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self-concept and parent/child relationship among Chinese
children in Taiwan**

Cho, Mei-Mei, Ph.D.

Andrews University, 1987

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THE VALIDITY OF THE KINETIC FAMILY DRAWING AS A
MEASURE OF SELF-CONCEPT AND PARENT/CHILD
RELATIONSHIP AMONG CHINESE CHILDREN
IN TAIWAN

A Dissertation
Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

by
Mei-Mei Cho
January 1987

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ABSTRACT

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Chairperson: Donna J. Habenicht, Ed.D.

ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

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Title: THE VALIDITY OF THE KINETIC FAMILY DRAWING AS A
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Name of researcher: Mei-Mei Cho

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Date completed: January, 1987

Problem

Valid psychological instruments for use with Chinese children in Taiwan are scarce. The present study attempted to validate the Kinetic Family Drawing as a measure of the self in the family context as well as the perceived parent-child relationship among Chinese children in Taiwan, and to obtain normative data on the KFD for this population.

Method

A correlational research design was used to determine the validity of the KFD using a Semantic Differential (SD) of four concepts--"Father and Me," "Mother and Me," "Me," and "My Whole Family"--as a criterion measure. The KFDs were rated for 80 variables recommended by Burns (1982) and four new variables devised by the researcher regarding the relative size of self and types of barriers between major figures.

A stratified random sample of 204 male and 204 female students representing grades 4, 5, and 6, and four different residential areas in Taiwan was used.

Canonical correlation analyses and a step-wise multiple-regression analysis were used to test the null hypotheses. Data were also treated descriptively to obtain normative information.

Results

The Semantic Differential was a suitable criterion instrument for investigating the concurrent validity of the KFD.

Distribution of most of the KFD variables was skewed and lacked variability, especially the actions, which appeared to be culturally based.

KFD styles and other pathological signs were not evident in this non-clinical population.

Ten KFD variables correlated significantly with

the SD concepts using the new scoring system. Face completion of father correlated negatively.

Conclusions

The KFD technique is useful with Chinese school children, grades 4-6, in Taiwan, if the Chinese culture is considered when making interpretations.

The most valid KFD variables for measuring self-concept and parent/child relationship appeared to be facial expression of the major figures, relative size of self, types of barriers between father and self, types of barriers between mother and self, the eye completion of father, distance between father and mother, and the Like-To-Live-In-Family variable. Face completion of father seems to be questionable for use with this population.

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PREFACE

Two years ago, while taking the course in Child Assessment from Dr. Donna Habenicht, I became interested in the Kinetic Family Drawing. As I actually administered the KFD to ten children of my friends, as part of the class assignments, it intrigued me even more deeply. The wealth of information that the KFD provided about the child and the family amazed me to a great extent. Two questions kept coming up in my mind, "How valid is this instrument with a larger population?" and "How will it work with Chinese children?" Since valid psychological instruments are very scarce in Taiwan, there is a great need. The KFD is a projective technique which would have minimal language barriers if it were to be adapted for a Chinese population. This began my long search for the related literature.

What I found in the literature confirmed my belief that the KFD is an instrument with high potential, even though validation has been difficult. I decided to choose it as my dissertation topic--the validity of the KFD. When the time came for me to actually write my proposal, I decided to validate the KFD for Chinese children in Taiwan. If there was a chance I could make a contribution

to the field of Psyc. .logy, I ought to start with a Chinese population.

My motives behind this study may sound complicated: to validate a promising instrument on the one hand, and to find a useful instrument for Chinese children on the other. However, many other human endeavors cannot be explained by a single motive.

As this project comes to the finishing phase, I have to give many thanks, first of all, to God. He gives me strength when I need it most. His promise in Isaiah 43: 1-2 in the Holy Bible gave me constant comfort through all the difficulties as I was working on my dissertation.

Fear not: for I have redeemed thee, I have called thee by thy name; thou art mine. When thou passest through the waters, I will be with thee; and through the rivers, they shall not overflow thee: When thou walkest through the fire, thou shalt not be burned; neither shall the flame kindle upon thee.

Secondly, I thank my committee members, Dr. Donna Habenicht, Dr. Wilfred Fatcher, Dr. Marion Merchant, and Dr. Garth Thompson for devoting their time and energy to reading my paper many times, giving me ideas, and encouraging me. Dr. Donna Habenicht, the chairperson of my committee, assured me repeatedly that I would finish my dissertation. Her belief in my ability to carry through the project has given me great encouragement.

Another person to whom I owe many thanks is my husband, Paul. Without him, my dissertation would probably never have been finished. He went back to Taiwan to collect the data. The 408 precious KFDs used for this

project were collected in hot summer time with many difficulties. He helped measure some variables for the drawings and printed copy after copy of my drafts to distribute to the committee members. Best of all, his full support of my desire to finish this degree was one of the driving forces behind my goal.

My dissertation would not be complete without the help of Dr. Robert Burns. He kindly sent me copies of cross-cultural studies on the KFD which I had not been able to locate. His encouraging letters brought back much of my confidence.

I also have to express my appreciation to Paul's brothers, Bill and Hanson, who also helped collect data. Bill was especially helpful in conducting the pilot study and assisting Paul in the collection of data in Taiwan. His zealous efforts in doing all these were a great encouragement to me.

Last, but not the least, I thank those friends, who through many prayers, letters, and phone calls have sustained me. I also thank my seven-year-old daughter, Miriam, for reminding me to work hard for she wants "to go home soon."

CHAPTER I

INTRODUCTION

Valid psychological instruments for use with Chinese children in Taiwan are scarce. There is a great need for psychological instruments for them. In searching for an appropriate instrument to use with this population, the KFD seemed to be one of the most promising. This technique is widely accepted by clinicians in the United States, and there would be no language barrier with another culture.

The Kinetic Family Drawing (KFD) is a projective technique which purports to assess a child's self-concept and perceptions of intra-familial relationships. Burns and Kaufman (1970, 1972) theorized that the KFD could reveal the unconscious state of the child. The KFD is believed to be a valuable tool for assessing a child's personal and interpersonal perspectives without the distortion typically present in adult/child communication (McPhee & Wegner, 1976).

With recognition of the important role of family dynamics in children's emotional status, the KFD has become popular with clinical and school psychologists (Reynolds, 1978). Prout (1983a) reported that the Kinetic

Family Drawing was used always or frequently by 62% of school psychology practitioners.

In the last 15 years, researchers in North America have become interested in the Kinetic Family Drawing. A number of studies have examined the validity of the KFD and its usefulness for psychological assessment of children.

While clinicians find the KFD very useful, research validation of the KFD has proved difficult. Most of the validity studies have compared drawings of what were assumed to be different groups. Most of the KFD variables were found to be better in discriminating between a normal group and a group with a clearly defined problem, than between normal and vaguely defined emotionally disturbed children. Very few studies have attempted to investigate the concurrent validity of the KFD. Among those studies, the validity of the KFD as a measure of family problems or dynamics has not been successfully established.

The lack of empirical demonstration of the KFD variables suggested by Burns and Kaufman (1970, 1972) has limited their meaningful and useful interpretation in school and clinical settings. An empirical demonstration of the validity of each of the relevant and measurable variables found in the KFD and the establishment of an acceptable scoring system are needed.

Since the KFD is a comparatively new instrument,

most of the studies using the KFD have been done on white Americans. Very few studies have used minority populations. Although some attempts have been made to study the KFD cross-culturally, more work is still needed in this area.

