

INFANT WEIGHT GAIN AND PERCEIVED ACCEPTANCE
AND REJECTION OF CAREGIVERS

A THESIS
SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF SCIENCE
IN THE GRADUATE SCHOOL OF THE
TEXAS WOMAN'S UNIVERSITY

COLLEGE OF NURSING

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DENTON, TEXAS
DECEMBER 1978

The Graduate School
Texas Woman's University

Denton, Texas

October 24 1978

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our supervision by Judith Mureen Daugherty
entitled "Infant Weight Gain and Perceived
Acceptance and Rejection of Caregivers"

be accepted as fulfilling this part of the requirements for the Degree of
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CHAPTER I

INTRODUCTION

Society is concerned with the problem of infant weight gain. Malnutrition and obesity are associated with health and social problems and are frequently observed in the disadvantaged persons living in the inner city. The prevention of malnutrition associated with deficiencies in calories, vitamins, and proteins, and obesity associated with offering a bottle as a means of dealing with a crying infant challenge both society and the nurse.

Infants failing to gain weight experience organic problems such as intestinal malabsorption, central nervous system abnormalities, or chronic infections. Environmental problems such as inadequate intake of food, emotional deprivation, or environmental disruption also cause infant failure to gain weight. The clinical nurse specialist documents possible causes of weight problems to determine appropriate intervention and referral.

Clinical nurses assess infant growth and primary caregiver's behaviors. The nursing goal is prevention of undernutrition and overnutrition with assessment and appropriate intervention. Infant growth is measured and

plotted on a graph to determine the rate of growth and is compared to the mean growth for the age. Some nurses have observed that caregiver behavior appears to be related to infant weight gain. While measuring primary caregiver behaviors is more difficult, caregiver's recollections of acceptance and rejection behaviors experienced during childhood may be measurable. This study utilized the recall of acceptance and rejection behaviors to formulate the statement of the problem.

Statement of the Problem

The problem of this study was to determine whether or not there was a relationship between infant rate of weight gain and primary caregiver perception of acceptance-rejection behaviors of their primary caregiver during their own childhood years.

Purposes

The purposes of this study were to:

1. Determine the infants who have a slower rate of weight gain and the primary caregiver response to the Parental Acceptance-Rejection Questionnaire
2. Determine the infants who have a faster rate of weight gain and the primary caregiver response to the Parental Acceptance-Rejection Questionnaire

3. Test the hypotheses determining the magnitude, sign, and significance of the relationship between the rate of infant weight gain and the primary caregiver scores on the Parental Acceptance-Rejection Questionnaire

Background and Significance

Vaughan et al. (1975) explained that problems with infant weight gain are associated with environmental factors as well as organic factors. Environmental factors include the behaviors of the primary caregiver. Thus, importance was given to behavioral characteristics of the primary caregiver as they influence infant weight gain.

Maslow (1970) identified the basic human needs and described behaviors of persons associated with those needs. The infant signals an imbalance in a basic need with the behavior of crying. The caregiver determines whether or not the infant's basic need for food will be satisfied with the behavior of feeding the infant. Some nurses have observed that some caregivers may not feed the infant an adequate quality or quantity of food for the age of the infant. Rohner (1978) defined caregiver acceptance and rejection behaviors with a specific cluster of characteristics. The question of the relationship between the acceptance and rejection behavior of the caregiver and the rate of infant weight gain is a concern to the community health nurse.

Vaughan et al. (1975) discussed environmental factors that were present when the infant failed to gain or lost weight. These factors were inadequate intake of food, emotional deprivation, environmental disruption, and rumination. The effect of these factors on the infant was often lack of weight gain, and according to Terris (1975), reduced intellectual capacity and developmental retardation.

Maslow (1970) describes several basic needs of human beings. Three of these needs are food, safety, and love. Hunger, the physiological need of the infant, will be satisfied when blood homeostasis is achieved. According to Yarrow (1965), infant's crying behavior signaled the need for food. Infant food needs were gratified if the caregiver fed the infant and reduced infant tension.

Infant safety needs, described by Maslow (1970), concern security, protection, and freedom from fear and anxiety. Caregiver behaviors in response to frequent change in residence and inability to buffer stimuli are related to infant diarrhea and vomiting, and resultant poor weight gain (Smiley 1972). Safety needs will be satisfied in a stable home environment where the caregiver protects the infant from overstimulation (Yarrow 1965).

Love needs, according to Maslow (1970), are face-to-face contact, togetherness, tenderness, intimacy, and

belongingness. Yarrow (1965) stated that caregiver behaviors which gratify infant needs are holding, patting, rocking, talking, and feeding. Acceptance is warmth, affection, and love given without qualification (Rohner 1975). Acceptance behavior is manifested by demonstrating love in words and actions. In 1978, Rohner purported that playing with the infant, fondling, comforting, consoling, and praising the infant, kissing, caressing, and hugging the infant exemplify acceptance behaviors.

Rejection behavior given by the caregiver and defined by Rohner (1975), is the absence or significant withdrawal of affection and warmth. Rohner (1978) identified three forms of rejection--hostility/aggression, indifference/neglect, and undifferentiated rejection. Hostility is anger, an emotional reaction. Aggression is anger in an overt act intended to hurt the child. Lack of primary caregiver concern or interest in the child is indifference. Undifferentiated rejection is the condition where caregivers are perceived as withdrawing love from the child (Rohner 1978). According to Vaughan et al. (1975), there is a relationship between the infant who fails to thrive and the mother who feels unloved and deprived.

Rohner (1975) recognized the importance of socio-economic stress on personality weakness and the influence

of stress on rejecting behaviors. When the head of the house loses a job, there is concern for the basic needs defined by Maslow (1970). Justice and Justice (1976) stated that sensory overload resulted when stress of situational events and life crises were compressed together.

According to Justice and Justice (1976), 60 percent of the abusing parents were abused as children. Abuse is a form of caregiver rejection (Rohner 1978). Caregiver rejection distorted personality functioning and produced feelings of being an inadequate human being. Rohner (1978) purported that caregiver acceptance and love were needed for normal psychosocial development of the child.

The study was conducted to determine whether or not there was a relationship between the infant's basic need for food intake and the caregiver's tendency to respond to the infant as he/she was responded to as a child. How the infant's need for food was met was measured by the rate of infant weight gain, and the caregiver response was measured by the recall of acceptance and rejection behaviors.

