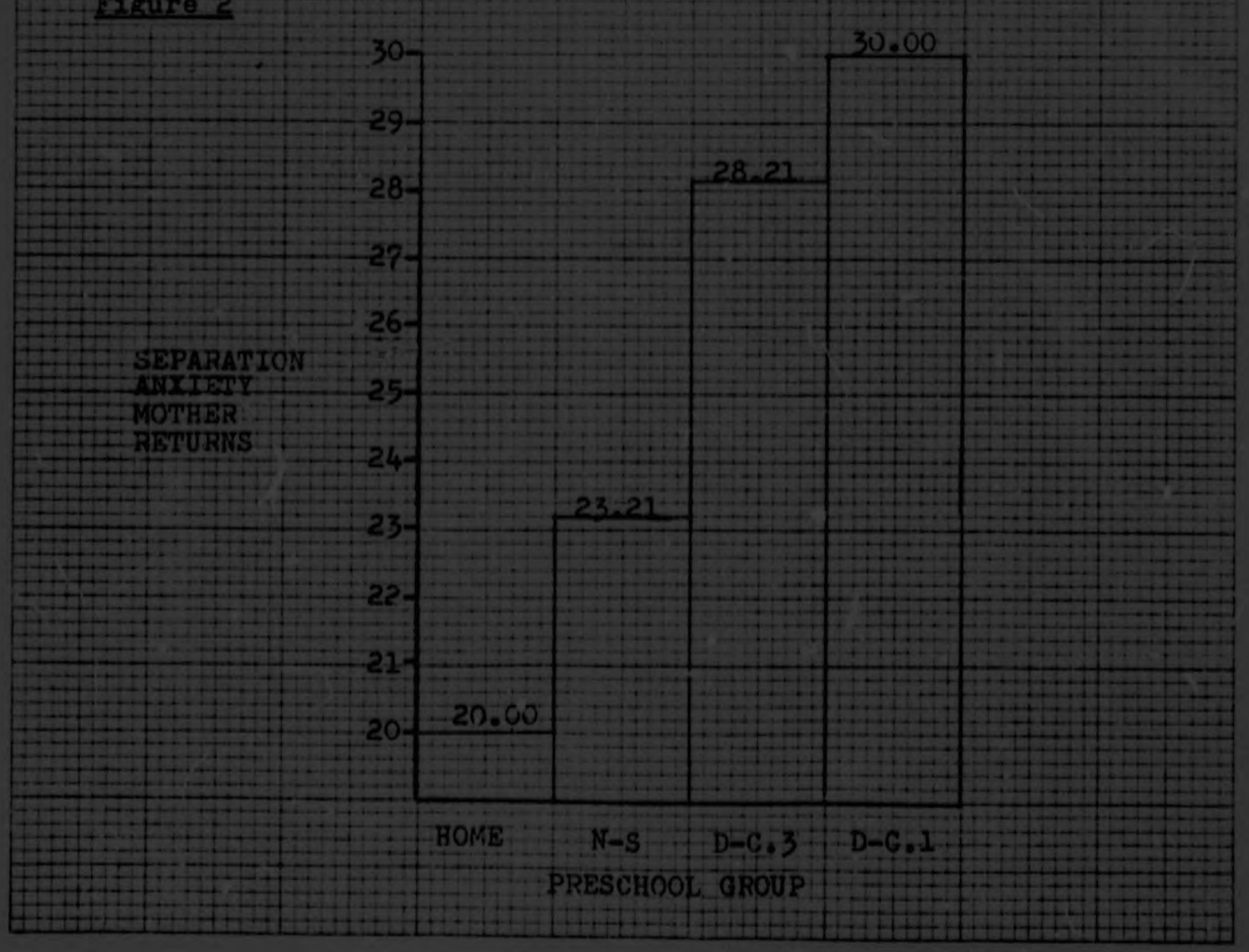


TABLE 3

One-way ANOVA : Total Separation Anxiety (Mother leaves and mother returns) X Group

Source of variation	Sum of Squares	DF	Mean Square	F	Signif. of F
Between groups	3433.484	3	1144.495	2.478	0.071
Within groups	2401	52	461.846		
Total	27449.508	55	499.082		

No significant difference was found between the pre-school groups on the measure of total separation anxiety ($p < 0.071$), (See Table 3).

The mean values of separation anxiety for each group exhibited a tendency for total separation anxiety to increase with an increase in time spent away from mother:

Group 1	Group 2	Group 3	Group 4
32.14	41.43	49.64	52.14

(see Fig.3)

TABLE 4

One-way ANOVA : Stranger Anxiety X Group

Source of variation	Sum of Squares	DF	Mean Square	F	Signif. of F
Between groups	5408.813	3	1802.938	0.794	0.503
Within groups	118095.750	52	2271.072		
Total	123504.563	55	2245.537		

No significant differences were found between the pre-school groups on the measure of stranger anxiety ($p < 0.503$), (see Table 4).

The mean values of stranger anxiety for each group indicated that the home group experienced the least stranger

FIGURE 3

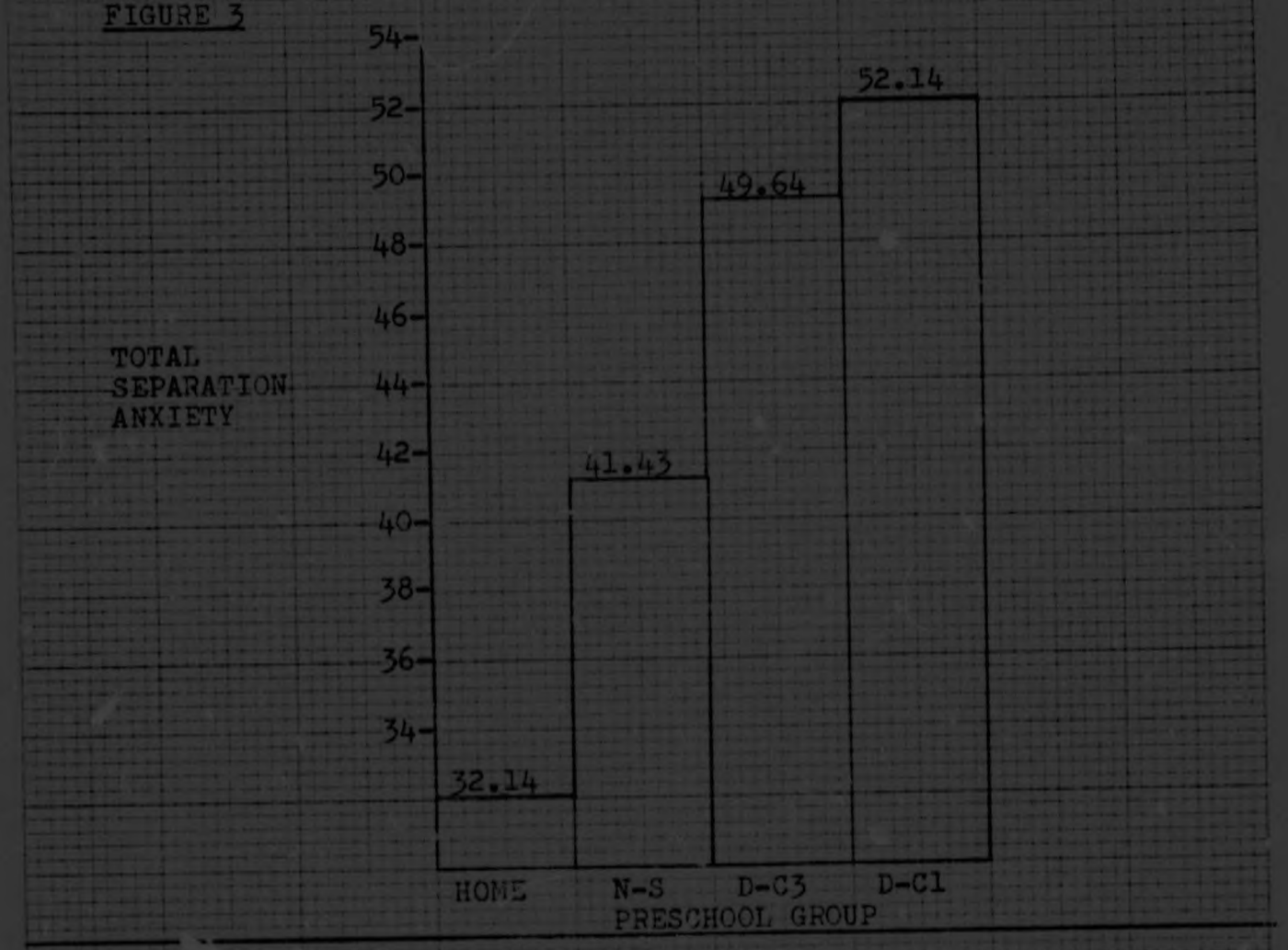
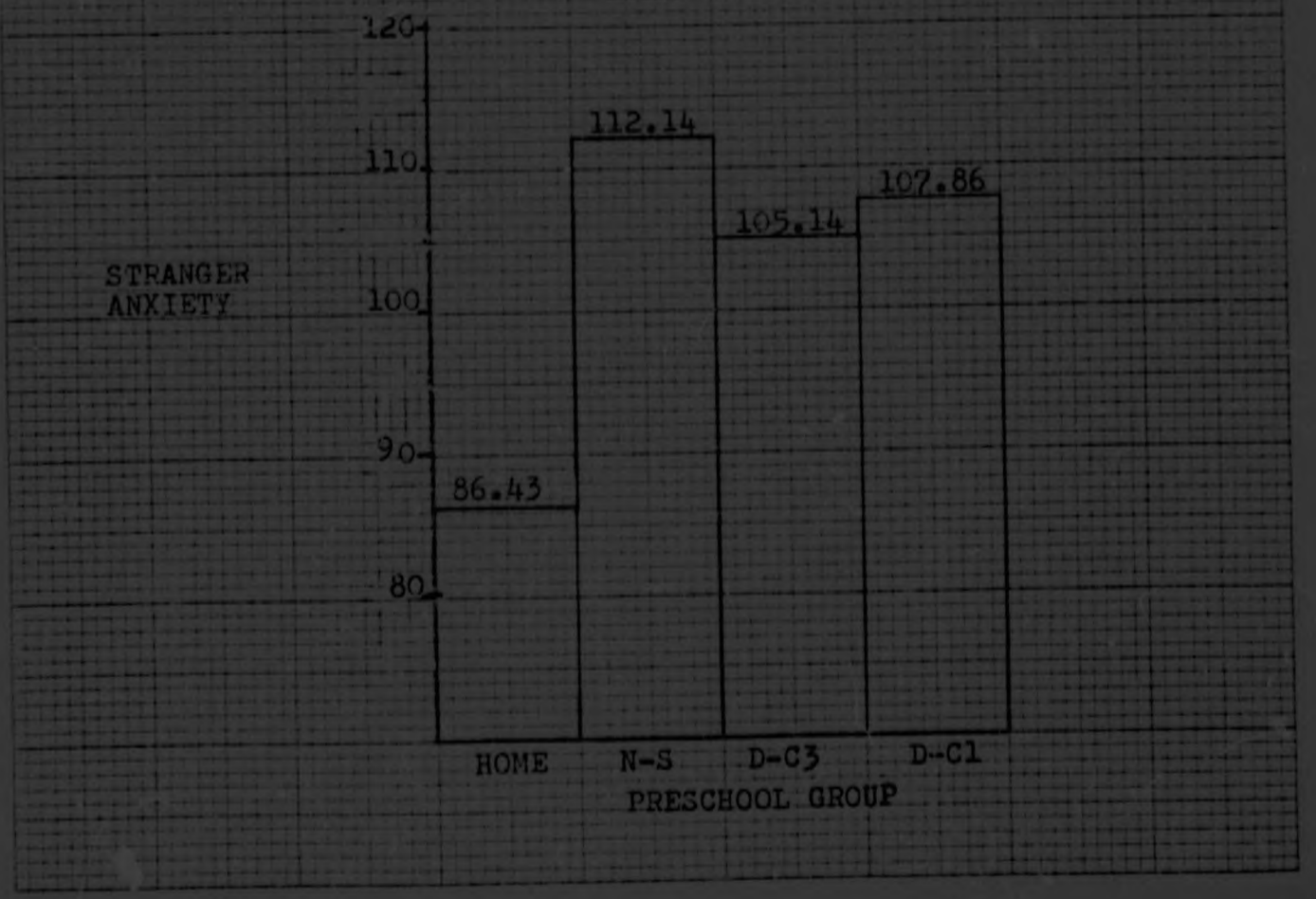