Statement of the Problem

Valid psychological instruments for use with Chinese children in Taiwan are scarce. There appears to be no published study using the Kinetic Family Drawing with a Chinese population, although there have been studies using the KFD in other countries, including Japan, Great Britain, Brazil, Norway, and the Philippines (Burns, 1982).

Three studies have provided normative data on the KFD in the United States. MacNaughton (cited in Burns, 1982) reported on norms for 314 4- and 5-year-olds. Jacobson (1973) studied 136 public-school children ages 6 through 9, providing KFD normative data on them. Thompson (1975) reported the data from 197 suburban adolescents ages 13 through 18. Certainly there has been no normative research with any Chinese population even though they constitute almost one-fifth of the world population.

Chinese culture is unique with concepts regarding self, family, and interpersonal relationships which are different from those of Western culture (Hsu, 1970). It is not only inappropriate but also dangerous just to borrow a

psychological instrument from the West without carefully examining the validity and the feasibility of the instrument for the Chinese culture. Children from a different culture may convey their messages through their drawings in a different way. For psychologists working with school children, appropriate test validation is required under The Education of All Handicapped Children's Act of 1975 (PL 94-142) (Federal Register, August 23, 1977, v. 42, no. 163, pp. 42496-42497, 121a 532). PL 94-142 requires that tests be validated for the specific purposes for which they are used, be reliable for the populations being assessed, and be capable of generating appropriate decisions based on their data and results. Psychologists in private practice also have an ethical responsibility to ensure the proper use of psychological tests. Principle 8 of the ethical principles of psychologists proposed by the American Psychological Association (1981) states that psychologists responsible for the development and standardization of psychological tests utilize established scientific procedures. It also states:

In reporting assessment results, psychologists indicate any reservations that exist regarding validity or reliability because of the circumstances of the assessment or the inappropriateness of the norms for the person tested. (p. 637)

Therefore, it is a legal and ethical responsibility for psychologists to consider the adequacy and appropriateness of their assessment procedures for a specific population.

Purpose of the Study

The purpose of this study was, first, to validate the KFD as a measure of the self in the family context and of the perceived parent-child relationship among Chinese children in Taiwan and, second, to obtain descriptive data on KFDs of Chinese children in Taiwan as a step toward establishing norms for this population.

Research Questions

This study sought to answer the following research questions:

1. Is the Kinetic Family Drawing a valid assessment instrument for measuring both a Chinese child's self-concept in the family context and his perception of his relationship with his parents?
2. How do children in Taiwan draw their families?

Hypotheses

There was only one global hypothesis generated from the first research question. No hypothesis was generated from the second research question as these data were treated descriptively.

The global hypothesis for this study was that the KFD reveals hidden feelings of the child about himself in the family context as well as perceptions of intra-familial relationship with his parents similar to those measured by the Semantic Differential Rating Scales on the concepts of "Father and Me," "Mother and Me," "Me," and

"My Whole Family." In order to test the global hypothesis, eight specific hypotheses were formulated:

Hypothesis 1

There is a significant correlation between the scores obtained from the KFD on the variables regarding the drawing of the self and scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Hypothesis 2

There is a significant correlation between the scores obtained from the KFD on the variables regarding the drawing of the father and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Hypothesis 3

There is a significant correlation between the scores obtained from the KFD on the variables regarding the drawing of the mother and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Hypothesis 4

There is a significant correlation between the scores obtained from the KFD on the variables regarding the actions of the figures in the drawing and the scores obtained from the Semantic Differential on the concepts of

"Father and Me," "Mother and Me," "Me," and "My Whole Family."

Hypothesis 5

There is a significant correlation between the scores obtained from the KFD on the variables regarding the figure characteristics of the drawing and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Hypothesis 6

There is a significant correlation between the scores obtained from the KFD on the variables regarding the position, distance, and barriers of the drawing and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Hypothesis 7

There is a significant correlation between the scores obtained from the KFD on the variables regarding the style of the drawing and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Hypothesis 8

There is a significant correlation between the score on the general impression of the family as indicated

by the variable Like-To-Live-In-Family (LILIF) and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Theoretical Framework

As postulated by Korner (1965), three major theoretical assumptions underly the use of projective tests. First, it is the major assumption of any projective technique that all behavior manifestations, no matter how insignificant, are expressive of an individual's personality (Korner, 1965). Korner also noted that any behavior sample elicited by any technique is potentially capable of mirroring or reflecting personality at work and that the perceived merit of the different techniques varies largely with the degree of use of these techniques and the familiarity of the examiner with the various behavior manifestations elicited by a given technique. Therefore, the inconsistency of research findings concerning the validity of projective techniques is not due to the invalidity of the techniques, but rather the incomplete knowledge in the field of personality and projective testing by the test user. It should be noted that any behavior elicited by a projective technique is only a small sample of the possible behaviors (Little, 1965).

Machover (1949) postulated, "When an individual

attempts to solve the problem of the directive to draw a person, he is compelled to draw from some sources" (p.5). She further stated that the individual draws consciously and unconsciously upon his whole system of psychic values. Therefore, the drawing of a person provides a vehicle for the expression of one's needs and conflicts.

The second underlying assumption is that the individual taking a projective test gives information that he may not give otherwise. Projective techniques usually involve the presentation of purposely ambiguous material which the subject interprets in his own way and chooses to present in his own form. Projective tests purport to be more sensitive to the socially undesirable, unconscious motives. Klopfer (1968) suggested that projective methods vary in degree of structure and, therefore, the level of personality which they assess.

Projective tests reveal the very private inner world of a person. One has to be cautioned to bear in mind that the KFD reveals only the feeling and perception of the child rather than the child's actual situation as perceived by the adults around him (Hammer, 1958). Attribution theorists (Heider, 1958; Kelley, 1973) attach significance to the subjective perceptions held by the individual about the determinants of his or her performance. Bowers (1973) pointed out that all individuals do not perceive a given situation in the same way. He insisted that the cognitive appraisal of a

given situation depends on the individual. Therefore, ratings of the child's emotional status made by teachers or parents may not agree with the findings of the KFD.

Since the KFD reveals the unconscious state of a child rather than his conscious reasoning, it would seem that other measures used as criteria to validate this technique should tap this same unconscious state to some degree. Other objective types of personality assessment techniques usually measure a level of personality different from projective techniques.

The third assumption is that of psychic determinism. According to this assumption, any story, drawing, or response is not a mere chance event. A drawing represents a child's perception of his situation. Every behavioral sample is meaningful in expressing an individual's perception of his situation at a given moment.

Korner (1965) pointed out that the difficulty in detecting all the innumerable variables that are at work in the process of an individual's response to a need makes it hard for projective techniques to function as a tool in predicting reality behavior. Studies intended to investigate the predictive validity of a projective technique have usually consisted of taking a certain experimental or clinical group and finding whether certain variables are, in fact, present in this group. Results of these studies are usually controversial. The problem is not with the technique itself, but with the fact that reality behavior

is not predictable by the absence or presence of a few variables. The contribution of the projective tests is not in predicting but in diagnosing latent pathology and unconscious thinking.

In the case of the Kinetic Family Drawing, the differentiation of clinical and so called "emotionally stable" groups by using the presence of KFD signs has generally been unsuccessful. This may be because the KFD is measuring the perception of the child but not his present psychological status per se. Bowers (1973) emphasized the importance of interaction between the situation and personal traits as an important determinant of the individual's behavior in response to the situation. The same family dynamic may elicit a totally different reaction from each child.