Hypotheses

The null hypotheses tested by this study were:

1. There is no significant relationship at the .05 level of confidence between faster infant weight gain rate and the total composite rejection score of the primary

caregiver as demonstrated on the Parental Acceptance-Rejection Questionnaire

2. There is no significant relationship at the .05 level of confidence between slower infant weight gain rate and the total composite rejection score of the primary caregiver as demonstrated on the Parental Acceptance-Rejection Questionnaire

3. There is no significant relationship at the .05 level of confidence between faster infant weight gain rate and the warmth affection scores of the primary caregiver as demonstrated on the Parental Acceptance-Rejection Questionnaire

4. There is no significant relationship at the .05 level of confidence between slower infant weight gain rates and the warmth affection scores of the primary caregiver as demonstrated on the Parental Acceptance-Rejection Questionnaire

Definition of Terms

For the purpose of the study, the following terms were defined:

1. Infant weight gain rate is determined by the total number of grams gained by the infant divided by the number of days old less ten days

2. Slower infant weight gain rate is less than the mean for this sample, or less than 38.35 grams per day

3. Faster infant weight gain rate is faster than the mean for this sample, or 38.35 grams or greater per day

4. The primary caregiver is that person who states that he or she is, and has been, responsible for at least 80 percent of the care of the infant since the birth of the infant

5. Warmth affection scores are the acceptance responses on the Parental Acceptance-Rejection Questionnaire (Rohner 1978). The range of scores is 20-80, with a high score indicating maximum acceptance and love given spontaneously and without qualification (Rohner 1978)

6. Total composite rejection scores are three scales on the Parental Acceptance-Rejection Questionnaire that indicate absence or significant withdrawal of warmth and affection (Rohner 1978). The three scales are aggression/hostility, neglect/indifference, and rejection/undifferentiated. The combined score range is 40-160. With a rejection score of 160, caregivers did not like the child, viewed him as a burden, and were cold and unsympathetic toward the child (Rohner 1978)

6a. Hostility is an emotional reaction, anger, or resentment directed toward the child. The range of scores is 15-60

6b. Aggression is any overt act intended to hurt the child physically or verbally, manifested by critical impatience, irritability, or antagonism. The parent nagged, scolded, or ridiculed the child, used rough handling, hit the child, or spoke to the child in a harsh tone

6c. Indifference is an internal state of feeling a lack of concern or interest in the child. The outcome of indifference is neglect. The score range is 15-60. With a score of 60, the primary caregiver payed as little attention to the child as possible and spent minimum time with the child

6d. Undifferentiated rejection is the condition where parents are perceived as withdrawing love from the child, but such rejection does not clearly reflect either aggression/hostility, or neglect/indifference. The score range is 10-40

Delimitations

The study was concerned with the following delimitations of the sample and limited to those responders who:

1. Were the primary caregivers of term infants
2. Provided care for an infant between 12 and 150 days of age
3. Were clients in the Child Health Conference
4. Read, wrote, and comprehended the English language

Assumptions

For the purpose of this study, the following assumptions were identified:

1. Primary caregivers who have had love needs met adequately by their primary caregivers will demonstrate accepting behaviors of their infant
2. Primary caregivers are able to recall acceptance and rejection behaviors when they were seven to eleven years old
3. It is possible to measure caregiver perceptions of acceptance and rejection behaviors with a paper-and-pencil test

Summary

This study was conducted to determine whether or not there is a relationship between the rate of infant weight gain and the caregiver response on the Parental Acceptance-Rejection Questionnaire. Chapter II, the Review

of Literature, presents studies of rejecting caregiver behaviors and slower infant weight gain. Primary caregiver feeding behaviors are presented in relation to faster infant weight gain. The Procedure for Collection and Treatment of Data is discussed in Chapter III. In Chapter IV, the Analysis of Data, the results of the hypotheses testing is presented. Chapter V includes the Summary, Conclusions, and Recommendations derived from the study.

CHAPTER II

REVIEW OF LITERATURE

Research will be reported as it relates to rejecting caregiver behaviors and slower infant weight gain, and rejecting caregiver behaviors and child abuse. Faster infant weight gain will be examined in relation to primary caregiver feeding behaviors. The primary caregiver acceptance and rejection behaviors will be reported in a study of children's weight gain.

Effect of Rejecting Caregiver Behavior on Infant Weight Gain

When a mother withholds food from the baby that is crying for the food, the behavior is unnatural. Withholding food is maternal rejection (MacCarthy 1974). Some researchers speculated that infant failure to thrive is a result of psychological factors which decrease intestinal absorption, but Whitten, Pettit, Fischhoff (1969) believed that infants would gain weight when fed properly. Given adequate caloric intake, thirteen maternally-deprived infants age three to twenty-four months were hospitalized and observed. Records showed that the mean weight gain of ten infants was 2.7 times the average normal rate. Their weights

exceeded the fiftieth percentile on Stewart's grids. Two infants refused to eat and failed to gain. One infant gained after the first week. Whitten et al. (1969) found that weight gain did not vary with environmental stimulation but with the amount of food offered.

In an effort to determine why the mother does not feed the crying infant, Fischhoff, Whitte, and Pettit (1971) conducted a psychiatric study to determine whether twelve depriving mothers had a character disorder. Their infants, age three to twenty-four months, were failing to thrive. Fischhoff et al. (1971) observed that persons with a character disorder have factors strongly related to inadequate mothering. Five characteristics of persons with character disorders are: (1) limited ability to perceive and assess environment and their own needs, (2) limited ability to adapt to change, (3) the presence of an adverse affective state, (4) defective object relations, and (5) limited capacity for concern (Fischhoff et al. 1971). Data for the study were collected by interview and observation. The mother of the failure-to-thrive infant was interviewed twice by the psychiatrist as were available fathers and involved social workers. A pediatrician and a nurse recorded observations of mother-infant interactions.

Fischhoff et al. (1971) found that ten of the twelve mothers had a character disorder. They demonstrated limited personal identity and defective object relationships. Child-like in behavior, they needed someone to take care of them. Two of the mothers of failure-to-thrive study subjects did not demonstrate these characteristics (Fischhoff et al. 1971).