FIGURE 4



anxiety and the nursery-school group the greatest stranger anxiety.

Group 1	Group 2	Group 3	Group 4	(See
86.43	112.14	105.14	107.86	(Fig.4)

TABLE 5

One-way ANOVA : Frustration Tolerance X Group

Source of variation	Sum of Squares	DF	Mean Square	F	Signif. of F
Between groups	10129.910	3	3376.637	4.720	0.005
Within groups	37198.117	52	715.348		
Total	47328.027	55	860.510		

A significant difference between the preschool groups on the measure of frustration tolerance was found ($p < 0.005$), (See Table 5).

T-tests were computed in order to determine which groups differed significantly. The difference between groups 1 and 2 (home and nursery-school) was not significant ($p < 0.322$). The differences between group 1 and 3 (home and day-care from three years) and groups 3 and 4 (day-care from 3 and 1 year of age) were also not significant ($p < 0.143$ and $p < 0.30$). The difference between groups 1 and 4 (home and day-care from one year) was significant ($p < 0.023$), as was the difference between groups 2 and 3 (nursery-school and day-centre from three years), ($p < 0.020$) and between groups 2 and 4 (nursery-school and day-centre from one year), ($p < 0.003$).

The mean values of frustration tolerance for each group indicated that the nursery-school group had the

highest frustration tolerance, while the group attending day-care from the age of one, evidenced the poorest frustration tolerance:-

Group 1	Group 2	Group 3	Group 4
63.57	55.36	78.21	90.36

(see Fig.5)

TABLE 6

One-way ANOVA : Coping Mechanisms X Group

Source of variation	Sum of Squares	DF	Mean Square	F	Signif. of F
Between groups	171.768	3	57.256	0.874	0.461
Within groups	3408.351	52	65.545		
Total	3580.119	55	65.093		

No significant difference was found between the pre-school groups on the measure of coping mechanisms ($p < 0.461$), (see Table 6).

The mean values of coping mechanisms for each group indicated that the home group was slightly superior to the other groups:-

Group 1	Group 2	Group 3	Group 4
35.79	31.86	33.57	31.29

(see Fig.6)

Hypothesis 1b also had four subsections:-

i) The home-reared children will exhibit less separation anxiety than the children attending half-day nursery-schools, who, in turn, will exhibit less separation anxiety than the children attending day-care from three years of age, who, in turn will exhibit less separation anxiety than the children attending day-care from one year of age.

FIGURE 5

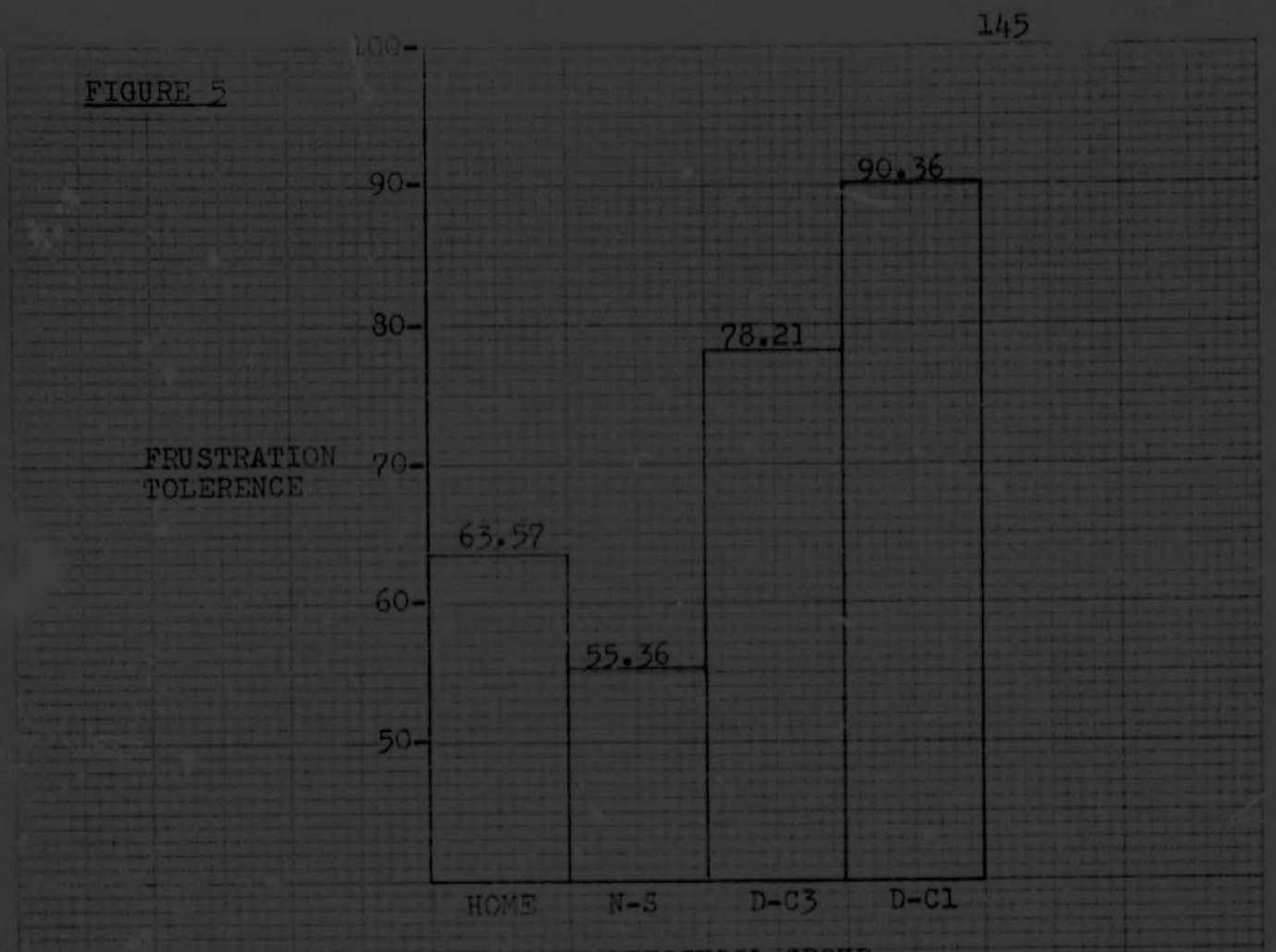
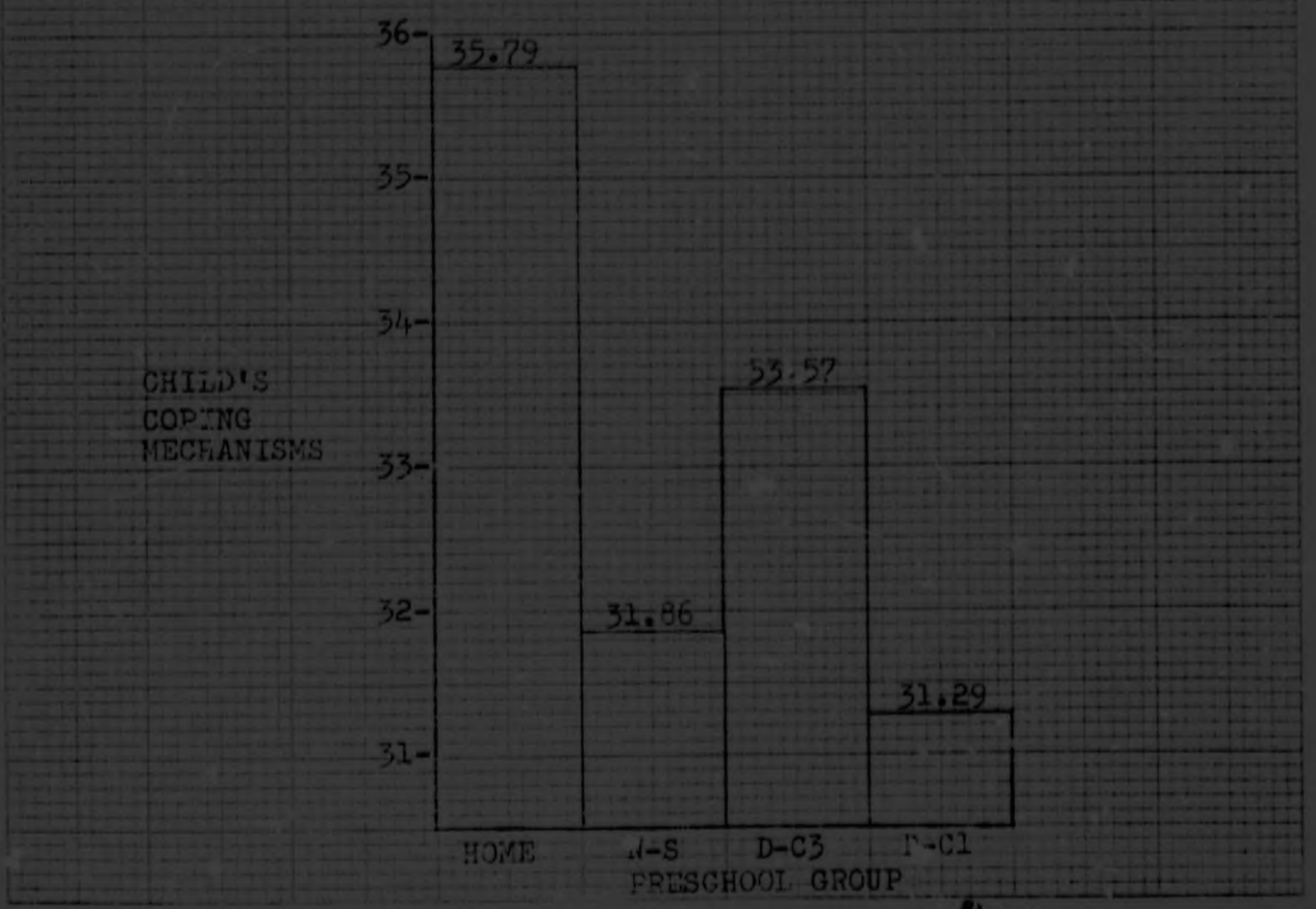


FIGURE 6



It can be seen from the mean values for the groups on separation anxiety, that this hypothesis was supported, despite the insignificance of the differences.

ii) The home-reared children will exhibit less stranger anxiety that the half-day nursery-school children who, in turn, will exhibit less stranger anxiety than the children attending a day-centre from three years of age, who, in turn, will exhibit less stranger anxiety than children attending a day-centre from one year of age.