Despite the strong disagreements of some researchers regarding the utility of personality research and instruments (Berger, 1968; Bersoff, 1973; Cleveland, 1976; Hogan, Desota, & Solano, 1977), projective tests continue to be valuable tools in diagnosing latent problems in patients and occupy an important place in the training of clinical and school psychologists (Fuller & Goh, 1983; Prout, 1983; Wade & Baker, 1977). Piotrowski and Keller (1984) surveyed 80 of the 113 American Psychological Association (APA)-approved clinical psychology programs to investigate patterns of training in psychodiagnostic assessment. It was found that 79% of the

programs devote at least half of a required course to instruction regarding projective personality assessment.

Importance of the Study

Since valid psychological instruments for the Chinese children in Taiwan are scarce, efforts to establish validity of some psychological instruments for this population are important to this culture and will make a contribution to the fields of psychology and education in general. The KFD is a projective technique in nature; thus it can be adapted for different cultures with minimal language problems, providing the instrument's validity and normative information for a specific culture is known. In this area, there are very few studies completed in non-Western cultures. No study was found relating this topic to a Chinese population. This study is among the few to initiate research on this topic in an Eastern culture and is a continuation of the work on validating the KFD.

Since Burns and Kaufman (1970) developed the Kinetic Family Drawing, it has been popular among school and clinical psychologists. It seems to be a very promising instrument in assessing children's perspective of self and familial relationships. It is often used in initial clinical interviews with extremely shy or non-verbal children as a so-called "icebreaker." The KFD has demonstrated a promising future in the field of clinical

psychology and educational psychology. Despite the inconsistency shown in the research studies on the validity of the KFD, there seems to be general agreement that this technique is still a valuable instrument for generating clinical impressions and for assessing transitory psychological states. It is thus believed that the development of an objective scoring system is feasible, and that the validity of the KFD can be demonstrated--given the appropriate methodology. A research study with sound methodological procedures, providing data concerning the validity of the variables tapped by this technique, will provide a significant contribution toward understanding its use.

Delimitation of the Study

The sample under study was from a population of Chinese children in fourth to sixth grades in public schools in Taiwan. Thus generalization should be restricted to this population.

Definition of Terms

The following terms are defined briefly as used in this study:

Actions of the KFD. Actions of the KFD refer to the movement of energy between the figures in the KFD. Burns and Kaufman (1972) state that this energy being passed between figures may reflect anxiety, avoidance, or conflict.

Compartmentalization. Compartmentalization is a style of the KFD characterized by lines or paper folds separating members of family.

Edging. Edging is a style of the KFD characterized by arranging all family members along the edges of the paper.

Encapsulation. The encapsulation style of the KFD is characterized by isolation of a certain individual figure in the drawings by means of a circle or other device, such as a jump rope.

Projective Techniques. Allen (1958) has defined projective techniques as "any form of test materials which, being 'unstructured' or 'minimally structured' are organized by the individual in such a way as to reveal the dynamics of personality" (pp. 156-157).

Styles of the KFD. Styles of the KFD refer to certain approaches to the drawing, which include compartmentalization, encapsulation, lining at the bottom, underlining individual figures, edging, lining on the top, folding compartmentalization.

Symbols of the KFD. Symbols in the KFD are thought to be an expression of the unconscious. Sample symbols included in the interpretive guide include brooms, cats, clowns, fire, flowers, ironing boards, ladders, light bulbs, rain, and snakes.

Taiwan (Formosa). Taiwan is an island province of the Republic of China. After 50 years of Japanese control,

Taiwan reverted to Chinese rule on October 1945 and was given the status of a province. The population of Taiwan, as of December 1984, was 19,069,194, as reported by the Ministry of Education in 1985 (Educational Statistics of the Republic of China, 1985).

Assumptions

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

1. It was assumed that children in fourth to sixth grades were old enough to understand the instructions of the Semantic Differential Rating Scales and the KFD.
2. It was assumed that the sample under study provided valid and reliable responses and information necessary for the analyses.
3. It was assumed that the sample subjects were cooperative and provided valid and reliable information concerning their demographic information.

Organization of the Study

This study is organized into five chapters.

Chapter I presents the statement of the problem, purpose of the study, the research question, hypotheses, theoretical framework, importance of the study, delimitation of the study, definition of terms, and assumptions.

Chapter II surveys the literature in two areas: the Kinetic Family Drawing and the Semantic Differential technique.

Chapter III describes the methodology employed in data collection and analysis. Also included in this chapter is a discussion of the procedures used for the selection of the sample.

Chapter IV contains the findings and the interpretation of the results.

Chapter V provides a summary of the study, discussion of the results, implications of the findings for the field, and recommendations for further research.

CHAPTER II

REVIEW OF THE LITERATURE

The review of the literature presented in this chapter is divided into three major sections. The first section presents a brief history of human-figure drawings; the second presents the related literature on the Kinetic Family Drawing; the third focuses on the Semantic Differential technique. Since the Kinetic Family Drawing is a specific instrument, whereas the Semantic Differential is a general technique, the approach of the review of the literature in these two areas is different.

Most of the studies on the Kinetic Family Drawing are doctoral dissertations, and the amount of the research is relatively small. On the other hand, thousands of studies have been done using the Semantic Differential technique (Heise, 1969). For the purpose of this study, the review of the literature on the Semantic Differential technique is by no means exhaustive. It only offers a selection of recent studies which are most relevant to this study.

Historical Background of Human Figure Drawings

Children's artistic behavior has long been recognized as one way of manifesting their inner world without self-awareness. Alschuler and Hattwick (1947) contributed to the appreciation of children's painting as relating to the understanding of children's personality. However, actual use of drawings as projective techniques seems to have begun as an outgrowth of their use in the assessment of intelligence.

As early as 1926, the human figure drawings of young children were used by Goodenough as a tool to measure children's intelligence. Although Goodenough was concerned primarily with the human figure as an IQ index, she recognized the potentialities for personality analysis that the Draw-A-Man test held. Since then, the use of human figure drawings to evaluate personality variables has received much attention (Burns, 1982; DiLeo, 1970; Goodenough & Harris, 1950; Koppitz, 1968; Machover, 1949, 1953).

Later, in 1948, Buck introduced the House-Tree-Person (HTP) test in which a person is asked to draw a house, a tree, and a person. The HTP was one of the first uses of human figure drawings as a psychological projective test. Shortly after the introduction of the HTP projective technique, Hulse (1951, 1952) reported the use of family drawings with children. He postulated that having the child draw his whole family (the Family

Drawing Test [FDT]), instead of just one person, would provide useful information about how he perceives his family. DiLeo (1970) differentiated between the drawing of an isolated figure and the drawing of family members. He wrote that in the drawing of an isolated figure the child's response tends to be predominantly intellectual, while in drawing his whole family the response is highly influenced by the child's feelings. Burns and Kaufman's Kinetic Family Drawing, introduced in 1970, was an extension of these human-figure drawing techniques.

The Kinetic Family Drawing

Burns and Kaufman (1970, 1972) modified Hulse's Family Drawing Test (FDT) by requiring the child to draw a picture of his family, including self, DOING something. He was also asked to draw whole people, not cartoons or stick people, and "make everyone DOING something--some kind of action" (1972, p. 5). They called this the Kinetic Family Drawing (KFD). By adding the action dynamic into the drawing, the family drawing was no longer static. It became more effective for evaluating a child's self-concept and perceptions of the interpersonal relationships within the family. However, Burns and Kaufman (1970) based their findings on clinical experience only. The usefulness of this projective technique is based on the authors' findings in their clinical experience with 10,000 drawings (Burns & Kaufman, 1970, 1972). Burns and Kaufman

published the interpretive manual for the KFD in 1972. Four dimensions of variables (characteristics, actions, symbols, and styles) were identified.