Fischhoff et al. (1971) were concerned that professional intervention with mothers having a character disorder personality be direct and tutorial. They predicted that the problem-solving approach would be unsuccessful. If the primary caregiver has a character disorder, the infant will be at risk at all times according to Fischhoff et al. (1971).

The infant will be at risk anytime the mother is unable to meet the needs of the infant. In a study by Leonard (1966) the mothers' stern, rigid, unaffectionate, and non-nurturing behaviors were found to be related to infant failure to thrive. The study explored the characteristics of parents which lead to failure to thrive in the infant. The sample consisted of thirteen infants aged ten to twenty-seven months. Data were gathered from hospital records, informal interviews by a nurse, pediatrician, and social worker, and observations of parent-child interactions.

Leonard (1966) found that parents had housing and poverty problems and a chaotic home life. Mothers reported the lack of nurturing in their own childhood. Leonard (1966) concluded that mothers of failure-to-thrive infants lacked self-esteem and the ability to assess the infant's needs.

To examine the reasons why mothers lack the ability to assess infant needs, Hess et al. (1977) investigated the intelligence levels of twenty-four mothers. The problem was to determine the intelligence level of eight mothers with infants failing to thrive from environmental cause (FTT-E), eight mothers with infants failing to thrive from organic cause (FTT-O), and eight control mothers (C), with children hospitalized for reasons other than failure to thrive. Data were gathered by giving and scoring the vocabulary test of the Stanford-Binet Intelligence Scale and by obtaining data from hospital medical records. The control group was matched for location of residence, rural or urban, and religious preference.

Hess et al. (1977) found that mothers of FTT-E infants performed on the intelligence measure at a mental age of a seven- to eight-year-old person. Mothers of FTT-E infants were younger than other groups, with less education. Fathers were often absent from the home. Mothers of infants

with FTT-O performed at a mental age of an eleven-year-old, and the control mothers performed at a mental age of a fourteen- to fifteen-year-old.

Hess et al. (1977) concluded that mothers with infants failing to thrive from environmental cause need specific education programs that focus on the behaviors of how to feed, cuddle, and react to the child. The program would focus on improving the mother's ability to meet the infant's needs.

Primary Caregiver Rejecting Behavior
and Child Abuse

Rohner (1978) suggested that rejecting primary caregiver behaviors are not only demonstrated by withholding food, but also by aggression or child abuse. Behaviors of abusive mothers were studied by Melnick and Hurley (1969). The sample consisted of twenty mothers. Ten mothers identified by the physicians were believed to have inflicted the abuse. Ten mothers were in a control group. The children were less than three years old. Hollingshead-Redlich social class index was the same for both sample groups.

The following four personality assessment measures were administered to the subjects: (1) California Test of Personality, (2) Family Concept Inventory, (3) Manifest

Rejection Scale, (4) TAT cards scored to show ability to empathize and scores for affiliation, aggression, dependence, dominance, independence, and nurturance.

Melnick and Hurley (1969) found that mothers with abused children were unable to empathize with their children, had frustrated dependency needs, and a probable history of emotional deprivation. When the infant failed to thrive, the caregiver behaviors and history were described in a similar way (Fischhoff et al. 1971, Leonard 1966).

Faster Infant Weight Gain and Caregiver Behaviors

Just as infants will gain slowly if caregivers refuse to offer feeding, they may gain rapidly if the caregiver attempts to feed as much as possible (Fomon 1974). Behaviors of acceptance and rejection have not been studied in relation to faster infant weight gain, but other behaviors and attitudes have been studied. Faster infant weight gain has been associated with the mother's success in child-rearing (McLaren 1976). Faster infant weight gain also is observed with overprotective caregiver behaviors, and overanxious caregiver attitudes (McLaren 1976). The method of feeding, breast or bottle, and the age of the infant when additional carbohydrate or solid foods are introduced

are associated with obesity and have been examined by three research groups.

Belton (1977) conducted a study that indicated when additional carbohydrate should be added to the infant's diet. The research compared growth rates and body chemistries of newborn infants fed one of four milks--breast, modified evaporated, standard evaporated, and full-cream dried milk.

The sample consisted of 101 Caucasian infants assigned to one of four groups during the first days after birth. Data were collected from records of blood and urine analysis and physical assessment at one and six days, three and six weeks, and three and six months.

The study showed that artificially-fed infants gained weight significantly faster than breast-fed infants and that modified evaporated milk was closest to breast milk on four blood tests and one urine test. Belton (1977) demonstrated that infants grow and develop adequately on cow's milk without additional carbohydrate until four to six months of age.

In England, Taitz (1976) demonstrated that slower infant weight gain resulted when mothers breast-fed and solids were added later to the infant diet. Taitz (1976) examined the relationship of infant feeding behaviors to

weight gain in the first weeks of life. The sample consisted of two hundred term infants divided into three groups by feeding pattern. Thirty-three percent of the infants were breast-fed, 44 percent were artificially-fed, and 23 percent were fed solids and milk. Half of those infants receiving solids started the solids within the week of testing. Records of birth weight, weight at six weeks, and the total age of the infant in days were used to determine weight gain velocity. The feeding history, obtained using the interview method, provided the method of feeding, length of time the method had been used, and the age when solids were introduced.

Differences were not statistically significant between weight velocities of breast-fed and bottle-fed infants, according to Taitz (1976), because overfeeding behaviors were prevented. Weight velocities for breast-fed infants were 14.6 to 40.9 grams per day with a mean of 26.1 grams per day. Artificially-fed infants gained 14.6 to 50 grams per day with a mean of 28.3 grams per day.

Taitz (1976) concluded that weight gain velocity greater than 28.3 grams per day resulted from an epidemic of incorrect feeding behaviors. Excess weight gain started with overconcentrated feeding, infant thirst and demand for more food, and resulted in overfeeding. Habits

were changed when health advisors gave careful instructions to mothers, an extra ounce of water was added to the feeding, breast-feeding was advocated instead of bottle-feeding, and the media discussed the hazards of incorrect feeding behaviors. Mother's attitudes and feeding behaviors had changed so that weight velocities in 1974 were not significantly different between breast- and bottle-fed infants (Taitz 1976).