It can be seen from the mean values of stranger anxiety for each group that this hypothesis was only partially supported. The home group evidenced less stranger anxiety, though not significantly, than the nursery-school group, and the group attending day-care from three years evidenced less stranger anxiety, but not significantly, than the group attending day-care from one year. However, the nursery-school group evidenced greater stranger anxiety than both the group attending day-care from three years and from one year of age.

iii) The home-reared children will exhibit greater frustration tolerance than the half-day nursery-school children, who, in turn, will exhibit greater frustration tolerance than the children attending a day-centre from three years of age, who, in turn, will exhibit greater frustration tolerance than the children attending a day-centre from one year of age.

It can be seen from the mean values of frustration tolerance for each group that this hypothesis was par-

tially supported. The nursery-school group evidenced greater frustration tolerance, though not significantly, than the home-reared group rather than vice-versa. The nursery-school group, however, were significantly superior to the group attending day-care from three years of age, who was, in turn, superior though not significantly, to the group attending day-care from one year of age.

iv) The home-reared group will exhibit more competent coping mechanisms than the group attending a half-day nursery-school, who, in turn, will exhibit more competent coping mechanisms than the group attending day-care from three years, who, in turn, will exhibit more competent coping mechanisms than the group attending day-care from one year of age.

This hypothesis was partially though insignificantly supported. The mean value for the home-reared group was slightly superior to that of the nursery-school group. The group attending day-care from three years was also superior to the group attending day-care from one year. However, the nursery-school group was inferior rather than superior to the group attending day-care from three years of age.

Hypothesis 2a, as with hypothesis 1a, has four sub-sections:-

i) The quality of mothering affects the separation anxiety exhibited by the child;

ii) The quality of mothering affects the stranger anxiety exhibited by the child;

iii) The quality of mothering affects the frustration tolerance exhibited by the child;

iv) The quality of mothering affects the coping mechanisms exhibited by the child.

To determine whether these hypotheses were supported or refuted Pearson product moment correlation coefficients were computed. First, the total PPAS scores as well as the four subscores were correlated with the dependent variables. Second, the combined and separate observed acceptance and responsiveness scores were correlated with the dependent variables (see Table 7).

TABLE 7

Pearson Correlation Co-efficients:-

(i) PPAS X Dependent Variables

	FRTOL	STANX	SEPAL	SEPAR	SEPANX	CHCMEC
PPAS	0.0130 p=0.462	0.0696 p=0.305	0.0653 p=0.316	0.1082 p=0.214	0.0963 p=0.240	-0.0309 p=0.411
PPASA	0.1676 p=0.108	0.0437 p=0.374	0.2241 P=0.048*	0.1849 p=0.086	0.2218 p=0.050*	-0.1128 p=0.204
PPASB	0.0292 p=0.415	0.1954 p=0.074	-0.0581 p=0.335	0.1199 p=0.189	0.0404 p=0.834	0.0150 p=0.456
PPASD	-0.0611 p=0.327	-0.1043 p=0.223	-0.1627 p=0.116	0.0715 p=0.300	-0.0410 p=0.382	-0.1344 p=0.162
PPASD	-0.0215 p=0.438	0.0.795 p=0.280	0.1343 p=0.162	0.0110 p=0.468	0.0747 p=0.292	0.0861 p=0.264

*= Significant correlation; FRTOL = Frustration Tolerence; STANX = Stranger Anxiety; SEPAL = Separation Anxiety Mother Leaves; SEPAR = Separation Anxiety Mother Returns; SEPANX = Separation Anxiety; CHCMEC = Child Coping Mechanisms.

Only two correlations were significant. Separation anxiety measured by the child's reaction to the departure of the mother and the total separation anxiety expressed by the child were significantly correlated with the subscore of the PPAS measuring whether the parent "regards his child as a person with feelings and respects the child's right and need to express these feelings" (Porter, 1954, p.76), $p < 0.048$; $p < 0.050$).

TABLE 8

(ii) Observation scales X Dependent Variables

	FRTOL	STANX	SEPAL	SEPAR	SEPANX	CHCMEC
ARTOT	0.0491 p=0.360	-0.009 p=0.497	0.1825 p=0.089	0.0868 p=0.262	0.1434 p=0.146	0.0375 p=0.392
ACC	0.0528 p=0.349	0.1498 p=0.135	0.1674 p=0.109	-0.0642 p=0.319	0.0477 p=0.363	0.1138 p=0.202
RESP	0.0292 p=0.415	-0.1288 p=0.172	0.332 p=0.164	0.1856 p=0.085	0.1760 p=0.097	-0.0402 p=0.384

ARTOT = Acceptance and Responsiveness sccres combined;
ACC = Acceptance; RESP = Responsiveness.

No significant relationships were found between the observed maternal acceptance and responsiveness measures and the child dependent variables (see Table 8). Therefore, Hypothesis 2a was only partially supported. Hypothesis 2b (high quality mother-child interaction-accepting, responsive-results in lower levels of separation and stranger anxiety, higher frustration tolerance and more competent coping mechanisms in the child, than mother-child interaction of poor quality-non-accepting, unresponsive , was not supported. The two

significant correlations, in fact, indicated that the more accepting the parent, the greater the child's separation anxiety.

TABLE 9

(iii) Pearson Correlation Coefficient : Age x Dependent Variables

	FRTOL	STANX	SEPAL	SEPAR	SEPANX	CHCMEC
AGE	-0.2637 p=0.025*	-0.0104 p=0.470	-0.1860 p=0.085	-0.2250 p=0.048*	-0.2258 p=0.047*	0.2495 p=0.032*
* = Significant Correlations						

As can be seen from Table 9, Hypothesis 3 was supported in four of the six expected interactions. Age and Frustration tolerance were negatively and significantly correlated ($r = -0,2637$; $p < 0.025$), i.e., with increasing age, the child's frustration tolerance score decreases indicating better frustration tolerance. Age and the child's separation reaction in response to the mother's return as well as age and the total separation anxiety exhibited by the child were negatively and significantly correlated ($r = -0.2250$, $p < 0.048$; $r = 0.2258$, $p < 0.047$). The older the child, the less separation anxiety evidenced. Age and the child's coping mechanisms were positively and significantly correlated, ($r = 0.2495$, $p < 0.032$). With increasing age, the competence of the coping mechanisms used by the child improves.

Hypothesis 4 (children attending day-care centres from approximately one year of age exhibit greater separation and stranger anxiety, lower frustration tolerance, and less

competent coping mechanisms than children attending a day-care centre from approximately three years of age), was supported but the differences were not significant. The mean values for the two groups on each variable were computed:-

TABLE 10

Group 3/4 x Dependent Variables

	FRTOL	STRANX	SEPAL	SEPAR	SEPANX	CHCMEC
GROUP 3	78.21	105.14	21.43	28.21	49.64	33.57
GROUP 4	90.36	107.86	22.14	30.00	52.14	31.29

GROUP 3 = children attending day-centre from three years.

GROUP 4 = children attending day-centre from one year.

Group 3 evidenced higher frustration tolerance, lower separation and stranger anxiety and more competent coping mechanisms, than Group 4 (see Table 10).

Hypothesis 5, the degree of separation and stranger anxiety, frustration tolerance and the nature of the coping mechanisms exhibited by the child is different for males and females, was not supported. T-tests were computed for the interaction between sex and each dependant variable. Males did not differ significantly from females in frustration tolerance ($p < 0.973$), stranger anxiety ($p < 0.231$), separation anxiety measured by the child's reaction to the mother's departure ($p < 0.806$), separation anxiety measured by the child's reaction to the mother's return ($p < 0.313$),

total separation anxiety ($p < 0.476$), and child's coping mechanisms ($p < 0.170$).

Hypothesis 6, separation anxiety, stranger anxiety, frustration tolerance and the development of coping mechanisms are inter-related behavioural systems, was partially supported (see Table 11):-

TABLE 11

Pearson Correlation Coefficients : Dependent Variables X Dependent Variables

	FRTOL	STANX	SEPAL	SEPAR	TOTAL SEPANX	CHCMEC
FRTOL	1.000 p=0.0					
STANX	0.1613 p=0.118	1.000 p=0.0				
SEPAL	0.2856* p=0.016	0.4500* p=0.0	1.000 p=0.0			
SEPAR	0.2586* p=0.027	0.4625* p=0.0	0.6761* p=0.0	1.000 p=0.0		
TOTAL SEPANX	0.2961* p=0.013	0.4986* p=0.0	0.9029* p=0.0	0.9272* p=0.0	1.000 p=0.0	
CHCMEC	-0.0970 p=0.238	-0.0201 p=0.413	-0.1755 p=0.098	-0.2252* p=0.048	-0.2206 p=0.051	1.000 p=0.0

FRTOL = Frustration Tolerance, STANX = Stranger Anxiety; SEPAL = Separation Anxiety (Mother leaves); SEPAR = Separation Anxiety (Mother returns); TOTAL SEPANX = Total Separation Anxiety; CHCMEC = Child Coping Mechanisms; * = Significant Correlations

Frustration tolerance correlated significantly and positively with total separation anxiety ($r = 0.2961$; $p < 0.013$),

with separation anxiety measured by mother leaving ($r = 0.2856$; $p < 0.016$), and by mother returning ($r = 0.2586$; $p < 0.027$).