KFD characteristics, according to Burns and Kaufman, are static figure features found in the drawings. Arm extensions, which reflect the need to control the environment; elevated figures, reflecting the need to strive for dominance; and erasures, reflecting some types of conflict and ambivalence, are typical examples of KFD characteristics. Others, such as figures on the back of the page, hanging, omission of body parts, omission of figures, picasso eye, and rotated figures, were also discussed by Burns and Kaufman. The interpretation of the figure characteristics by Burns and Kaufman was based on the earlier work of Machover (1949).

KFD actions which depict children's interpersonal relations within the family constellation are movements of energy between people and objects. There may be high intensity of energy, as in lovers, or low intensity, as in strangers. "The energy may be condensed or symbolized in objects" (Burns & Kaufman, 1972, p. 38), such as balls, burning fires, lights, electricity, ironing board, or sunshine. According to Burns and Kaufman (1972), balls or other objects being passed between figures are representative of action. This energy, as invested in a ball, may reflect either anxiety, avoidance, or conflict.

Styles refer to certain approaches to the drawing

which signify feelings of anxiety, isolation, conflicts, defensiveness, and instability. Seven styles were identified: compartmentalization, encapsulation, lining at the bottom, underlining individual figures, edging, lining on the top, and folding compartmentalization.

Symbols, such as a broom, a bike, an 'A,' or an 'X,' follow a traditional psychoanalytic interpretation. Burns and Kaufman were tentative in proposing the symbols of the drawings. They cautioned against over-interpretation or misinterpretation of symbols. Before drawing a conclusion when interpreting the meaning of a symbol, the observer should "consider the totality of the individual" (Burns & Kaufman, 1972, p. 144).

The popularity of the KFD is apparently due to its face validity (Cummings, 1980), and its quickness and ease of administration (Mostkoff & Lazarus, 1983). It has been criticized for its lack of empirical demonstration of reliability and validity (Harris, 1978; McPhee & Wegner, 1976; Sobel & Sobel, 1976), its lack of normative data (Myers, 1978), and its subjectivity (Cummings, 1980).

Machover (1949) hypothesized that in human figure drawing, an individual reveals the impulses, anxieties, conflicts, and compensations characteristic of himself. She stated that most drawings contain elements of self-evaluation in both direct and compensated forms of projection and of both conscious and unconscious levels of self-revelation (p. 9). However, there have been few

studies which appear to address the question of whether or not human-figure drawings, including the KFDs, do, in fact, represent the drawer's perception of himself and his inner world. Research on the KFD has demonstrated high interrater reliability, but not test-retest reliability (Cummings, 1980). The inconsistency among the results of validity studies has opened the question of validity of the KFD for further investigation (Layton, 1984; Ledesma, 1979; Jacobson, 1973; Myers, 1978; McPhee & Wegner, 1976; Sobel & Sobel, 1976; McGregor, 1979; Younger, 1982). It is possible that the inconsistency among these studies may be due partly to lack of agreement on the choice of variables being studied, the procedures for administration, the difference in experimental control, the choice of the sample size, and the choice of the criterion against which the KFD scores are compared.

In Burns' (1982) most recent book, an objective scoring system was proposed based on the work of previous researchers. However, no research study has yet attempted to validate the use of the complete objective scoring system suggested by Burns (1982).

Burns (1982) identified 80 variables in the KFD relating to the action of the self, father, and mother figures; the characteristics of the self, father, and mother figures; the position, distance, and barriers of self, father, and mother figures; the styles of the drawing; and the general impression of the drawing.

The action dimension includes activity level, communication level, cooperative level, masochistic tendency, narcissistic tendency, nurturing level, sadistic tendency, and tenseness of the self, father, and mother figures.

The physical characteristics dimension includes arm length, body completion, eye characteristics, face completion, facial expression, size of feet, figure missing, figure size, teeth of self, father, and mother; also included are number of siblings found in the KFD, and the sex of the self.

The positional, distance, and barrier characteristic dimension includes ascendance of self, father, and mother; number of barriers between mother and father, number of barriers between self and father, and number of barriers between self and mother; direction faced by father, mother, and self; distance from mother to father, distance from self to father, and distance from self to mother; orientation between father and mother, orientation between father and self, orientation between mother and father, orientation between self and mother, and orientation between self and father.

The style dimension surveys the degree to which compartmentalization, edging, encapsulation, folding compartmentalization, lining on the bottom, lining on the top, underlining individual figures, and bird's-eye-view of the drawing are present.

The last variable termed Like-To-Live-In-Family is the general impression of the examiner toward the overall drawing.

Reliability Studies of the KFD

McPhee and Wegner (1976) compared the KFD styles of emotionally disturbed children (compartmentalization, lining at the bottom and top, underlining individual figures, edging, and folded compartmentalization) to those of well-adjusted children. Drawings were obtained from 102 emotionally disturbed children attending the Lesley College Schools for Children and 162 well-adjusted children attending public elementary schools. Both groups were comprised of subjects from grades 1 to 6. Five judges achieved interrater reliabilities ranging from .655 to unanimity with a median reliability of .87. Edging and folding compartmentalization were most reliably detected, probably due to their small incidences, while the underlining-of-individual-figures style was the least reliable.

Cummings (1980) reviewed the scoring methods used by O'Brien and Patton, McPhee and Wegner, and Myers. He trained and supervised two male and two female examiners who scored the KFDs of behavior disordered, learning disabled, and regular education children who were tested five weeks apart. The results indicated that all three scoring methods produced high interscorer

reliabilities. However, approximately half of the variables were unstable from test to retest. It was thus hypothesized that the KFD variables which failed to achieve test-retest stability might be assessing transitory states rather than trait qualities.

Mostkoff and Lazarus (1983) also studied the interrater and test-retest reliability of 20 variables. Drawings were obtained from 50 elementary school-aged children two weeks apart. The inter-judge agreement ranged from 86% to 100%, with a mean of 97%. Of their 20 variables, nine demonstrated significant test-retest stability and might provide useful information concerning the dynamics of a child's family: self in picture, omission of body parts of other figures, arm extensions, rotated figures, elevated figures, evasions, omissions of body parts of self, barriers, and drawings on back of page. They also noted that the KFD appears to measure state, as opposed to trait, characteristics.

The study conducted by Layton (1984) also demonstrated high interscorer reliabilities for the KFD signs investigated. She obtained 99 drawings from children with problems and 119 drawings from well-adjusted children. A list of 142 signs that were likely to indicate family or emotional problems was compiled, such as omissions and additions of specific family members, distance, physical boundaries, orientation of figures, or body distortion. In addition, there were 14 items which seemed to indicate

healthy functioning, such as drawing the parents together, drawing figures appropriate sizes, or drawing the self involved in an activity with the mother or father. The result of this study showed high inter-rater reliability for 133 of the 157 signs.

Validity Studies of the KFD

Jacobson (1973) administered the KFD to 136 public school children, 6 to 9 years old, and concluded that some specific variables had some validity, but they were not delineated.

Sayed and Leaverton (1974) used the KFD to study 52 children with diabetes, as a projective technique to delineate environmental factors. An equal number of matched normal children were used as a control group. The age of both groups of subjects ranged from 6 to 16 years. When compared to the matched control group, drawings done by the children with diabetes had more examples of isolation, which were correlated with the amount of aggression shown in the drawings. No other differences were found.