Weight gain velocities for infants breast-fed or bottle-fed were not significant unless the caregiver added solid food, according to Nitzan and Schonfeld (1976). They evaluated the role of bottle-feeding in infantile over-nutrition. Two-hundred eighty-seven term infants were assigned to one of three groups based on feeding patterns. Fifty-nine were breast-fed, 228 were bottle-fed, and 63 received cereal and milk. Weight velocities were determined from records and interviews to determine feeding history. Nitzan and Schonfeld (1976) concluded that early introduction of solid food may lead to an overweight infant at four- to eight-weeks of age.

An extensive literature search revealed no studies relating infant weight gain to acceptance behaviors of the primary caregiver. A study was found that examined school-age children's weight gain with primary caregiver's

behavior of acceptance and rejection. In 1951 Widdowson published a study comparing growth rates of children with and without additional food supplies and behaviors of primary caregivers in two German orphanages. The sample consisted of fifty boys and girls, ages four to fourteen years, and three directors. The average age was eight years. Weights were below normal for height in both orphanages. One director's behavior was stern and forbidding. The other two directors' behaviors were friendly, with an attitude of liking children.

The data were collected from records of children's weights and from observations of the caregiver's behaviors. Weights were determined four hours after the evening meal every fortnight for a year in both orphanages. Additional food rations were given to children in one orphanage in the second half of the study year.

The findings were that children eating 20 percent more food gained less. To explain the findings, Widdowson (1951) examined the caregiver behaviors. When the study increased the food rations in one orphanage, the caregiver who ridiculed individual children at mealtime was moved to the orphanage. Under her care, only eight children, who always received praise, gained weight during the study period. Widdowson (1951) concluded that psychological

stress due to harsh and unsympathetic handling may seriously decrease growth rates.

Studies demonstrated that rejecting primary caregiver behaviors were associated with slow infant weight gain and child abuse. Caregiver feeding behaviors associated with faster infant weight gain were described. A study of school-age children's weight gain demonstrated the affect of caregiver acceptance.

CHAPTER III

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

The problem of this study was to determine whether or not there was a relationship between infant rate of weight gain and primary caregiver perception of acceptance-rejection behaviors of their primary caregiver during their own childhood years. Studied was the relationship between the rate of infant weight gain and scores of the primary caregiver on the Parental Acceptance-Rejection Questionnaire. Before data were collected for the study, permission was obtained from Texas Woman's University Human Research Review Committee (appendix A), the agency used in the study (appendix B), and the respondent (appendix C). Anonymity was protected by not identifying the subjects and reporting only group data. Application of the independent variable, the primary caregiver perception of acceptance and rejection behaviors, preceded the study and was beyond the control of the researcher.

Setting

The study was conducted in two tax-supported child health conference settings in a large metropolitan area of

more than one million persons in the Southwest. Data were collected in Child Health Conference buildings in the north and south sections of the city. The Child Health Conference program provided health supervision to well preschool children in order to protect and promote health and to provide health service and health education (Committee of Child Health of the American Public Health Association 1965).

Population and Sample

The 53 infant subjects were selected from 245 preschool subjects attending the Child Health Conference. All infant and primary caregiver subjects who met the stated delimitations and agreed to participate were selected by the convenience sampling method. The subjects, primary caregivers and their infants, were selected from seven Child Health Conferences which were held over a twelve-day period. The sample consisted of fifty-three primary caregivers and their infants between the age of 12 and 150 days of age. The faster infant weight gain group consisted of twenty-two subjects, while the slower infant weight gain group consisted of thirty-one subjects.

Tool

The instrument utilized to determine the recall of acceptance and rejection behaviors was the Parental Acceptance Rejection Questionnaire by Rohner (1978) (appendix D). Section 1 of the questionnaire consisted of demographic data on the following items: (1) age of the primary caregiver, (2) marital status of the primary caregiver, (3) infant's date of birth, (4) date of testing, (5) infant weight the day of testing, (6) relation of the responder to the infant, and (7) responder's primary caregiver.

Section 2 was the Parental Acceptance Rejection Questionnaire developed by Rohner (1978). This self-report instrument measured the perceived parental acceptance and rejection. Adults reflected on the way they recalled being treated when they were seven to eleven years old. Rohner (1978) reported that validity and reliability were adequate. A sample of 147 college students was used to assess the validity and reliability of the questionnaire. Internal consistency (coefficient alpha) of four scales ranged from .86 to .95. Factor analysis yielded three factors accounting for 75 percent of variance. These factors were rejection, acceptance, and physical punishment. Concurrent, convergent, and discriminant validities of scales were adequate (Rohner 1978).

The questionnaire contained four scales. One scale (warmth/affection) contained twenty items with the range of scores 20-80. This scale measured the acceptance factors of the questionnaire. The rejection factors of the questionnaire were measured by three scales. Two of those scales (aggression/hostility and neglect/indifference) each contained fifteen items with the range of scores 15-60. The fourth scale (rejection undifferentiated) contained ten items with the range of scores 10-40. The range of total scores for all fifty-three subjects was 1,060-4,140 for warmth and affection, 795-3,180 for aggression and hostility, 795-3,180 for neglect and indifference, and 530-2,120 for rejection undifferentiated (Rohner 1978).

Responses were assigned values as follows: almost always true was 4 points, sometimes true was 3 points, rarely true was 2 points, and almost never true was 1 point. Seven items in the neglect/indifference scale, numbers 7, 14, 21, 28, 35, 42, and 49 were reverse scored. High scores indicated maximum aggression/hostility, warmth/affection, neglect/indifference, and rejection undifferentiated. Method of reverse scoring was that 4 points becomes 1, 3 points becomes 2, 2 points becomes 3, and 1 point becomes 4 (Rohner 1978).

A pilot study was conducted to pretest the procedure. The sample consisted of four primary caregivers and their infants who qualified to participate. The subjects received oral and written explanations of the study, agreed to participate in the pilot study, and signed the consent form which indicated that they understood and agreed with the procedure. Subjects did not sign the questionnaire. As a result of the pilot study, plans were made for subjects to check the questionnaire with the researcher before leaving due to skipped responses on the questionnaire.

Data Collection

Data were collected by means of a self-administered questionnaire through convenience sampling in the Child Health Conference setting. Sampling was from primary caregivers, with infants less than 150 days old, who were attending the Child Health Conference. The infant's weight and age were established on the day the primary caregiver responded to the questionnaire. The primary caregiver was asked to give written informed consent to participate in the study, seated where privacy was provided, given a copy of the questionnaire, and asked to respond to all questions within a period of fifteen minutes. The researcher

presented the questionnaire, provided written and oral directions (appendix E), and awaited completion of the questionnaire.