Stranger anxiety correlated significantly and positively with total separation anxiety ($r = 0.4986$; $p < 0.0$), with separation anxiety measured by mother leaving ($r = 0.4500$; $p < 0.0$) and by mother returning ($r = 0.4625$; $p < 0.0$).

Separation anxiety measured by mother leaving correlated significantly and positively with separation anxiety measured by mother's return ($r = 0.6761$; $p < 0.0$) and with total separation anxiety ($r = 0.9029$; $p < 0.0$).

Separation anxiety measured by mother's return correlated significantly and positively with total separation anxiety ($r = 0.9272$; $p < 0.0$) and negatively with child's coping mechanisms ($r = -0.2252$; $p < 0.048$).

Total separation anxiety correlated significantly and negatively with child's coping mechanisms ($r = -0.2206$; $p < 0.051$).

Overall, it can be seen that frustration tolerance and separation anxiety are inter-related behavioural systems, as are separation anxiety and stranger anxiety, and separation anxiety and coping mechanisms.

Description of Interview Responses

It was decided to consider the mother's interview responses in a descriptive fashion, i.e., a notation of the distribution of the varied responses, rather than subjecting this data to specific computerized statistical procedures. This is due to the lack of standardization and scoring of the interview schedule which would prevent the results from

being considered significant (see Table 12 for the distribution of responses).

TABLE 12

Distribution of Responses from Maternal Interviews

	DAY-CARE (1 year)	DAY-CARE (3 years)	NURSERY-SCHOOL	HOME
GENERAL PROBLEMS	9	11	8	8
SOCIAL DIFFICULTY	2	5	1	6
CLOSE FRIENDS	5	3	6	6
CASUAL FRIENDS	4	8	4	3
DO NOT KNOW	1	2	2	1
PARTICULAR/ "SPECIAL" FRIEND	10	6	8	5

In response to the query concerning problems encountered in the rearing of the child, nine of the fourteen mothers who had children in day-care from the age of one reported some difficulty. The problems reported included : temper tantrums (five children), aggression (one child), hyperactivity (one child), retarded toilet training (one child), and a milk allergy (one child). Eleven of the 14 mothers with children attending day-care from the age of three reported

problems : temper tantrums (two children), aggression (two children), discipline problems (one child), stress (one child), stubbornness (one child), attention demanding (one child), epilepsy and hyperactivity (one child), asthma (one child), retarded weaning (one child).

Eight of the 14 mothers with children attending nursery-school reported difficulties : tantrums (2 children), enuresis (1 child), insecurity (1 child), feeding problems and clingy behaviour (one child), feeding difficulty (1 child), hypersensitivity (1 child), illness (1 child). Eight of the 14 mothers with children at home reported problems : tantrums and frustration (one child), nervousness and frustration (one child); social difficulties, aggression and enuresis (one child), stubbornness (one child), sensitivity and insecurity (one child), enuresis (two children), sleep refusals and separation anxiety (one child). Overall, there is not much difference between the groups in type of problem encountered nor the frequency of occurrence.

In response to the question directed at the ease with which the children interact socially, only two of the 14 children attending day-care from the age of one were reported as having difficulty in mixing socially and making friends; five of the 14 children attending day-care from the age of three were reported as having problems socially; and only one of the 14 children attending nursery-school had such problems; and six of the 14 children at home with their mothers had social problems.

Asked whether their children's friendships were casual or close, five mothers with children attending day-care from

the age of one reported that their children's friendships were close in nature, four children's friendships were casual, four children's friendships were both casual and close, and one mother did not know the nature of her child's friendships.

Within the group of children attending day-care from the age of three, three children were reported to have close friends; eight had casual friends; one had both casual and close friends; and two mothers did not know the nature of their children's friendships.

Within the group attending nursery-school, six children were reported as having close friendships; four had casual friendships; two has both casual and close friendships; and two mothers did not know the nature of their children's friendships.

Within the group of children at home with their mothers, six children were reported as having close friendships; three had casual friendships; four had both close and casual friendships; and one mother did not know the nature of her child's friendships.

The last question asked concerning the children's socializing patterns was whether the children had one particular "special" friend with whom they spent most of their time. Within the group attending day-care from the age of one, ten of the 14 children were reported as having a particular friend with whom they spent most of their time; six of the 14 children attending day-care from three had such a friend; eight of the 14 children attending nursery-school had such a

friend, and five of the 14 children at home with their mothers had a friend of this nature.

The final question directed at the mothers was in connection with the type of preschool centre that they themselves had attended. Nine of the 14 mothers, whose children attended a day-care centre from the age of one, had stayed at home with their mothers during their preschool years, two had attended nursery-school and only one had attended a day-care centre. Of the 14 mothers whose children attended a day-care centre from the age of three, 11 had stayed home with their mothers, one had attended nursery-school and two had attended a day-care centre. Five of the 14 mothers, whose children attended nursery-school, had stayed home with their mothers, eight had attended nursery-school and only one had frequented a day-care centre. Finally, of the 14 mothers whose children stayed at home with them, seven had also stayed at home with their mothers, and seven had attended nursery-school. For a summary of these findings see Table 13.

TABLE 13

Preschool Attendance : Comparison of Mothers and Children

	Mothers of day-care (1-yr) children	Mothers of day-care (3-yrs) children	Mothers of nursery-school children	Mothers of children at home
STAYED HOME WITH MOTHER	9	11	5	7
ATTENDED NURSERY-SCHOOL	2	1	8	7
ATTENDED DAY-CARE CENTRE	1	2	1	-

friend, and five of the 14 children at home with their mothers had a friend of this nature.

The final question directed at the mothers was in connection with the type of preschool centre that they themselves had attended. Nine of the 14 mothers, whose children attended a day-care centre from the age of one, had stayed at home with their mothers during their preschool years, two had attended nursery-school and only one had attended a day-care centre. Of the 14 mothers whose children attended a day-care centre from the age of three, 11 had stayed home with their mothers, one had attended nursery-school and two had attended a day-care centre. Five of the 14 mothers, whose children attended nursery-school, had stayed home with their mothers, eight had attended nursery-school and only one had frequented a day-care centre. Finally, of the 14 mothers whose children stayed at home with them, seven had also stayed at home with their mothers, and seven had attended nursery-school. For a summary of these findings see Table 13.

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STAYED HOME WITH MOTHER	9	11	5	7
ATTENDED NURSERY-SCHOOL	2	1	8	7
ATTENDED DAY-CARE CENTRE	1	2	1	-

CHAPTER IX

DISCUSSION

9.1 Discussion of results

Due to the lack of standardization of the interview questions, definitions and scoring code, nothing conclusive can be gleaned from the mothers' responses. There were no marked between-group differences; however, a few trends may be tentatively suggested.

It appears that the children attending day-care centres from the age of three evidence the highest frequency of problematic behaviour, a third of whom experience social difficulties. They tend to form casual peer relationships in general but just under half do have a particular friend with whom they spend a lot of time, and therefore do seem to be able to maintain one-to-one relationships.

The children attending day-care centres from the age of one seem to replace their mothers with a particular peer with whom they spend most of their time. On the surface they do not seem to experience many social difficulties and form casual and close relationships. However, this apparent social adjustment may be due to the achievement of premature independence from their parents.

The nursery-school children seemed to be superior in general social adjustment. Only one child was reported as experiencing difficulty and most were able to form casual and/or close relationships with a capacity to form a special attachment to one other child.

The children at home with their mothers were reported as having the most social difficulties. They generally appear to cope more successfully in one-to-one relationships rather than in groups, which is probably due to the lack of group exposure that the other three groups of children have from the age of three.

In terms of preschool centre attended, the number of children and mothers attending and who had attended nursery-school and the number of children and mothers staying and who had stayed at home with their mothers, corresponded for half the two groups. Surprisingly however, most of the mothers of the children attending day-care centres from the age of one or three had stayed at home with their mothers. One can merely hypothesise as to the reason for this lack of correspondence between mothers and children. The most likely reason is financial necessity in these families resulting in a higher incidence of working mothers. Day-care centres have only become popular during approximately the last 15 years and were probably not very available when the mothers themselves were preschoolers.

As already noted, nothing conclusive can be extracted from the interviews with the mothers. A suggestion for future research would be to use standardized problem behaviour and social behaviour checklists. In addition, the motivation of the mothers for sending their children to day-centres, nursery-schools or for keeping them at home, should have been far more thoroughly investigated.

Hypothesis 1

Although the quantity of mothering was not found to have a significant effect on the degree of separation anxiety exhibited by a child, the between group mean differences evidenced a definite trend. Children who stayed home with their mothers experienced less separation anxiety than children attending nursery-school, who in turn, experienced less separation anxiety than children attending day-care from the age of three, who experienced less separation anxiety than children attending day-care from the age of one. This lends support to hypothesis 1b, that a greater quantity of child-mother interaction results in less separation anxiety than do lesser amounts of interaction.

These findings seem to indicate that non-continuous mothering does indeed affect the security of the child-mother bond as Hinde and Spencer-Booth (1971), Bowlby (1973) and Blehar (1974; 1977) reported. The present results differ from the findings of Blehar and Kearsley et al. (1975) who reported that the children separated at about three years of age exhibited more anxiety, protest, proximity-seeking and ambivalence than the children experiencing separations at one year of age. The latter tended to exhibit detachment rather than anxious attachment. These researchers' findings are more in accord with the expected cognitive development of young children, i.e. the three-year-old has established object-permanence and can therefore experience a sense of loss; the one-year old's development of object permanence is still relatively unstable. However, one

may argue that the older child is better able to anticipate the return of the mother-figure and is therefore reassured. The younger child on the other hand remains in the immediate unpleasant awareness of the mother-figure absence, hence the more intense protest and resulting greater insecurity exhibited.

The present results run contrary to Braun and Caldwell (1973), Portnoy, (1977), Portnoy and Simmons (1978), Doyle (1975), Caldwell et al. (1976) and Ragozin (1980) who reported that repeated daily separations do not harm the child-mother attachment relationship.

As Ainsworth (1977) and Blehar (1977) emphasized, a child's reaction to both the mother's departure and return can be used as indices of separation anxiety. The correlation between the two reactions in the present study was high ($r = 0.6761$; $p < 0.001$). It is therefore valid to combine the two measures to give a total separation anxiety measure.

The quantity of mother-child interaction was not found to significantly affect the degree of stranger anxiety evidenced by a child. The children who stayed at home with their mothers evidenced the least stranger anxiety followed by the children at day-care from three years, followed by the children at day-care from one year, followed by the nursery-school children who evidenced the greatest stranger anxiety. The finding that the home-children were the least anxious or fearful in the presence of a stranger contradicts Moore (1971) and Ricciuti's (1974) findings that children at home with their mothers till about five years were over-

sensitive, timid and particularly fearful of strangers. The present results support Blehar's (1974) finding that home-reared children were significantly less fearful of strangers than day-care children. This observation also supports Hypothesis 1b.