Levenberg (1975) attempted to validate the Kinetic Family Drawing as an indicator of psychopathology and to explore the relationship between level of professional training and accuracy of clinical judgment. Eighteen normal children were matched in age, sex, and race with 18 emotionally disturbed children. Five randomly selected

hospital secretaries, five doctoral-level staff members from the Psychology Division, and five predoctoral interns were asked to discriminate between the drawings produced by the two groups. Each of the protocols was judged to be either from the disturbed or non-disturbed group and was also rated for the confidence level of the judging. The groups of judges who represent three different levels of training did not differ significantly in degree of accuracy. However, skill level was positively related to judges' ability to perform better than chance. It seems to render some support for the validity of the KFD as a tool to give a general impression of emotional status in children.

The KFD has also been used to compare 20 adolescent male delinquents with 20 matched normal male adolescents in order to study the discriminatory potential of the technique (Sobel & Sobel, 1976). Only 3 out of the 16 scoring variables reached statistical significance. The drawings of the delinquent adolescents exhibited significantly more body omissions. The delinquent adolescents also tended to omit most of their family members in the drawings, which may be related to their alienation from and hostility towards parents and siblings. It was also found that akinesis--lack of action, was a marked trait of the drawings of the delinquent adolescents. Sobel and Sobel emphasized that the results might have been considerably altered had there been a larger sample size.

McPhee and Wegner (1976) attempted to verify the validity of seven styles as characteristics suggestive of defensiveness. The styles that they studied were compartmentalization, lining on the bottom, underlining individual figures, lining at the top, edging, folding compartmentalization, and encapsulation. The results confirmed the general existence of KFD style which was theorized by Burns and Kaufman (1972) as one of the pathological signs. However, it was more often used in the drawings of the emotionally adjusted group than the emotionally disturbed group, which was contrary to Burns and Kaufman's hypothesis. McPhee and Wegner hypothesized that the lack of style in the drawings of the emotionally disturbed might be due to the fact that this group spent less time drawing while the normal children were more elaborate in their drawings.

The Kinetic Family Drawing was used by Raskin and Baker (1977) to study the difference between 50 perceptually delayed children and 50 randomly selected children from regular kindergarten and first grade. Several signs were detected as good discriminators between these two groups: self figure separate from others, poor integration of body parts, omission of body parts, and aggression between figures. They found that the KFD was useful for providing information about the emotional status of kindergarten and first-grade children who begin to manifest learning problems and perceptual-motor deficits.

Myers (1978) developed a scoring guide using 21 measurable KFD characteristics, actions, and styles derived from Burns and Kaufman's (1972) hypotheses and the graphic scoring procedures of McPhee and Wegner (1976). The KFD symbols were not included because the interpretation of KFD symbols was tentative. The twenty-one variables were factorized into seven extracted component scores. The scoring procedure was employed to evaluate KFDs obtained from 116 boys, ages 6 through 8, and 12 through 14, who were diagnosed as either emotionally well-adjusted or emotionally disturbed. It was indicated in Myers' study that four of seven sets of extracted component scores significantly differed between the emotionally well-adjusted and the emotionally disturbed groups, but the rest of the component scores did not. The variables that seemed to hold promise as discriminators of emotional adjustment in directions consistent with Burns and Kaufman's hypotheses were physical proximity, barriers, description of action, body parts, rotations, bottom lining, top lining, encapsulation, edged placement, evasions, and number of members. The results also indicated that some of the variables, such as force fields, arm extensions, safety of figures, shading, and compartmentalization were discriminators between the younger and older groups.

McGregor (1979) investigated the validity of the KFD and concluded that the KFD was not valid in its

ability to discriminate between "normal" and clinically labeled children. Three groups, aged 5.5 to 13.5, were given the KFD: The "normal" group of children who were rated as such by their school teachers; a "conduct-problem" group who were characterized as aggressive, acting out, and under-controlled; and a "personality-problem" group who were described as fearful, phobic, shy, and overcontrolled. There was a total of 157 subjects in the three groups. McGregor found that figure omissions, average figure size, and number of figures drawn were not related to age, sex, or problem group. "Normal" children drew their parents farther apart than either of the other two groups and were more likely to place a barrier between themselves and either parent than was the "conduct-problem" group. The "conduct-problem" group was more likely to place a barrier between themselves and the father figure than was the "personality-problem" group.

A recent study done by Layton (1984) compared 99 drawings from children with problems and 119 drawings from well-adjusted children. Comparatively few of these signs or combinations of signs distinguished between the two groups of children. There were even fewer distinctions between behaviorally extreme groups, which were the children with the most problems, versus children with no problem. Nonetheless, when given the task of differentiating the drawings of these extreme subjects the

psychologists were able to sort the drawings into their appropriate diagnostic group. It was suggested that validation studies are more important than tallies of specific features and that the connections between the children's drawings and their actual problem and family background should be explored.

While most of the validity studies have compared the drawings of purportedly different groups, few studies have investigated the concurrent validity of the KFD.

Sims (1974) investigated the concurrent validity of the KFD. A group of 100 emotionally disturbed children, aged 5 to 15, were administered the Family Relations Indicator (Howells & Lickorish, 1967, 1969) and the KFD. The Family Relations Indicator was designed to assess relationships among family members. Each figure on the KFD was scored as positive, negative, or neutral. When the ratings obtained from the KFD were compared with responses from the Family Relations Indicator, it was found that drawings and responses were significantly related for the father and mother figures, but not for the siblings. It indicated that the KFD is a valid technique for assessing child-parent relations.

Two studies have been conducted to examine the utility of the Kinetic Family Drawing as a measure of interpersonal distance. Holtz, Brannigan, and Schofield (1980) studied the drawings of 28 male and 44 female college students. They were administered the Comfortable

Interpersonal Distance Scale and the Psychological Distance Scale at the same time. The physical distance between self and each of the family members on the KFD was measured. The result indicated no significant correlation for distance between the self and other family figures in the KFD and either of the two interpersonal distance scales. The authors thus hypothesized that what was actually measured in the KFD was "desired" feelings of closeness rather than current feelings of closeness.

A second attempt was made by Brannigan, Schofield, and Holtz (1982) to validate the Kinetic Family Drawing as a measure of interpersonal distance. A younger population, 24 male and 35 female high-school students rather than college students, was employed. The presence of barriers was taken into account in this study in addition to the physical distance. Again, the Comfortable Interpersonal Distance Scale and the Psychological Distance Scale were used as criterion measures to compare with the measures from the KFD. The relation between distances between the self and parent figures in the drawings and either of the two interpersonal distance scales was disconfirmed. However, the result supported the use of barriers in the KFD as an indicator of remote distance between the self and others.

Younger (1982) chose some specific KFD signs and the KFD overall measure of pathology to compare with two other measures of family dynamics, the Family Environment

Scale (FES) and Family Member Test (FMT). Ninety males between the ages of 10 and 14 were divided into clinic and nonclinic groups. Nonclinic children were those who had not been involved in psychological evaluation or treatment. The clinic group was composed of 60 boys divided into acting-out and shy-anxious groups on the basis of parental responses to the Behavior Problem Checklist. Attempts were made to match the nonclinic subjects with either the acting-out or shy-anxious group on age and socioeconomic status. It was found that there was no relationship between barriers between subject and one particular figure or omissions of that figure and the rating on the FMT regarding that particular figure. Younger suggested that the lack of relationship might be due to the unproven FMT, or because the two tests measure different levels of needs and affects. It was also found that there was no relationship between the KFD overall measure and the FES measures of cohesion and conflict, and between the KFD evasions and omission of member.