Treatment of Data

Steps followed in the treatment of data were to:

1. Determine the rate of infant weight gain
2. Divide the mean rate of infant weight gain into two groups, those above and below the group mean
3. Determine the primary caregiver raw score on each Parental Acceptance-Rejection Questionnaire scale
4. Determine the composite rejection score by summing the three rejection scale scores, aggression/hostility, neglect/indifference, rejection/undifferentiated
5. Test the hypotheses using Pearson's product-moment correlation coefficient

Summary

Chapter III has presented the methodology utilized in this study. The results of the analysis appear in Chapter IV of the study. Tables and descriptive analysis are given.

CHAPTER IV

ANALYSIS OF DATA

Studies have demonstrated that rejecting primary caregiver behaviors are associated with slow infant weight gain. An instrument, Rohner's Parental Acceptance-Rejection Questionnaire, reportedly detects caregiver acceptance-rejection behaviors that are not apparent by simple observation of the mother-infant interaction. Scores on the Parental Acceptance-Rejection Questionnaire may relate to infant weight gain problems. The problem of the study was to determine the relationship between infant rate of weight gain and primary caregiver perception of acceptance-rejection behaviors of their primary caregiver during their own childhood years.

Four hypotheses tested were:

1. There is no significant relationship at the .05 level of confidence between faster infant weight gain rate and the total composite rejection score of the primary caregiver as demonstrated on the Parental Acceptance-Rejection Questionnaire.

2. There is no significant relationship at the .05 level of confidence between slower infant weight gain

rate and the total composite rejection score of the primary caregiver as demonstrated on the Parental Acceptance-Rejection Questionnaire

3. There is no significant relationship at the .05 level of confidence between faster infant weight gain rate and the warmth affection scores of the primary caregiver as demonstrated on the Parental Acceptance-Rejection Questionnaire

4. There is no significant relationship at the .05 level of confidence between slower infant weight gain rates and the warmth affection scores of the primary caregiver as demonstrated on the Parental Acceptance-Rejection Questionnaire

Data are presented in the following manner:

(1) description of the sample, (2) test of the hypotheses, and (3) summary.

Description of the Sample

The sample consisted of 106 subjects, 53 infants and their primary caregivers who were clients in Child Health Conference in a large metropolitan area of more than one million persons. The infant subjects were divided into two groups by rate of weight gain. The faster weight gain group had twenty-two subjects, while the slower weight gain

group had thirty-one subjects. Data were collected during seven Child Health Conference sessions over a twelve-day period.

Infant Subjects

Fifty-three infants had a mean age of 47.6 days, mean birth weight of 3,242 grams, and a mean rate of weight gain of 38.35 grams per day. Two weight gain groups, faster and slower, were differentiated by the group mean. Twenty-two infants' weight gain was above the mean. This group was designated as the faster weight gain group. Thirty-one infants' weight gain was below the mean. This group was designated as the slower weight gain group. In the faster weight gain group, the mean age was 21.5 days, mean birth weight was 3,190 grams, and the mean rate of weight gain was 51.07 grams per day. The mean age was 66 days in the slower weight gain group with 3,280 grams the mean weight at birth, and 29.32 grams per day the mean rate of weight gain.

Primary Caregiver Subjects

For each infant participating in the study, the primary caregiver's age and marital status were examined. Fifty-three percent of the primary caregivers were twenty-one to thirty years old ($N = 28$), 42 percent were

less than twenty years old ($N = 22$), and 6 percent were thirty-one to forty years old ($N = 3$). Forty-five percent were single ($N = 21$), 11 percent were separated ($N = 6$), and 4 percent were divorced ($N = 2$). Ninety-two percent of the primary caregivers were raised by their mothers ($N = 49$), while 8 percent were raised by the grandmother/father. All responders, primary caregivers, were mothers of the infants.

Tests of the Hypotheses

Four relationships were examined by using the Pearson product-moment coefficient of correlation: (1) faster rate of infant weight gain and rejection scores, (2) slower rate of infant weight gain and rejection scores, (3) faster rate of infant weight gain and acceptance scores, and (4) slower rate of infant weight gain and acceptance scores. Examination of scatterplots demonstrated that the data were linear.

The investigator determined the relationship between the faster rate of infant weight gain and the composite mean score on the rejection scales. The magnitude of the relationship was .15 and the sign was positive. This analysis indicated that higher rejection scores were related to faster rate of infant weight gain and a low coefficient. The significance level was .25, a non-significant

relationship at the .05 level of confidence. The first hypothesis, there is no significant relationship at the .05 level of confidence between faster infant weight gain rate and the total composite rejection score of the primary caregiver as demonstrated on the Parental Acceptance-Rejection Questionnaire, was not rejected and is demonstrated in table 1.

The magnitude of the relationship between slower rate of infant weight gain and the composite score on the rejection scales was .05 and the sign was negative. This analysis indicated that slower rate of infant weight gain was related to a higher composite score on the rejection scale. The relationship was small. The significance level was .39, and was nonsignificant at the .05 level of confidence. The second hypothesis, there is no significant relationship at the .05 level of confidence between slower infant weight gain rate and the total composite rejection score of the primary caregiver as demonstrated on the Parental Acceptance-Rejection Questionnaire, was not rejected.

As shown in table 2, the relationship between faster rate of infant weight gain and warmth affection scores was .03 and positive. This finding indicated that faster rate of weight gain was related to higher scores of warmth

TABLE 1

INFANT WEIGHT GAIN RATE BY PARENTAL ACCEPTANCE-REJECTION QUESTIONNAIRE COMPOSITE REJECTION SCORE'S MEAN, STANDARD DEVIATION, MAGNITUDE AND SIGN, MINIMUM AND MAXIMUM SCORE, AND SIGNIFICANCE LEVEL

	Infant Weight Gain Rate		
	Faster	Slower	Total
Number of subjects	22	31	53
Mean	63.04	70.80	67.52
Standard deviation	12.864	16.622	15.528
Magnitude and sign*	r= +0.15	r= -0.05	r= -0.18
Minimum score	41	43	41
Maximum score	95	108	108
Significance**	NS	NS	NS

*Magnitude was determined by computing Pearson product-moment coefficient of correlation (r).