The present findings also lend support to the theoretical contention that continuous mothering fosters security and hence exploration of strange objects and persons (Bretherton and Ainsworth, 1974; Main, 1973; Ricciuti, 1969, Bronson, 1972; Sroufe, 1977, Bischof, 1975; Waters et al., 1975). Availability of the mother-figure allows the child to use her as a secure base from which to explore novel stimuli.

The observation that nursery-school children evidenced the greatest stranger anxiety was unexpected. One would rather expect that half-day nursery-school attendance provides a perfect situation for the three to six year-old who still needs his mother around for much of the time but who is beginning to enhance and expand his social encounters and relationships. A possible explanation for this unexpected finding is that the nursery-school offers many opportunities for peer interaction but not for adult-directed interaction. Therefore when confronted by a strange adult in an unfamiliar setting the nursery-school child shows more wariness than a day-care child who is used to several changing adult caretakers. The fact that the nursery-school group showed greater stranger anxiety than the day-care group partially

refutes Hypothesis 1b that greater mother-child interaction diminishes the child's stranger anxiety.

The quantity of mother-child interaction was found to have a significant effect on the frustration tolerance exhibited by the child. The home-reared children had a significantly higher tolerance for frustration when compared to the children in day-care from one year of age. This observation supports the finding of Schwarz et al. (1974) who also found that home-reared children coped more successfully with frustration than did their day-care reared counterparts. These results are in contrast to Macrae and Herbert-Jackson's (1976) findings of no difference in frustration tolerance between home and day-care reared children.

The nursery-school children were found, in the present study, to be significantly more tolerant of frustration when compared to the children attending day-care from three years and from one year of age. The differences between the home and nursery-school groups, between the home children and those attending day-care from three years, and between the children attending day-care from three years and from one year, were not significant. To summarize, the nursery-school children exhibited the highest frustration tolerance, followed by the home group, the group attending day-care from three years of age, and lastly the group attending day-care from one year who exhibited the poorest frustration tolerance. These results tend to support the contention that group care results in a retardation in the acquisition of adult-reality-based skills and values (Schwarz et al., 1974). Not only

does day-care diminish the modelling possibilities of a constant mother-figure, but it may also result in anger, aggression and a heightened baseline of frustration experienced by the young child of one to five years. Therefore, early exposure to frustration resulting from a delay in gratification which the staff-child ratio of day-care centres often presents, seems to lead to a diminished tolerence of frustration rather than to superior handling of frustration.

The quantity of mother-child interaction was not found to significantly affect the coping mechanisms exhibited by the child. The home-reared groups were marginally superior, followed by the children attending day-care from three, nursery-school group and finally the children attending day-care from one year of age. Although not at all significant, it is interesting that the home group tended to cope most effectively and the day-care group from one year, the least competently. It appears that parents who believe that day-care offers their children early independence, individuation and superior coping ability are at fault. The opposite, in fact, seems to hold.

Hypothesis 1b (a greater quantity of mother-child interaction results in higher frustration tolerance and more competent coping mechanisms in the child, than lesser amounts of interaction) was partially supported. The children experiencing the least mother-child interaction (attending day-care) evidenced the poorest frustration tolerance. The children attending day-care from one year evidenced the poorest coping ability, the home-reared group the most

effective coping. In three out of the four dependent variables the children at home with their mothers proved to be at the greatest advantage while the children attending day-care from one year of age seemed the worst off.

These findings indicate that a high level of availability of the mother-figure does not result in the "spoiling" of an individual child. On the contrary, it results in a more secure, outgoing and competent child. Early placement in day-care does not, from the above findings, result in an independent, competent, secure child as commonly held; rather the early interference introduced to the mother-child bond and relationship fosters in the child insecurity, anxiety and a poor ability to cope effectively in an independent fashion. It must however, be noted that the results of the present study are by no means conclusive. Several other variables that will be dealt with shortly may well have contributed to the findings here noted.

Hypothesis 2

Only the total PPAS score and one subsection of the PPAS measuring the quality of mothering in terms of acceptance were found to be significantly and positively correlated with total separation anxiety as measured by the child's reaction to the mother leaving. The significant form of acceptance was defined in terms of whether the mother regards the child "as a person with feelings and respects the child's right and need to express these feelings" (Porter, 1954, p. 76).

The fact that these correlations were positive,

i.e., the more accepting the mother, the greater the child's separation anxiety, was extremely unexpected as most of the research points in the opposite direction. Stayton and Ainsworth (1973) emphasized the form of maternal acceptance defined above as crucial in the foundation of maternal understanding and support in relation to the wide range of rational and irrational fears and feelings that children express. They and Porter(1954) have identified acceptance as a prerequisite for sensitivity and responsiveness to a child's needs.

Possible reasons for this unexpected finding are : (a) that the child feels too safe and protected by the mother who accepts everything he feels and expresses, whereas if the child interacts with others some of his feelings, thoughts or expressions may be unacceptable and thereby lead to rejection; (b) that the mother, in supporting and accepting all that the child brings to her, somehow colludes with and reinforces his fears without conforting and encouraging the child to overcome his anxieties, e.g., an over-possessive mother who does not want her child to separate from her. An over-protective mother would equally discourage the independent resolution of the child's anxieties through her need to take-over from the child in an insecure situation preventing the child from using his own initiative and coping ability. Whether these explanations are actually correct in the present study is only a matter of conjecture.

The extremely low and insignificant inter-correlations of the total PPAS and the four sub-definitions imply that,

to a certain extent, the effect of the quality of mothering (acceptance) on a child's separation anxiety, stranger anxiety, frustration tolerance and coping mechanisms was not effectively investigated in the present study. This paucity of information is strongly regretted as past research has often emphasised the effect of quality rather than quantity in mother-child interaction. For example, Yarrow and Goodwin (1965) reported a high correlation between maternal acceptance and the child's ability to cope with stress. Stayton and Ainsworth (1973) found that frequent separation protest in the child was related to maternal rejection in terms of insensitivity to and ignoring of the child's signals. Ainsworth's (1977) study of attachment patterns and quality of mothering reported that the infants attached in an anxious-ambivalent manner, who evidenced substantial separation and stranger anxiety, poor frustration tolerance and coping mechanisms, had mothers who were insensitive, unresponsive and fairly rejecting. Matas (1978) also found these infants to be intolerant of frustration and Connell (1974) reported them to be ineffectual in a problem-solving situation. The anxious-avoidant infants with very rejecting, insensitive mothers, tended to express their separation and stranger anxiety via an increase in exploratory play and aggression but with a decrease in competence and genuine spontaneous interest (Connell, 1976; Main, 1977; Main and Londerville, 1978, cited in Ainsworth, 1979; Matas, 1978).

In contrast to these two groups of infants, the securely attached children had mothers who were accepting, co-operative

and sensitively responsive. These infants exhibited high frustration tolerance, adaptive, effective, coping mechanisms, and were more affectively positive in situations evoking separation and stranger anxiety (Ainsworth et al., 1978; Main, 1973, 1977; Matas, 1978; Matas et al., 1978; Waters, 1978; Waters et al., 1979; Arend et al., 1979).

To summarize, the PPAS as a measure of maternal acceptance has been found to be strongly invalid. As Brownlee (1980) found, the four dimensions defined as forms of acceptance do not seem to be measuring the dimension isolated by Porter (1974) and Burchinal et al. (1957).

The observation scale ratings of acceptance and responsiveness similarly were found to have an insignificant effect on the dependent variables. However, this is more likely to be a result of inadequacies in the design of this section of the study, rather than in the rating scales or observer reliability themselves. A longer observation period should have been employed to gain a more thorough index of mother-child acceptance and responsiveness.

The significant positive correlations between the total and two subsections of the PPAS with the observation scales (total PPAS with observed acceptance, "an acceptant parent is one who regards his child as a person with feelings and respects the child's right and need to express these feelings" with total observed acceptance and responsiveness, "an acceptant parent is one who loves his child unconditionally" with observed acceptance), attributed some validity to the PPAS' definitions of acceptance or rather indicate what the PPAS is actually measuring.

The first correlation suggests that overall the PPAS did measure acceptance, however, it does not isolate the more accurate sub-definitions from those that are less accurate or valid. The second correlation indicates that this PPAS sub-definition is measuring more than just acceptance, i.e., whether the mother not only accepts the child's feelings and expressions but also responds to them in true dynamic interaction. The third correlation suggests that the definition of observed acceptance as "the mother does not judge the child's underachievements but accepts him/her at his/her own pace", corresponds to the PPAS definition encompassing unconditional love rather than to the PPAS definition encompassing the recognition by the mother of the child's need to differentiate and separate as was suggested in Chapter 6.2.4.

The sub-definition of the PPAS that did not appear significant in relation to either the dependent or independent variables, i.e., "an accentant parent is one who values the unique make-up of his child and does what he can to foster that uniqueness within the limits of healthy personal and social adjustment", should be removed from the scale which purports to measure parental acceptance. It would be more appropriate to label this quality conventionality versus individuality in parenting.

Hypothesis 3

With increasing age a child's frustration tolerance improves significantly. This finding supports the results of Feiring and Lewis (1979) that with increasing age a

child's stress and fretting diminishes when confronted with a frustrating task, to be replaced by more mature and effective coping responses. The older a child the more he will be able to delay gratification.

With increasing age, the degree of separation anxiety experienced by a child decreases significantly, as measured both by the child's reaction to the mother's return and by total separation anxiety observed. Age does not here refer to the time when the initial separation occurred but rather to the range of children's ages at the time of the present observations. The present results support those of Prugh et al. (1953) and Moore (1964, 1969) who found that the three year-olds and younger were far more distressed at separations than four to six year olds. As mentioned in Chapter Two, the preschooler is in the process of developing a consolidated internal representation of the mother and greater independence followed by a stronger tolerance for separation. The overall security or insecurity of the individual in separating from loved-ones in later life may be discerned from more subtle reactions, e.g., manifestations of anxiety such as checking behaviour (telephoning frequently), inhibition, withdrawal, agitation, etc.

Age was found to be positively and significantly correlated with the child's coping mechanisms. With increasing age, the effectiveness of the coping mechanisms employed by the child increases. This is in line with the increased frustration tolerance found in relation to increasing age. As a child learns to delay immediate gratification, he is

able to use his energies for constructive problem-solving rather than for aggression or regression (Maier and Ellen, 1959; Feiring and Lewis, 1979; Matas et al., 1978).