Another attempt to validate the usefulness of the Kinetic Family Drawing was conducted by McCallister (1983). The KFDs of 275 male adolescent offenders who had been institutionalized were rated for the presence of nine sign categories assumed to reflect aggressiveness, as well as for a global rating for aggressive quality of the drawing. The nine aggressive categories were: sharp, pointed features, threatening look, macho characteristics,

activity involving use of traditionally aggressive instrument, activity involving instrument with sharp edge for cutting, activity involving use of object used for pounding or hitting, activity involving use of power tool or vehicle, activity involving conflict among family, and activity described when no activity was drawn for any family member. These ratings, as well as a linear composite of the nine signs, were entered as predictor variables in two major sets of multivariate analyses: canonical correlation and multiple regression analyses, with nine aggression criteria reflecting family history of aggression, legal history of aggression, interview rating of aggression, and aggressive behavior in the institution. Race was also included as a predictor variable. The results suggested that drawing signs have limited usefulness in the prediction of specific types of pathology. The KFD may be more useful when used in a global fashion to assess family history of aggression among whites. It was also found that relationships between individual signs and measures of individual aggression were stronger among blacks.

Studies of Objective Scoring Systems for the KFD

Several authors have attempted to develop objective scoring systems for the KFD since Burns and Kaufman introduced the instrument. O'Brien and Patton (1974) developed an objective scoring method based upon

the measurement of interfigure distance, figure size, the presence of barriers between human figures, and the activity level and orientation of each major figure. The authors collected drawings from 104 children, grades 4 to 8, from two different public schools. Only 79 of these drawings were utilized due to the omissions of major figures in the other 25 drawings. There were in total 29 raw measures collected from each drawing. In addition, each subject completed a questionnaire which was composed of the Coopersmith Self-Esteem Inventory (SEI) and the Children's Manifest Anxiety Scale (CMAS). The SEI was scored for general concept, social and peer self-concept, and lie. The CMAS was scored for anxiety level. Teachers of the subjects completed the School Behavior Checklist (SBCL) on each child. The SBCL was scored for aggressive behavior, passive-aggressive behavior, withdrawal behavior, hostile-isolationary behavior, pro-social behavior, and learning-disabled behavior. Step-wise regression was utilized to develop the predictive equations where CMAS, SEI, and SBCL variables served as the dependent variables. They concluded that, with further refinement integrated with intuitive impressions, predictive equations would help the clinician to gain greater insight and predictability.

McPhee and Wegner (1976) tried to achieve empirical verification of Kinetic Family Drawing styles with 102 emotionally disturbed children and 162 children

attending public schools, grades 1 - 6. A graphic scoring procedure was designed to rate the drawings along six continua of style content. Each KFD was objectively rated along a five-point continuum (0 through 4) for every style: 0 = complete absence of style; 1 = mildly suggests the style; 2 = moderately suggests the style; 3 = strongly suggests the style; and 4 = meets all criteria for the style. It was found that style was more often used in the drawings of the emotionally adjusted group than the emotionally disturbed group. However, the scoring system was still useful in quantifying the presence of styles.

Myers (1978) developed an objective KFD scoring system of 21 measurable KFD styles, actions, or characteristics adapted from Burns and Kaufman (1972) and McPhee and Wegner (1976). The scoring procedure was employed to evaluate 116 KFDs obtained from four groups of boys to determine the effectiveness of the procedure for differentiating between two levels of emotional adjustment and the two levels of age. It was concluded that a quantitative scoring procedure for the KFD was feasible.

Mostkoff and Lazarus (1983) provided another objective scoring approach to assess the KFD's interrater and test-retest reliabilities. Many of the scoring criteria were taken from the objective scoring systems discussed above. The 20 variables examined by these authors were: number of people in family, self in picture, relative size of self in relation to other figures,

repetition of one same symbol, style, evasions, one same action of an individual figure, one same action between two figures, arm extensions, elevated figures, erasures of whole figures, rotated figures, omission of family members, omission of body parts of self-drawing, omission of body parts of other figures, barrier, same shortest figure, same tallest figure, self next to one same figure, and drawings on back of page. There was high inter-rater reliability with these variables but the test-retest reliability was low.

Reynolds (1978) provided a list of 32 significant variables as a quick scoring guide to assess children's Kinetic Family Drawings. It was believed to be of value to the clinician to have access to a quick reference guide for developing clinical hypotheses from a child's KFD.

Use of the KFD with Different Populations

The KFD has been used with clinical populations, such as emotionally and behaviorally disturbed children and adolescents (Burns, 1982; Burns & Kaufman, 1970, 1972; McPhee & Wegner, 1976); educationally exceptional populations, such as learning-disabled children (Raskin & Bloom, 1979); children with perceptual-motor delays (Raskin & Baker, 1977); black, Chicano, and white mentally retarded children (Mangum, 1976); abused children (Schornstein & Derr, 1978); abusing and concerned mothers (Howitt, 1985); diabetic children (Sayed & Leaverton, 1974); juvenile

offenders (McCallister, 1983); suspected incest victims (Goodwin, 1982); orphanage children (Rivas, Banares, & Jesus, 1969); children from divorced families (Annunziata, 1983); children of lesbian mothers (Puryear, 1984); and normative samples of children and adolescents (Brewer, 1980; Jacobson, 1973; Thompson, 1975).

The KFD has also been used and investigated cross-culturally. Freeman and Freeman (1971) reviewed Burns and Kaufman's book (1970). They discussed the various aspects of the KFD and applauded its promising future. However, they questioned the diagnostic value of the action dimension in the KFD. They also noted the differences between American society and British society, raising the question of whether all aspects of the KFD applied to children outside of the United States.

Katoh, Ikura, and Kubo (1976) studied the drawings of 767 Japanese school children (396 males, 371 females), aged 6 to 12. They provided the normative data on KFD styles for the Japanese population and also analyzed the KFD style in the drawings. Four basic forms of style (Cooperation [CO], Independence [IN], Compartmentalization [CM], Encapsulation [EN]) and 11 complex forms were classified. The Independence (IN) style was found most frequently in children of every age and can be seen as a representative style in normal children (62.1% in male, 65.5% in female). The Cooperation (CO) style was found less frequently (6.8% in male, 5.1% in female). Until the

age of 8, the CO style showed a gradual upward trend. Around the age of 9, the trend declined, but rose again at the age of 10. The Compartmentalization (CM) and the Encapsulation (EN) styles appeared even less frequently. The CM style appeared in 4.3% of the drawings of males and 3.8% of the drawings of females. The EN style appeared in only 1.3% of all the drawings. The CM style tended to change with alternate ages.

De Joode (1976) investigated the value of the KFD as an instrument for diagnosing family dynamics and familial relationship in Brazil. The KFD together with the Duss' (1950) Fable Test and a questionnaire about familial relationship were administered to 60 Brazilian children, aged 11 to 12. They concluded that the KFD was an effective instrument for describing family dynamics. The roles of the mother and the father figures in the KFD were significantly related to the result obtained from the Duss' Fable Test. The KFD styles were especially useful in describing family dynamics. Compartmentalization and encapsulation were present in the drawings of children who described their families negatively in the Duss' Fable Test. Actions of the major figures were related more to daily facts of life than diagnostic implications. However, less common actions, such as crying, being angry, complaining, or killing had important diagnostic implications. The role of siblings in the KFD was not related to the results obtained from the Duss' Fable

Test. The number of KFD symbols was not sufficient for analysis. The mother was depicted as the most important figure in the family by over half of the subjects (55%) in this sample. The father was depicted as the most important figure by 27% of the subjects; the siblings, by 18%; and the self, by 3%. It was speculated that children of this age valued the role of the mother the most.