**A 0.05 significance level was employed to test the null hypothesis for no difference between mean infant weight gain rates and composite rejection scores on the Parental Acceptance-Rejection Questionnaire. NS indicates a nonsignificant level.

affection, although the magnitude coefficient was low. The significance was .44, nonsignificant at the .05 level of confidence. The third hypothesis, that there is no significant relationship at the .05 level of confidence between faster infant weight gain rate and the warmth affection

scores of the primary caregiver as demonstrated on the Parental Acceptance-Rejection Questionnaire, was not rejected.

TABLE 2

INFANT WEIGHT GAIN RATE BY PARENTAL ACCEPTANCE-REJECTION QUESTIONNAIRE WARMTH AFFECTION SCORE'S MEAN, STANDARD DEVIATION, MAGNITUDE AND SIGN, MINIMUM AND MAXIMUM SCORE, AND SIGNIFICANCE LEVEL

	Infant Weight Gain Rate		
	Faster	Slower	Total
Number of subjects	22	31	53
Mean	73.05	69.52	70.98
Standard deviation	5.46	9.96	8.51
Magnitude and sign*	r= +0.03	r= -0.17	r+ -0.12
Minimum score	59	38	38
Maximum score	80	80	80
Significance**	NS	NS	NS

*Magnitude was determined by computing Pearson product-moment coefficient of correlation (r).

**A 0.05 significance level was employed to test the null hypothesis for no difference between mean infant weight gain rates and warmth affection scores on the Parental Acceptance-Rejection Questionnaire. NS indicates a nonsignificant level.

Slower infant rate of weight gain and warmth affection scores had a magnitude of .17 and a negative sign. Infants gaining slowly were related to higher scores of

warmth and affection with a low coefficient. The significance level, displayed in table 2, was .18, nonsignificant at the .05 level of confidence. The fourth hypothesis, there is no significant relationship at the .05 level of confidence between slower infant weight gain rates and the warmth affection scores of the primary caregiver as demonstrated on the Parental Acceptance-Rejection Questionnaire, was not rejected.

Summary

Analysis of the demographic data revealed that infant subjects who gained faster were younger and weighed less at birth. The infants with slower rates of weight gain were older and weighed more at birth. Infant age and birth weight were related to the rate of infant weight gain. The primary caregivers were the mothers of the infants, and the majority was twenty-one to thirty years old, married, and raised by their mothers.

The results of the analysis did not demonstrate a significant relationship between rates of infant weight gain and the Parental Acceptance-Rejection scores. Those primary caregivers with higher rejection scores had infants with faster and slower rates of weight gain, and those primary caregivers with higher warmth affection scores had infants with faster and slower rates of weight gain. The

magnitude of all four relationships was less than .3, a low coefficient. The sign was negative for the relationship between the slower rate of weight gain and warmth affection scores, and the slower rate of weight gain and the composite rejection scores indicating an inverse relationship. The sign was positive for the relationship between the faster rate of weight gain and warmth affection and the faster weight gain and the rejection scores. None of the four null hypotheses could be rejected.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study was conducted to determine whether or not there was a relationship between infant rate of weight gain and primary caregiver perception of acceptance-rejection behaviors of their primary caregiver during their own childhood years. The purposes were to (1) determine the infants who have a slower rate of weight gain and the primary caregiver response to the Parental Acceptance-Rejection Questionnaire, (2) determine the infants who have faster rate of weight gain and the primary caregiver response to the Parental Acceptance-Rejection Questionnaire, and (3) test the hypotheses determining the magnitude, sign, and significance of the relationship between the rate of infant weight gain and the primary caregiver scores on the Parental Acceptance Rejection Questionnaire.

The study was conducted in two tax-supported Child Health Conference settings in a large metropolitan area of more than one million persons in the southwest. One-hundred and six infant and primary caregiver subjects were

selected from the target population attending Child Health Conference. All who met the stated delimitations and agreed to participate were selected by the convenience sampling method. Responders were primary caregivers of term infants, provided care for the infants who were between 12 and 150 days of age, were clients in the Child Health Conference, and read, wrote, and comprehended the English language. The infants' rate of weight gain was determined. Two weight gain groups, faster and slower, were differentiated by the group mean. The primary caregiver completed a questionnaire with two sections. Section 1 was the demographic data questionnaire and Section 2 was Rohner's Parental Acceptance-Rejection Questionnaire.

Pearson's product-moment correlation coefficient was applied to the data. Results of hypotheses testing were:

1. The relationship between faster rate of infant weight gain and the primary caregiver total composite rejection score was $+ .15$ and nonsignificant at the $.25$ level of significance
2. The relationship between slower rate of infant weight gain and the primary caregiver total composite rejection score was $- .05$ and nonsignificant at the $.39$ level of significance

3. The relationship between faster rate of infant weight gain and the primary caregiver warmth/affection score was $+.03$ and nonsignificant at the $.44$ level of significance

4. The relationship between slower rate of infant weight gain and the primary caregiver warmth/affection score was $-.17$ and nonsignificant at the $.18$ level of significance

The hypotheses, stated in the null, were not rejected at the $.05$ level of confidence.

Demographic data revealed that the age and birth weight of the infant related to the rate of infant weight gain. Infants in the faster weight gain group had a mean age of 21.5 days, a mean birth weight of 3,190 grams, and a mean rate of weight gain of 51.07 grams per day. Infants in the slower weight gain group had a mean age of 66 days, a mean birth weight of 3,280 grams, and a mean rate of weight gain of 29.32 grams per day.