Age and stranger anxiety were not found to be significantly correlated. However the correlation was negative indicating a decrease in stranger anxiety with increasing age, which is to be expected. With increasing age a child receives greater exposure to novel persons and stimuli and improves his social interchanges and initiation. In later life stranger anxiety may be identified by the degree of shyness or sociability exhibited by the individual.

Hypothesis 4

Whether children attending day-care centres from the age of one exhibit greater separation and stranger anxiety, lower frustration tolerance and less competent coping mechanisms than children attending a day-care centre from three years of age, has been partially dealt with concerning Hypothesis 1. For each dependent variable the group attending day-care from three years exhibited healthier development than the group commencing at one year - the former evidenced less separation and stranger anxiety, better frustration tolerance and more competent coping mechanisms than the latter. However, the differences were not significant.

Nevertheless it would appear that mothers should be discouraged from placing their children in full-time daily care before the age of three. Much naturally depends on the circumstances in which the mother finds herself in the home environment, the stability of the marriage, the quality of

the day-care centre, financial considerations, etc. Until approximately three years of age, a child's world still consists primarily of the mother-figure and nuclear family set-up. Social relationships with peers and adults outside the family only begin to be initiated after three years - first via parallel play leading to full interpersonal interchanges. To place a child who is still extremely dependent on the mother-figure in a strange environment without one-to-one interaction on a substantial basis, must, as noted in the present and previous research (Blehar, 1974; 1977; Kearsley et al., 1975; Bowlby, 1973; Ainsworth, 1979), be avoided as far as possible.

Hypothesis 5

Sex differences for all four dependent variables were not significant. These findings run contrary to Portnoy (1977) who reported that day-care males cried more when separated from their mothers and resisted and avoided the stranger to a greater extent than the day-care females. The present findings are also in contrast to Moskowitz et al. (1977) and Cornelius and Denney's (1975) results indicating greater independence of the day-care males in the presence of their mothers compared to the home-care males.

The present lack of significant sex differences in stranger anxiety does not help to clarify, but only adds to the general inconsistency and contradiction of past research. However, the majority of the researchers have reported stronger and more frequ anger anxiety/ wariness in girls than in boys (Ternes and Lampl 1964;

Schaffer, 1966; Robson et al., 1969; Lewis and Weinraub, 1973; Décarie, 1974).

The insignificant relationship found in the present study between sex and frustration tolerance runs counter to Goldberg and Lewis' (1969) finding that boys cope more successfully with frustration than girls. It also differs from the studies by Jacklin et al. (1973), Van Lieshout (1975), Maccoby and Feldman (1972) and Feiring and Lewis' (1979) who reported that negative outbursts are more frequent and decline at a slower rate in boys than in girls and that girls employ maturer instrumental actic and language than boys when confronted with rustrating task. From the present study it can be stated that there are no differences between males' and females' frustration tolerance and coping mechanisms.

Hypothesis 6

All four behavioural systems were not found to be interrelated. Frustration tolerance was significantly interrelated with separation anxiety, but not with stranger anxiety or coping ability. The quality of the attachment relationship largely determines the degree to which a child feels secure enough to separate from the mother and venture into new areas (Ainsworth et al., 1978; Sroufe, 1979). By negotiating novel objects and persons, the child's environmental manipulation, cognition and sociability develop resulting in ego-control, independence and ability to delay gratification (tolerate frustration). Therefore, the ability to separate and the handling of frustration

interact and are developmentally co-ordinated. This finding is in accord with Matas et al. (1978) who found that the securely attached infants who were able to separate, at two years, exhibited more enthusiasm, less frustration and greater positive affect in problem-solving. The insecurely attached infants who had difficulty maintaining separations were more negativistic, distressed and gave up on frustration tasks more quickly.

It was surprising that frustration tolerance was not significantly correlated with coping ability. One would hypothesize that in order to cope effectively, a good tolerance for frustration is necessary.

Stranger anxiety was positively correlated with total separation anxiety as well as with the two separation subscores. As Tennes and Lampl (1966), Prugh et al. (1953), Moore (1969), Hinde and Spencer-Booth (1971), Heinicke and Westheimer (1966) and Bowlby (1973) have found, separation and stranger anxiety are closely linked and have a common determinant-fear of object loss. The use of the mother as a secure base in the process of separating fosters exploration and the ability to initiate contact with novel objects and persons. Anxious-resistant attachment was found to result in strong separation anxiety and high stranger anxiety (Ainsworth et al., 1977; Stayton and Ainsworth, 1973). Similarly Bretherton and Ainsworth (1974), Main (1973), Ricciuti (1969) and Bronson (1972) found that when the mother was present the infant would use her as a secure base and explore the stranger, but if the mother

was absent the infant would respond negatively and fearfully to the stranger.

Total separation anxiety, separation anxiety as measured by the child's reaction to the mother's departure and to her return were all correlated significantly and positively as has already been noted.

Total separation anxiety and separation anxiety as measured by the child's reaction to the mother's return was significantly and negatively correlated with the child's coping mechanisms. That is, the stronger the child's separation anxiety indicated by the child's need for close proximity to the mother, the less competent the coping ability exhibited by the child. This finding is consistent with the theoretical and empirical reports enumerated in Chapter I. Waters et al. (1979), Arend et al. (1979), Matas (1978) and Main (1973) found that two to four year-olds who were securely attached and could separate easily were more competent in exploration and social play, more enthusiastic when confronted with tasks, and they evidenced greater ego-strength, control and resiliency. If a child is able to tolerate separation, his energy will be free to be directed at constructive problem-solving. The child's full attention and interest can be focused on the social or cognitive novel stimuli to which he is exposed.

To summarize, it can be stated conclusively from the present findings, that the handling of developmental tasks such as separation, frustration, problem-solving and

confrontation with strangers, by young children, takes place within a matrix of inter-related behavioural systems/ developments, with the security of the mother-child relationship forming the cornerstone of later social, cognitive and emotional success. Sufficient support for Sroufe's (1977, 1979) theoretical proposals and his co-workers' research evidence therefore has been established.

9.2 Limitations of the present study and suggestions for future research

Limitations existed in the present study in terms of sample size, psychometric measurements and observations used, and in terms of factors that should have been included. First, a larger sample size would allow for greater generalization of the findings.

Second, as already noted, the interview with the mothers was not at all standardized and therefore nothing conclusive could thereof be obtained. Standardized problem behaviour and social behaviour checklists should be used in future research. Third, in addition to psychometric and interviewing techniques, field observations should be included, i.e., observations of the children's social and general coping behaviour at nursery-school, in the day-care centres and in their own homes. The observation period of the mother-child play activities prior to the Strange Situation Procedure should be extended in order to obtain a more valid and thorough index of their relationship.

Fourth the motivation of the mothers for sending their preschoolers to nursery-school, a day-care centre

or for keeping them at home should be thoroughly investigated. Fifth, the approaches of the individual nursery-schools and day-care centres in dealing with initial or ongoing separation anxiety expressed by the children should be noted. In addition, the sensitivity to and training of the staff in percieving behavioural and affective problems in the children should be investigated, i.e., a closer check of the quality of care available at different centres and schools should be included.

Sixth, the quality of mothering should be measured by taking into account several dimensions (besides acceptance and responsiveness). Such dimensions should include control-autonomy, permissiveness-restrictiveness and overprotection. Finally, the emotional stability of the families should be assessed via observation, interview or psychometric measurement or via a combination of the three.

CHAPTER X

SUMMARY AND CONCLUSIONS

Mother-child attachment has been the focus of much theoretical and empirical attention for several decades. John Bowlby (1958, 1961, 1969, 1973, 1979) formulated an ethologically based conceptual system incorporating psychoanalytic features (e.g., instinct theory, defense mechanisms), evolutionary concepts (survival of the species, via proximity, attachment behaviours) and cognitive developments (the development of object constancy, perceptual-motor development (Piaget, 1952)) to explain the process by which a child becomes affectionally attached to a particular mother-figure.

The research propagated by Bowlby's theoretical system of attachment revealed an enormous degree of inconsistency and contradiction regarding the behavioural indices supposed to reflect the existence and development of attachment (Lamb, 1974; Masters and Wellman,1974).

Sroufe (1976, 1979) and his colleagues overcame the immobility that attachment research had come up against by postulating a new way of conceptualizing attachment. Sroufe and Waters (1977) began to view attachment as an organizational construct, i.e., attachment viewed as one of the basic behavioural organisations that is inter-related with later developing behavioural systems. By examining the quality of attachment in the first few years, one could then predict how the child would cope with further developmental tasks, such as separation, problem-solving,

ERRATUM

The final paragraph on page 178 should read as follows:

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socialization, frustration, etc. The converse would also follow : by examining the way a child deals with developmental tasks, one may gain an indication of the quality of the first relationship he/she had with the mother-figure.

The quality of mothering is naturally the most influential factor concerning the quality of child-mother attachment. Ainsworth (1973, 1979), Blehar et al. (1977) and Sroufe (1979) identified three maternal qualities as essential in the development of healthy attachment. These are - sensitivity, responsiveness and acceptance. Research has borne out the importance of these qualities (Coopersmith, 1967; Baumrind, 1967; Ainsworth and Bell, 1974; Ainsworth et al., 1978; Matas et al., 1978).

In addition to the quality of mothering the quantity of mother-child interaction has been found to be of paramount importance for healthy psychological development (Rutter, 1979; Bowlby, 1951; Yarrow, 1961; Woods, 1972; Nye and Hoffman, 1963; Hoffman, 1979). The adverse effects of a minimum amount of mothering found in institutions have long been documented (Dennis and Najarian, 1957; Goldfarb, 1943; Tizard and Tizard, 1977; Rutter, 1979). Since the Second World War the increasing number of working mothers has led to the establishment of day-care centres. The focus of research therefore shifted to this less severe form of diminishment in mother-child interaction.

The results of studies examining the effects of working mothers, day-care centres and nursery-schools on children

have been contradictory and inconclusive (Hoffman, 1963, 1974; Etaugh, 1979). Much of the research has focused on the effects of diminished mother-child interaction on separation anxiety, stranger anxiety, coping, problem-solving behaviour and frustration (Blehar, 1977; Ainsworth, 1973, Kearsley et al., 1975; Portnoy, 1977; Caldwell et al., 1970). These were the dependent variables used in the present study.

In the examination of the research investigating the above dependent variables in relation to quality and quantity of mother-child interaction, two secondary independent variables emerged. These were:- the sex of the child, and the age of the child at initial separation when entering day-care or nursery-school. They were therefore also included in the present study.