Roth and Huber (1979) have worked with the KFD in Germany. They recommended its application in educational guidance, particularly when difficulties at school were concerned. They pointed out that school problems usually had various causes, with some of them rooted in the family. The KFD was believed to be a helpful means for an analysis of family interaction. However, no empirical validation was done to demonstrate the validity of this instrument for the German population.

Another cross-cultural study by Ledesma (1979) used a population in the Philippines. The KFD and Family Adjustment Test were administered by the examiner in group form to 230 well-adjusted adolescents, ages 13 to 15. Classroom teachers were asked to complete a Behavioral Commentary Checklist for each student in order to identify the well-adjusted. The KFDs of these students were then scored for KFD styles using the systems devised by McPhee and Wegner (1976), and for 29 raw drawing variables identified by O'Brien and Patton (1974). The style "Lining at the Top" occurred to a significantly greater

degree in the drawings of boys. Socio-economic status was found to be a factor influencing the size of major figures and types of actions depicted. Upper class subjects consistently drew larger figures and depicted more passive types of activities than did those from the lower class. The KFD appeared to reflect the disparate life-styles between the upper and lower income groups in the Philippines and, possibly, the feelings associated with one's social class. Maternal occupation exerted no main effect. It was also found that intra-familial climate influenced the direction the mother figure faced. Based on the Family Adjustment test scores, subjects classified as "homeless" (feeling the climate of the home as cold, loveless, and conflictful) tended to draw their mothers facing the father figure more often. This study provided normative data for well-adjusted Filipino adolescents.

In summary, studies on the KFD have achieved high interrater reliabilites, but low test-retest reliability. Thus, it has been suggested that the KFD variables might be assessing transitory states rather than trait qualities. Studies concerning the validity of the KFD were not consistent in their findings. Most of the validity studies compared drawings of what were assumed to be different groups. Most of the KFD variables were found to be better in discriminating between a normal group and a group with clearly defined problems than between the normal and a vaguely defined group of emotionally

disturbed children. Among the few studies which have investigated the concurrent validity of the KFD, it appears that the validity of the KFD as a measure of family problems or dynamics needs to be explored further. However, it was concluded in some of the studies which attempted to develop objective scoring systems that a quantitative scoring procedure for the KFD was feasible. The Kinetic Family Drawing has been used with different populations and has been investigated cross-culturally. This instrument has been introduced to Britain and Germany. A study done in Brazil demonstrated the validity of the KFD as a measure of family dynamics and family relationship for a small sample from that country. A study with a Filipino population and another one with a Japanese population demonstrated the feasibility of using the KFD with Eastern populations.

The Semantic Differential Technique

The Semantic Differential technique is designed to measure the connotative meanings of concepts as points in what Osgood termed the "semantic space." The essential operation of measurement is the successive allocation of a concept to a series of experiential continua defined by polar adjectives, such as good-bad or warm-cold. Such continua define a semantic space (Osgood, 1953, p. 713). The use of this technique is based on the rationale that the connotative meaning of a concept is determined by the

consistencies of one's experience (Osgood, Suci, & Tannenbaum, 1957, p. 10). Osgood, Suci, and Tannenbaum have described three recurring factors in the semantic space as revealed by factor analysis: (1) the evaluative factor, represented by such polar terms as "good-bad"; (2) the potency factor, represented by such polar terms as "strong-weak"; and (3) the activity factor, represented by such polar terms as "fast-slow". They further stated that:

Each semantic scale, defined by a pair of polar (opposite-in-meaning) adjectives is assumed to represent a straight line function that passes through the origin of this space and a sample of such scales then represents a multidimensional space. (p. 25)

Osgood, Suci, and Tannenbaum described the Semantic Differential as a highly generalizable technique of measurement. It has been shown that it is generalizable across cultures and concepts (Osgood, 1962). It has been used in English, Dutch, Finnish, Flemish, Japanese, and Dannada (Osgood, 1962), as well as in German, Spanish, and Chinese (Cooper, 1975). Tannenbaum (1959) pointed out that the Semantic Differential is "more a technique of measurement of social phenomena than a finished instrument per se" (p. 436). The concepts and scales used may be adapted to the requirement of each research problem.

Deutschmann (1959) commented that the Semantic Differential is "an excellent instrument for the measurement of public opinion and attitudes" (p. 435). Mehling (1960) concluded that the Semantic Differential measured both the direction and the intensity of an attitude and

that the middle (number 4 in 7-point scales) interval in the scales truly represented the neutral point in attitude.

Maguire (1973) suggested that the Semantic Differential could be used effectively for the measurement of feelings, values, and attitude change.

The Semantic Differential Technique as a Measure of Attitude Change

The Semantic Differential technique has been used repeatedly to effectively measure a wide variety of attitude changes in different settings. Although these studies were not directly related to attitude changes in the family setting, presumably the Semantic Differential could also be used in this setting. A sampling of studies related to attitude change is reviewed.

Walberg, Metzner, & Henry (1967) used a Semantic Differential to study change of self-concept and attitudes in education students after tutoring and practice-teaching experience.

During a summer institute at the University of Georgia, White (1969) used a Semantic Differential to assess 10 concepts of 144 teachers in order to examine the change of affect structure that teachers in six majority Negro school districts had after the institute.

Changes in the self-perception of participants in two different types of training groups were assessed by Krusell (1973) with Semantic Differential scales.

Habenicht (1977) studied attitude changes among

student missionaries before and after their missionary experiences in foreign countries with Semantic Differential scales.

The Semantic Differential technique was used by Kattmann (1979) to detect racial prejudice among 11-year-old pupils before and after teaching a course developed to convey the concept "human" as consisting of many races.

Kammer (1984) used a Semantic Differential of 12 bipolar adjectives to assess perceptions of 41 counseling students before and after their initial skills training and concluded that the technique was sensitive to changes in self-perception.

Burkett (1985) administered a Semantic Differential instrument to a group of college students before and after a class on the family relationship patterns of some American minority groups. Results of the Semantic Differential reflected the attitude changes of the students brought about by the class.

Lindop (1985) also used a Semantic Differential instrument to measure shifts in student teacher professional self-perception in order to evaluate the effectiveness of a course on teaching.

The Semantic Differential Technique
as a Measure of Self-Concept
and Family Relationship

The Semantic Differential has proved to be an effective, reliable, and valid instrument to measure

self-concept. Grigg's (1959) study showed that the Semantic Differential scores of a group of normal subjects reflected greater distance between "ideal self" and "neurotic" than between "self" and "neurotic," demonstrating its validity as a measure of the self and the ideal self.

Baraff and Cunningham (1966) used Osgood's Semantic Differential technique to explore interpersonal family relations in 40 asthmatic hospitalized children 9 to 15 years of age. Four concepts were rated: me, mother, father, and asthma.

The Semantic Differential was used by Denmark and Guttentag (1967) to measure the self and educational concepts of three groups of mature women with different degrees of commitment and effort in the pursuit of college goals. Results showed that the discrepancy between present and ideal self was inversely related to the time and effort spent in pursuit of a college education, and that the positive evaluation of goal-related activities varied directly with the effort expended in pursuit of college.

Gecas (1971) correlated the self-evaluation of adolescents on the Semantic Differential with their rating on the Bronfenbrenner Parent Behavior Questionnaire (BPB). Parental support was positively related to adolescent self-evaluation on the Semantic Differential.

Guidano, Liotti, and Pancheri (1971) studied the self-concept and self-acceptance of neurotic and normal

subjects. The Semantic Differential ratings of self were significantly more negative in neurotics than in normal controls. Ratings of self-acceptance in neurotics were also significantly lower than in normals.