Conclusions

Conclusions which follow the findings are:

1. When the primary caregiver recalled more rejection behaviors, the rate of infant weight gain was either the fastest or slowest. The magnitude was larger

when the infant weight gain was faster and the primary caregiver recalled larger amounts of rejection

2. When the primary caregiver recalled more warmth and affection behaviors, the rate of infant weight gain was either the fastest or slowest. The magnitude was larger when the infant weight gain was slower and the recall of warmth and affection behaviors was greater

3. The Parental Acceptance-Rejection Questionnaire did not discriminate significant relationships between acceptance-rejection behaviors perceived by the primary caregiver and the faster and slower rate of infant weight gain

4. Birth weight and age of the infant appeared to influence the rate of infant weight gain

Recommendations

Recommendations which follow the conclusions are:

1. Conduct a longitudinal study to determine whether or not there is a relationship between infant and child rate of weight gain and primary caregiver's perception of acceptance-rejection behaviors of their primary caregiver during their own childhood years

2. Repeat the research design in another geographic setting with a different sample

3. Conduct an experimental study using rate of infant weight gain, infant age, and birth weight as control variables to determine the relationship of infant weight gain with caregiver acceptance-rejection behavior

APPENDIX A

TEXAS WOMAN'S UNIVERSITY

Human Research Committee

Name of Investigator: Judy Daugherty Center: Dallas

Address: 2700 Bengal

Plano, Texas 75023

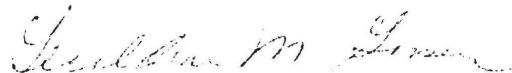
Dear Ms. Daugherty: Infant Weight Gain and Perceived Acceptance
Your study entitled and Rejection of Caregivers

has been reviewed by a committee of the Human Research Review Committee and it appears to meet our requirements in regard to protection of the individual's rights.

Please be reminded that both the University and the Department of Health, Education and Welfare regulations require that written consents must be obtained from all human subjects in your studies. These forms must be kept on file by you.

Furthermore, should your project change, another review by the Committee is required, according to DHEW regulations.

Sincerely,



Chairman, Human Research
Review Committee
at Dallas.

APPENDIX B

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING
DENTON, TEXAS
46

DALLAS CENTER
1810 Inwood Road
Dallas, Texas 75235

HOUSTON CENTER
1130 M.D. Anderson Blvd.
Houston, Texas 77025

AGENCY PERMISSION FOR CONDUCTING STUDY*

THE CITY OF DALLAS HEALTH DEPARTMENT

GRANTS TO Judy Daugherty R.N., B.S.

a student enrolled in a program of nursing leading to a Master's Degree at Texas Woman's University, the privilege of its facilities in order to study the following problem:

The problem of this study is to determine whether or not there is a relationship between infant's weight gain and acceptance and rejection as perceived by the primary caregiver.

The conditions mutually agreed upon are as follows:

1. The agency (may) (may not) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (may not) be identified in the final report.
3. The agency (wants) (does not want) a conference with the student when the report is completed.
4. The agency is (willing) (unwilling) to allow the completed report to be circulated through interlibrary loan.
5. Other: Cathy Stock, R.N., will observe first session of study.

If, in her opinion, this session takes too much time or space,
the study will be conducted during home visits.

Sandra Eubank, R.N., D.P.N.

Date 7-20-78

Judy Daugherty
Signature of student

Signature of Agency Personnel

Dean Harris Professor
Signature of Faculty Advisor of Nursing

*Fill out and sign three copies to be distributed as follows: Original -- Student; first copy - agency; second copy - T.W.U. College of Nursing.

APPENDIX C

TEXAS WOMAN'S UNIVERSITY

Consent to Act as a Subject for Research and Investigation:

I am a nurse and a graduate student at Texas Woman's University. In order to complete school requirements, I am conducting a study. I am studying the relationship between infant weight gain and your memory of the person who took care of you most of the time during childhood.

I will ask you to complete a questionnaire. The questionnaire requests data that describes the way you were treated while you were seven to eleven years old. The statements describe actions of different people toward their children. There are no right or wrong answers to any statement. You should answer the way you feel your caregiver (mother, father, or aunt, etc.) really was, and not the way you might have liked him/her to be. The information learned from the study may be useful to know why infants gain weight at different rates.

You are eligible to participate because you provide most of the care to an infant less than five months old. If you are interested and agree to participate, I shall provide a private place and ask you to fill out a questionnaire. Even after you decide to participate, should you change your mind, you are free to withdraw at any time. Your refusal to participate or withdraw will in no way interfere with services provided by the clinic. It will take approximately fifteen minutes to complete the questionnaire. Your name is not to be written on the questionnaire so I will not know who responded to the questions in a specific way. Your infant's rate of weight gain will be determined.

I will collect the questionnaire after all questions are answered and will be available to discuss your reactions to the questions. Please tell me if the questions upset you.

Thank you for your help!

Judy Daugherty, R.N.

TEXAS WOMAN'S UNIVERSITY

Consent to Act as a Subject for Research and Investigation

I hereby agree to complete a questionnaire about the way I remember my primary caregiver (mother, father, aunt, etc.) treating me when I was growing up.

The questionnaire has been explained to me by Judy Daugherty.

I understand that it will take approximately fifteen minutes to complete and that I will be provided a private place to complete the questionnaire. The rate of my infant's weight gain will be obtained.

I understand that the questionnaire will be used for research purposes only, and that my name will not be used.

An offer to answer all my questions regarding the study has been made. I understand that I may terminate my participation in the study after I see the questions and that it will have no effect on the care provided at the clinic.

Subject's Signature

Date

APPENDIX D

PARENTAL ACCEPTANCE-REJECTION QUESTIONNAIRE

Section 1

To help with the statistical analysis of the data, please give the following information about yourself and your infant.

1. Responder's age in years (check one)

☐ under 20
☐ 21-30
☐ 31-40
☐ 41-50
☐ over 51

2. Marital status (check one)

☐ Single
☐ Married
☐ Widowed
☐ Divorced
☐ Separated
☐ Other

3. Infant date of birth _____
Infant birth weight _____

4. Infant weight today _____
Today's date _____

5. Relation of responder to the infant (check one)

☐ Mother
☐ Father
☐ Grandmother/father
☐ Aunt
☐ Other (please specify)

6. Who was the responder's primary care provider?

☐ Mother
☐ Father
☐ Grandmother/father
☐ Aunt
☐ Other (please specify)

Section 2

The following pages contain a number of statements describing the way different mothers act toward their children. Read each statement carefully and think how well it describes the way your mother treated you when you were about seven to eleven years old.

Four lines are drawn after each question. First decide if the answer is yes (true), or no (not true). Then decide how true or not true the statement is by marking either always, sometimes, rarely, or never. For example, if in your memory your mother almost always hugged you and kissed you when you were good, you should mark the items as follows:

<u>True of My Mother</u>		<u>Not True of my Mother</u>	
<u>Almost</u>			<u>Almost</u>
<u>Always</u>	<u>Sometimes</u>	<u>Rarely</u>	<u>Never</u>
<u>True</u>	<u>True</u>	<u>True</u>	<u>True</u>

1. My mother hugged and
kissed me when I was
good.

✓

PLEASE ANSWER EVERY QUESTION. DO NOT LEAVE A BLANK SPACE.