The aims of the present research were:-

1. To determine whether a part-time (nursery-school attendance), and a full-time (day-care attendance) quantitative disruption in mother-child interaction affects the child's separation anxiety, stranger anxiety/fear, frustration tolerance and general coping mechanisms.
2. To determine whether the quality of mothering, i.e., the degree of maternal acceptance and responsiveness, affects the child's separation anxiety, stranger anxiety/fear, frustration tolerance and general coping mechanisms.
3. To determine whether there are sex differences in

children's ability to cope with separation, stranger confrontation and frustration, and in their general coping mechanisms.

4. To determine whether age of the child influences the development of separation anxiety, stranger anxiety/fear, frustration tolerance and coping mechanisms.
5. To determine whether there is a relationship between a child's separation anxiety, stranger anxiety, frustration tolerance and general coping mechanisms.

The subject population consisted of 56 four-year old children who were the youngest or only children in their intact families, and their mothers. There were 14 children and mothers in each of the four groups:- a group of children who stayed at home with their non-working mothers; a group of children who attended nursery-school; a group of children who had attended a day-care centre from the age of three; a group of children who had attended a day-care centre from the age of one.

Each mother-child unit was brought to the University of the Witwatersrand where they underwent the experimental procedure. This procedure involved:- (1) the observation of the mother and child playing, by two raters to obtain measures of maternal acceptance and responsiveness; (2) the application of a modified version of the Ainsworth-Wittig Strange Situation Procedure, during which the raters observed the children's reactions to separation and a stranger; the administration of a problem-solving task and a fantasy questionnaire to each child to gain measures of

frustration tolerance and general coping mechanisms; the administration of a parental acceptance questionnaire to the mothers; an interview with the mothers concerning rearing difficulties, the socialization pattern of their children and the preschool centre the mothers themselves had attended.

The following statistical procedures were computed:- Pearson product moment correlation co-efficients, one way analyses of variance, and t-tests.

The results were as follows:-

1. There were no significant differences between the preschool groups in separation anxiety, i.e., a decrease in the quantity of mother-child interaction did not result in an increase in separation anxiety exhibited by the child. However, a trend was discernible: the more time spent away from the mother, the greater the separation anxiety exhibited by the child, i.e., the children attending day-care from the age of one had the strongest separation anxiety, the children at home with their mothers had the least separation anxiety.
2. There were no significant differences between the groups in stranger anxiety/fear, i.e., a decrease in the quantity of mother-child interaction does not result in an increase in stranger anxiety exhibited by the child.
3. There was a significant difference between the groups

in frustration tolerance, i.e., a decrease in the quantity of mother-child interaction is commensurate with diminished frustration tolerance exhibited by the child.

4. There was no significant difference between the groups in general coping mechanisms, i.e., a decrease in the quantity of mother-child interaction does not result in a decrease in the success of the coping mechanisms exhibited by the child.

5. Separation anxiety was partially significantly but negatively correlated with maternal acceptance, i.e., the more accepting the mother, the stronger the child's separation anxiety.

6. Stranger anxiety, frustration tolerance and coping mechanisms exhibited by the child were not related to the degree of maternal acceptance or responsiveness, i.e., the quality of mothering, in terms of acceptance and responsiveness, did not affect the stranger anxiety, frustration tolerance or coping mechanisms of the child.

7. There were significant relationships between age of the child and the separation anxiety, coping mechanisms and frustration tolerance exhibited by the child, i.e.,with increasing age there is a decrease in separation anxiety, an increase in frustration tolerance and the child's coping mechanisms. There was no significant relationship between age and stranger anxiety exhibited by the child.

8. There were no significant differences between males and females in separation and stranger anxiety, frustration tolerance and coping mechanisms exhibited by the child.
9. Frustration tolerance and separation anxiety are interrelated behavioural systems, as are separation anxiety and stranger anxiety, and separation anxiety and coping mechanisms.
10. Nothing conclusive could be obtained from the interview with the mothers due to a lack of standardization and scoring procedure.

Limitations of the present study were described and suggestions for future research were offered.

In conclusion, two points of advice are offered to mothers of infants and pre-schoolers. First, if possible, they should avoid placing their children in a day-care centre before the age of three, as the group of children who had attended day-care from the age of one showed the overall poorest adjustment. Second, if unavoidable, extreme care must be taken in terms of which day-care centre is chosen. A thorough investigation into the qualifications of the staff and the stimulation and structured programmes available at the centre should be undertaken. Training in child development and the symptomatology of maladjustment in young children should be made compulsory for all staff at child care centres.

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APPENDIX

SCALES FOR FRUSTRATION TOLERANCE, STRANGER ANXIETY AND SEPARATION ANXIETY

Rater:

Name:

I.-FRUSTRATION TOLERANCE

a)- Task Endurance

1	2	3	4	5
Keep trying consistently until convinced piece will not fit.	Tries for a while but then goes on to next piece to which child applies equal effort.	May start by trying one piece for some time but following pieces are tried for shorter and shorter periods.	Tries one piece briefly- if does not fit may try once more but then gives up	If does not fit first time child abandons piece/ tasks.

b)- Emotional Reaction

1	2	3	4	5
No apparent emotional reaction (anger, distress)	Signs of slight distress/anger but continues task.	Definite emotional reaction but continues task.	Above average emotional reaction enough to disrupt task completion for a while but then continues becoming more and more flustered with shorter attempts.	Extreme emotional reaction to abandon task - aggressive attacks on task or verbalizations of anger/ distress.

c)- Reference to Mother/Interviewer (seek help)-

1	2	3	4	5
Even if angered or distressed keeps to task on own.	Glances at or calls mother/ interviewer once but carries on task.	Keeps demanding mother/ interviewer's help but carries on trying.	Demands help and stops task or seems stuck till help given.	Almost immediately calls for help and won't continue task till helped for most of the time

II - STRANGER ANXIETY

	Smiles 'hello'	Come look	Come sit lap see
1. Child cries or runs away			
2. Turns head away (definite avoidance) or clings to mother.			
3. Sobers or stares solemnly.			
4. No response.			
5. Looks coy or half-smiles or comes reluctantly with urging.			
6. Definitely smiles or comes straight away without smiling.			
7. Smiles and vocalizes or approaches smiling			

III - SEPARATION ANXIETY

The mother is asked to leave the room for three minutes. The child is left with the interviewer. Child's reaction :

1. Child follows mother, looks miserable or cries.

2. Child follows, no emotion.

3. Child stays, looks miserable or cries.

4. Child stays, no emotion.

MOTHER RETURNS. RECORD:

1	2	3	4	5
Child ignores mother continuing what he/she is doing.	Child glances briefly at mother and resumes activity.	Child continues activity but continually looks to mother	Child looks at mother and moves towards her	Child moves orto mother's lap or holds onto her - close physical contact

FANTASY TEST

Name: Group:

Briefly outline the story for the child particularly if (s)he is not familiar with it. Write down his/her spontaneous response to the question.

(1) Do you know the story of the three bears? Remember when Baby Bear comes back from his walk and finds his porridge all eaten up by Goldilocks. What would you do if you were Baby Bear and found your porridge all eaten up?

(2) Do you remember the story of Cinderella? What would you do if you were Cinderella and you had no dress for the ball and there was no fairy godmother?

(3) Do you remember Snow White? What would you do if you saw the wicked fairy godmother coming to you?

(4) Remember Little Red Riding Hood? What would you do if you were going to see your grandmother and you met the wicked wolf who said "Where are you going"?

(5) Do you know Hansel and Gretel? What would you do if you were Hansel and Gretel and your stepmother left you alone in the forest?

(6) What would you do if your mommy sent you to buy a loaf of bread and the shopkeeper said he had no more bread?

(7) What would you do if the child you liked best to play with said she/he didn't want to play with you today?

(8) What would you do if your teacher asked you to draw a beautiful house and you found you couldn't do it?

(9) What would you do if you went to the shops with your mommy and you suddenly couldn't find her?

(10) What would you do if your best toy got broken/lost?

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BASIC SCORING GUIDE TO FANTASY TEST

1. I'll cry/I don't know/no response

2. Ask for an external support. I'll ask my mommy, I would cry till my fairy godmother came. Tell my mommy, run, runaway, go back home, tell my teacher. Ask my teacher to do it, tell my mommy and daddy. Ask everyone if they've seen my mother.

(neutral)

3. <u>is basic acceptance of the situation</u>. I couldn't eat/I won't have. I'll stay in cottage/I wouldn't go/I'd go into my house/I wouldn't open the door/I'd ask what are you going to do./I'd go home/I'd be sad/I wouldn't get any/I won't draw/I'll stay where I was, I'd sleep. /I've got lost/I'd chuck it in the dustbin.

4. <u>A coping solution with some support, aggression</u>
I'd ask my mother/smack her/chase her/eat her/I'd be very cross/call my father/kill her/hide/take a short cut/run to granny/wouldn't let them/kill him, find the police/ask my mommy if I can go to another shop/I won't play with her/run outside/ask teacher/wouldn't shop/ would tell my mommy to buy a new one.

5. <u>Self-directed solution</u> - I'd make one/buy a dress/ fetch another one/wouldn't have apple/give her a poisened apple./zoom past/wouldn't tell him/ask him why he wanted to know/I would find my way home/I find a new stepmother/ build another house/buy bagels/I'd say next time get some bread/play with someone else/do something else, I'd try/ call taxi/drive home/ go to car/remember address/play/to fix it.

INTERVIEW SCHEDULE

Name: Child's name: Interviewer:

1. All parents have difficulties in raising children. What problems have there been in bringing up this particular child? (e.g., feeding problems, excessive clinging behaviour, tantrums, aggressive attacks, bed-wetting, etc.)

2. Does your child mix easily with other children? Does he/she make friends easily? Has he/she got many casual friends or a few close friends? Has he/she one particular friend with whom he/she spends a lot of time?

3. What preschool centre did you yourself attend? (Nursery school, crêche, at home with mother, at home with sister/brother/maid/other.)

INTUITIVE RATING OF QUALITY OF MOTHERING

Name: Child's Name: Assessor:

1a. Acceptance: Mother does not show disturbance at hearing negative feelings expressed by her child, i.e. indicates to child that all his/her feelings are understandable; mother does not judge child's underachievements but accepts him/her at his/her own pace; mother does not over-protect child or block his/her attempts at independence.

b. Rejection: Mother pushes child to act according to her wishes rather than at child's own pace (directiveness): open hostility to and criticism of child.

2a. Responsiveness: Readiness of the mother to respond to the child's needs and demands.

b. Unresponsiveness: Mother shows little interest in child's thoughts and activities. She is primarily concerned with her own activities and prefers not to be bothered by the child; mother ignores child's demands.

1. Acceptance/Rejection:

1	2	3	4	5
Little or none. Mother is very directive, critical or over-protective	Some acceptance but below average.	Moderate acceptance.	Above average acceptance; few efforts to direct or criticize child	Very accepting. No attempts to direct or criticize child's actions or verbalization

2. Responsiveness/Unresponsiveness:

1	2	3	4	5
Ignores or responds only after many demands by child	Needs to be prodded or asked more than once	Responds adequately to child's request	Responds quickly to child's overt demands	Responds immediately. Seems to anticipate at times child's need to be responded to from non-verbal cues

PORTER PARENTAL ACCEPTANCE SCALE

We are trying to learn more about parent-child relationships. To do this we need the cooperation and assistance of many parents. You can help us a great deal by filling out the attached questionnaire as frankly and as carefully as possible. Sincere and frank answers are requested so that valid data can be secured.

All the responses will be treated confidentially and will be used only for purposes of scientific research.

Please answer all questions. If you cannot give the exact answer to a question, answer the best you can.

GENERAL INFORMATION

1. Name: 2. Year of marriage___ 3. Living with spouse at present time. Yes___ No___

4. Married more than once. Yes___ No___.

5. If married more than once, was previous marriage ended because of:
___death___divorce___Other (Please state)_____

6. Draw a circle around the number of years of schooling you have completed.

1 2 3 4 5 6 7 8	1 2 3 4	1 2 3 4	1 2 3 4
Primary School	High School	College/ University	Post Graduate

7. Religious Affiliation:

___Protestant ___Jewish___ None_____
___Catholic ___Other_____

8. Husband's occupation

_____

9. Wife's occupation_____

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10. Ages of children (to nearest birthday)

Ages of boys_____; _____; _____; _____.;

Ages of girls_____; _____; _____; _____;

BE SURE AND REFER ONLY TO YOUR YOUNGEST CHILD WHILE ANSWERING THE QUESTIONS

11. Is this child your: (circle one) Own child stepchild

adopted child

INFORMATION ABOUT YOUR CHILD

Many parents say that their feeling of affection toward or for their child varies with his behavior and with circumstances. Will you please read each item carefully and place a check in the column which most nearly describes the degree of feeling of affection which you have for your child in that situation.

Check One Column For Each Item Below	Degree of Feeling of Affection				
	Much more than usual	A little more than usual	The same	A little less than usual	Much less than usual
1. When he is obedient					
2. When he is with me					
3. When he misbehaves in front of special guests					
4. When he expresses unsolicited affection. "You're the nicest mommy (daddy) in the world."					
5 When he is away from me					

	Much more than usual	A little more than usual	The same	A little less than usual	Much less than usual
6. When he shows off in public					
7. When he behaves according to my highest expectations					
8. When he expresses angry and hateful things to me					
9. When he does things I have hoped he would not do					
10. When we are doing things together					

Listed below are several statements describing things which children do and say. Following each statement are five responses which suggest ways of feeling, or courses of action.

Read each statement carefully and then place a circle around the letter in front of the one response which most nearly describes the feeling you usually have or the course of action you most generally take when your child says or does these things.

It is possible that you may find a few statements which describe a type of behavior which you have not yet experienced with your child. In such cases, mark the response which most nearly describes how you think you would feel or what you think you would do.

Be sure that you answer every statement and mark only one response for each statement.

11. When my child is shouting and dancing with excitement at a time when I want peace and quiet, it:

    a. Makes me feel annoyed

    b. Makes me want to know more about what excites him

    c. Makes me feel like punishing him

    d. Makes me feel that I will be glad when he is past this stage

    e. Makes me feel like telling him to stop

12. When my child misbehaves while others in the group he is with are behaving well, I:

    a. See to it that he behaves as the others

b. Tell him it is important to behave well when he is in a group

c. Let him alone if he isn't disturbing the others too much

d. Ask him to tell me what he would like to do

e. Help him find some activity that he can enjoy and at the same time not disturb the group

13. When my child is unable to do something which I think is important for him, it:

a. Makes me want to help him find success in the things he can do

b. Makes me feel disappointed in him

c. Makes me wish he could do it

d. Makes me realize that he can't do everything

e. Makes me want to know more about the things he can do

14. When my child seems to be more fond of someone else (teacher, friend, relative) than me, it:

a. Makes me realize that he is growing up

b. Pleases me to see his interest widening to other people

c. Makes me feel resentful

d. Makes me feel that he doesn't appreciate what I have done for him

e. Makes me wish he liked me more

15. When my child is faced with two or more choices and has to choose only one, I :

a. Tell him which choice to make and why

b. Think it through with him

c. Point out the advantages and disadvantages of each, but let him decide for himself

d. Tell him that I am sure he can make a wise choice and help him foresee the consequences

e. Make the decision for him

16. When my child makes decisions without consulting me, I:

a. Punish him for not consulting me

b. Encourage him to make his own decisions if he can foresee the consequences

c. Allow him to make many of his own decisions

d. Suggest that we talk it over before he makes his decision

c. Tell him he must consult me first before making a decision

17. When my child kicks, hits or knocks his things about, it:
    a. Makes me feel like telling him to stop
    b. Makes me feel like punishing him
    c. Pleases me that he feels free to express himself
    d. Makes me feel that I will be glad when he is past this stage
    e. Makes me feel annoyed

18. When my child is not interested in some of the usual activities of his age group, it:
    a. Makes me realize that each child is different
    b. Makes me wish he were interested in the same activities
    c. Makes me feel disappointed in him
    d. Makes me want to help him find ways to make the most of his interests
    e. Makes me want to know more about the activities in which he is interested.

19. When my child acts silly and giggly, I:
    a. Tell him I know how he feels
    b. Pay no attention to him
    c. Tell him he shouldn't act that way
    d. Make him stop
    e. Tell him it is all right to feel that way, but help him find other ways of expressing himself.

20. When my child prefers to do things with his friends rather than with his family, I:
    a. Encourage him to do things with his friends
    b. Accept this as part of growing up
    c. Plan special activities so that he will want to be with his family
    d. Try to minimize his association with his friends
    e. Make him stay with his family

21. When my child disagrees with me about something which I think is important, it:
    a. Makes me feel like punishing him
    b. Pleases me that he feels free to express himself

c. Makes me feel like persuading him that I am right

d. Makes me realize he has ideas of his own

22. When my child misbehaves while others in the group he is with are behaving well, it:

a. Makes me realize that he does not always behave as others in his group

b. Makes me feel embarrassed

c. Makes me want to help him find the best way to express his feelings

d. Makes me wish he would behave like the others

e. Makes me want to know more about his feelings

23. When my child is shouting and dancing with excitement at a time when I want peace and quiet, I:

a. Give him something quiet to do

b. Tell him that I wish he would stop

c. Make him be quiet

d. Let him tell me about what excites him

e. Send him somewhere else

24. When my child seems to be more fond of someone else (teacher, friend, relative) than me, I:

a. Try to minimize his association with that person

b. Let him have such associations when I think he is ready for them

c. Do some special things for him to remind him of how nice I am

d. Point out the weaknesses and faults of that other person

e. Encourage him to create and maintain such associations

25. When my child says angry and hateful things about me to my face, it:

a. Makes me feel annoyed

b. Makes me feel that I will be glad when he is past this stage

c. Pleases me that he feels free to express himself

d. Makes me feel like punishing him

e. Makes me feel like telling him not to talk that way to me

26. When my child shows a deep interest in something I don't think is important, it:

    a. Makes me realize he has interests of his own
    b. Makes me want to help him find ways to make the most of this interest
    c. Makes me feel disappointed in him
    d. Makes me want to know more about his interests
    e. Makes me wish he were more interested in the things I think are important for him

27. When my child is unable to do some things as well as others in his group, I:

    a. Tell him he must try to do as well as the others
    b. Encourage him to keep trying
    c. Tell him that no one can do everything well
    d. Call his attention to the things he does well
    e. Help him make the most of the activities which he can do

28. When my child wants to do something which I am sure will lead to disappointment for him, I:

    a. Occasionally let him carry such an activity to its conclusion
    b. Don't let him do it
    c. Advise him not to do it
    d. Help him with it in order to ease the disappointment
    e. Point out what is likely to happen

29. When my child acts silly and girly, it:

    a. Makes me feel that I will be glad when he is past this stage
    b. Pleases me that he feels free to express himself
    c. Makes me feel like punishing him
    d. Makes me feel like telling him to stop
    e. Makes me feel annoyed

30. When my child is faced with two or more choices and has to choose only one, it:

    a. Makes me feel that I should tell him which choice to make and why
    b. Makes me feel that I should point the advantages and disadvantages out.

c. Makes me hope that I have prepared him to choose wisely

d. Makes me want to encourage him to make his own choice

e. Makes me want to make the decision for him

31. When my child is unable to do something which I think is important for him, I:

a. Tell him he must do better

b. Help him make the most of the things which he can do

c. Ask him to tell me more about the things which he can do

d. Tell him that no one can do everything

e. Encourage him to keep trying

32. When my child disagrees with me about something which I think is important, I:

a. Tell him he shouldn't disagree with me

b. Make him stop

c. Listen to his side of the problem and change my mind if I am wrong

d. Tell him maybe we can do it his way another time

e. Explain that I am doing what is best for him

33. When my child is unable to do some things as well as others in his group, it:

a. Makes me realize that he can't be best at everything

b. Makes me wish he could do as well

c. Makes me feel embarrassed

d. Makes me want to help him find success in the things he can do

e. Makes me want to know more about the things he can do well

34. When my child makes decisions without consulting me, it:

a. Makes me hope that I have prepared him adequately to make his decisions

b. Makes me wish he would consult me

c. Makes me feel disturbed

d. Makes me want to restrict his freedom

e. Pleases me to see that as he grows he needs me less

35. When my child says angry and hateful things about me to my face, I:
    a. Tell him it's all right to feel that way, but help him find other ways of expressing himself.
    b. Tell him I know how he feels
    c. Pay no attention to him
    d. Tell him he shouldn't say such things to me
    e. Make him stop.

36. When my child kicks, hits and knocks his things about, I:
    a. Make him stop
    b. Tell him it is all right to feel that way, but help him find other ways of expressing himself
    c. Tell him he shouldn't do such things
    d. Tell him I know how he feels
    e. Pay no attention to him

37. When my child prefers to do things with his friends rather than with his family, it:
    a. Makes me wish he would spend more time with us
    b. Makes me feel resentful
    c. Pleases me to see his interests widening to other people
    d. Makes me feel he doesn't appreciate us
    e. Makes me realize that he is growing up

38. When my child wants to do something which I am sure will lead to disappointment for him, it:
    a. Makes me hope that I have prepared him to meet disappointment
    b. Makes me wish he didn't have to meet unpleasent experiences
    c. Makes me want to keep him from doing it
    d. Makes me realize that occasionally such an experience will be good for him

39. When my child is not interested in some of the usual activities of his age group, I:
    a. Try to help him realize that it is important to be interested in the same things as others in his group
    b. Call his attention to the activities in which he is interested

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