	<u>True of My Mother</u>		<u>Not True of My Mother</u>	
	<u>Almost</u>	<u>Sometimes</u>	<u>Almost</u>	<u>Never</u>
	<u>True</u>	<u>True</u>	<u>True</u>	<u>True</u>
1. Said nice things about me.	_____	_____	_____	_____
2. Nagged or scolded me when I was bad.	_____	_____	_____	_____
3. Totally ignored me.	_____	_____	_____	_____
4. Did not really love me.	_____	_____	_____	_____
5. Was willing to discuss general daily routines with me, and to listen to what I had to say.	_____	_____	_____	_____
6. Complained about me to others when I did not listen to her.	_____	_____	_____	_____
7. Took an active interest in me.	_____	_____	_____	_____
8. Encouraged me to bring my friends home, and tried to make things pleasant for them.	_____	_____	_____	_____
9. Ridiculed and made fun of me.	_____	_____	_____	_____
10. Ignored me as long as I did not do anything to disturb her.	_____	_____	_____	_____
11. Yelled at me when she was angry.	_____	_____	_____	_____
12. Made it easy for me to confide in her.	_____	_____	_____	_____

	<u>True of My Mother</u>		<u>Not True of My Mother</u>	
	<u>Almost</u>	<u>Sometimes</u>	<u>Almost</u>	<u>Never</u>
	<u>Always</u>	<u>True</u>	<u>Rarely</u>	<u>True</u>
	<u>True</u>	<u>True</u>	<u>True</u>	<u>True</u>
13. Treated me harshly.	_____	_____	_____	_____
14. Enjoyed having me around her.	_____	_____	_____	_____
15. Made me feel proud when I did well.	_____	_____	_____	_____
16. Hit me, even when I did not deserve it.	_____	_____	_____	_____
17. Forgot things she was supposed to do for me.	_____	_____	_____	_____
18. Viewed me as a burden.	_____	_____	_____	_____
19. Praised me to others.	_____	_____	_____	_____
20. Punished me severely when she was angry.	_____	_____	_____	_____
21. Made sure that I had the right kind of food to eat.	_____	_____	_____	_____
22. Talked to me in a warm and affectionate way.	_____	_____	_____	_____
23. Was critically impatient with me.	_____	_____	_____	_____
24. Was too busy to answer my questions.	_____	_____	_____	_____
25. Seemed to resent me.	_____	_____	_____	_____
26. Praised me when I deserved it.	_____	_____	_____	_____
27. Was irritable and antagonistic toward me.	_____	_____	_____	_____

	<u>True of My Mother</u>		<u>Not True of My Mother</u>	
	<u>Almost</u>	<u>Sometimes</u>	<u>Rarely</u>	<u>Almost</u>
	<u>Always</u>	<u>True</u>	<u>True</u>	<u>Never</u>
	<u>True</u>	<u>True</u>	<u>True</u>	<u>True</u>
28. Was concerned who my friends were.	_____	_____	_____	_____
29. Was genuinely interested in my affairs.	_____	_____	_____	_____
30. Said many unkind things to me.	_____	_____	_____	_____
31. Ignored me when I asked her for help.	_____	_____	_____	_____
32. Was unsympathetic to me when I was having trouble.	_____	_____	_____	_____
33. Made me feel wanted and needed.	_____	_____	_____	_____
34. Told me that I got on her nerves.	_____	_____	_____	_____
35. Paid a lot of attention to me.	_____	_____	_____	_____
36. Told me how proud she was of me when I was good.	_____	_____	_____	_____
37. Went out of her way to hurt my feelings.	_____	_____	_____	_____
38. Forgot important events that I thought she would remember.	_____	_____	_____	_____
39. Made me feel I was not loved any more if I misbehaved.	_____	_____	_____	_____
40. Made me feel what I did was important.	_____	_____	_____	_____

	<u>True of My Mother</u>		<u>Not True of My Mother</u>	
	<u>Almost</u>		<u>Almost</u>	
	<u>Always</u>	<u>Sometimes</u>	<u>Rarely</u>	<u>Never</u>
	<u>True</u>	<u>True</u>	<u>True</u>	<u>True</u>
41. Frightened or threatened me when I did something wrong.	_____	_____	_____	_____
42. Liked to spend time with me.	_____	_____	_____	_____
43. Tried to help me when I was scared or upset.	_____	_____	_____	_____
44. Shamed me in front of my playmates when I misbehaved.	_____	_____	_____	_____
45. Avoided my company.	_____	_____	_____	_____
46. Complained about me.	_____	_____	_____	_____
47. Respected my point of view, and encouraged me to express it.	_____	_____	_____	_____
48. Compared me unfavorably to other children no matter what I did.	_____	_____	_____	_____
49. Took me into consideration when she made plans.	_____	_____	_____	_____
50. Let me do things I thought were important, even if it was inconvenient for her.	_____	_____	_____	_____
51. Compared me unfavorably with other children when I misbehaved.	_____	_____	_____	_____
52. Left my care to someone else (e.g. a neighbor or relative).	_____	_____	_____	_____

	<u>True of My Mother</u>		<u>Not True of My Mother</u>	
	<u>Almost</u>	<u>Sometimes</u>	<u>Rarely</u>	<u>Almost</u>
	<u>Always</u>	<u>True</u>	<u>True</u>	<u>Never</u>
	<u>True</u>	<u>True</u>	<u>True</u>	<u>True</u>
53. Let me know I was not wanted.	_____	_____	_____	_____
54. Was interested in the things I did.	_____	_____	_____	_____
55. Tried to make me feel better when I was hurt or sick.	_____	_____	_____	_____
56. Told me how ashamed she was when I misbehaved.	_____	_____	_____	_____
57. Let me know she loved me.	_____	_____	_____	_____
58. Treated me gently and with kindness.	_____	_____	_____	_____
59. Made me feel ashamed or guilty when I misbehaved.	_____	_____	_____	_____
60. Tried to make me happy.	_____	_____	_____	_____

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