Using a Semantic Differential instrument, Monge (1973) found the connotative structure of the self-concept of adolescents to be constant through adolescence. This was more so for boys than for girls.

Krenkel (1973) used a pictorial semantic differential instrument to measure self-concept in a sample of 159 fourth to sixth graders representing black, Asian, and white ethnic groups. No significant differences were found across ethnic groups or grades for the five concepts. A significant difference was found between open and standard classrooms on the concept "how children feel about me." The open classroom environment seemed to have positive social effects upon children.

Judd and Smith (1974) studied the perceptions of self-concept and ideal self-concept of 445 college students. The factor analyses of the Semantic Differentials revealed a two-factor structure of self-concept and a three-factor structure of ideal self-concept. These results raised doubts about computing differences between concepts of self and ideal self.

Thompson (1974) investigated the self-perception of well-adjusted, maladjusted, and delinquent high-school students. Noticable differences on a Semantic Differential

emerged between groups as to how they believed others saw them.

Cooper (1975) studied the self-concepts of adolescents in Germany, Mexico, Taiwan (Chinese), and the U.S.A. with a Semantic Differential. The bipolar adjectives used were: good-bad, sharp-dull, ugly-beautiful, strong-weak, slow-fast, shallow-deep, effective-ineffective, valuable-worthless, intelligent-stupid, and honest-dishonest. Mexican adolescents gave the most favorable perceptions, followed by Chicanos, Chinese, and American Indians; Germans and Anglos were at the bottom with the least favorable perceptions.

Wetzel (1975) used a Semantic Differential scale to measure the self-concept of 154 psychiatric patients. The Semantic Differential ratings of the concept "myself" distinguished between suicidal and nonsuicidal subjects and between more and less suicidal subjects.

The Semantic Differential technique was used by Martinez, Martinez, Olmedo, and Goldman (1976) to investigate responses of 288 Chicano and Anglo-American 11th and 12th graders to five concepts basic to the traditional Mexican family structure: self, male, female, father, and mother. It was shown that these concepts had different affective meanings for the two cultural groups.

The reliability and validity of a 10-item Semantic Differential self-concept measure was demonstrated by Rathus and Siegel (1976). A high test-retest reliability

and fair to moderate split-half (odd-even) reliability were shown. Validity was found to be adequate, with the questionnaire predicting results on a self-esteem inventory. The instrument proved to be a useful device for measuring self-concept as a correlate of a variety of familial interactions.

Wimberly (1977) used the Semantic Differential to measure children's perception of global self, self in the presence of father, and self in the presence of mother. It was based on the idea that one could study a person's relationship to his family through his perception of himself in the context of each family member.

Burke and Tully (1977) measured the gender role/identity of a sample of sixth to eighth graders using the Semantic Differential. The validity of the resulting measures was checked by investigating characteristics of the subjects (sex group, socialization experiences, and self-esteem). The construct validity of the measure proved to be very good.

Griffin, Chassin, and Young (1981) measured the global self-concept and multiple role-specific self-concepts in 100 high-school students. Their subjects completed Semantic Differential ratings of themselves in four roles (student, athlete, son/daughter, and best friend); a global self-rating ("me") was also obtained. Significant differences were found between global self-ratings and role-specific self-ratings. Results suggested

that self-concept was better conceptualized as multiple and differentiated than as unitary and global.

Soares and Soares (1981) administered a Semantic Differential of nine different self-scales (the Affective Perception Inventory) in order to dimensionalize the construct of self-concept of students in grades 1 through 12. The API measured nine dimensions of the self: (1) self-concept as a person; (2) self-concept as a student; (3) perceptions of self in English or language arts; (4) perceptions of self in mathematics; (5) perceptions of self in science; (6) perceptions of self in social studies; (7) perceptions of self in the arts; (8) perceptions of self in physical education; and (9) perceptions of self in the school environment. Analyses of the results revealed high internal consistency and a clear differentiation of the lower grades from the upper grades. Results suggested that self-conceptualization may be earlier than previously evidenced.

Rozendal and Wells (1983) investigated the long-term effects of loss of parent on concepts of family including concept of "I myself." The concepts mother, father, I myself, marriage, family, and divorce were rated by parent-loss and parent-intact college students on a Semantic Differential test which identified the dimensions of evaluation, potency, activity, and general favorability. There was no difference in ratings of I myself. When both groups were combined, two patterns in the

ratings of dimensions emerged. There appeared to be two dimensions of meaning attributed to family concepts.

Piotrowski (1983) investigated the reliability of 19 individual bipolar adjective scales on the Semantic Differential over a six-month span. The utility of the evaluative dimension as a reliable measure of self-concept was also studied with 459 fifth graders. It appeared that the Semantic Differential technique was a reliable self-concept measure.

In summary, the Semantic Differential technique is a generalized technique which can be adapted to the purpose of the study in measuring different concepts and for different cultures. It has been demonstrated in numerous studies to be a reliable technique for measuring attitude change, self-concept, and family relationship. Various studies have also shown that its concurrent validity, predictive validity, and construct validity range from adequate to high in measuring self-concept and self-perception in family context.

CHAPTER III

METHODOLOGY

Type of Research

This research was a correlational study which proposed to investigate the extent to which variations in the KFD variables correspond to variations in the variables on the Semantic Differential Rating Scales. Part of the study was also descriptive in nature, since it attempted to obtain norming information on the KFD variables for a Chinese population.

Description of the Population

The subjects of this study represented the population of Chinese children, grades 4 to 6, who were studying in public schools in Taiwan. The sample was stratified to represent this population regarding sex and residential area.

Selection of the Sample

One public primary school was randomly selected from each of the four different residential areas in Taiwan: urban, suburban, rural, and mountain areas. The school representing the urban area was in the north; that representing the suburban area was in the south; the one

representing the rural area was in the center of the country; and the one representing the mountain area, in the east. A total of four schools were selected. Sample subjects were randomly selected from the students in grades 4 to 6 in these schools. First, a class for each grade was randomly selected from each school, then individual students were randomly selected from the class. The size of the classes ranged from 40 to 55 students. The sample selection tried to maintain the same ratio of sexes as the primary student population. According to Educational Statistics of the Republic of China, by the Ministry of Education in Taiwan, the number of boys and girls in primary schools is 1,158,143 to 1,109,153 as of 1984-85 school year (p. 28). Thus, for the purpose of this study, 17 boys and 17 girls were randomly selected in each grade from each school in the sample. The sample size totalled 408.

Variables

There were eight sets of KFD variables. Each of the first seven sets of variables constituted a set of dependent variables which were compared to the independent variables. The eighth KFD variable, named Like-To-Live-In-Family, was an indication of the general impression of the family. It was also used to compare with the independent variables. The independent variables were the scores on the Semantic Differential constructed for the

purpose of measuring the child's perception of his family --"Father and Me," "Mother and Me," "Me," and "My Whole Family."

The eight sets of the KFD variables related to (1) the action, physical characteristics, and position of the self figure, (2) the action, physical characteristics, and position of the father figure, (3) the action, physical characteristics, and position of the mother figure, (4) the actions of the figures, (5) the overall figure characteristics, (6) the position, distance, and barriers, (7) the style of the drawing, and (8) the variable Like-To-Live-In-Family. There were a total of 84 variables rated on each drawing. The variables were defined as follows:

Variables Regarding Actions

ACTDAD - activity level of the father
 ACTMOM - activity level of the mother
 ACTSEL - activity level of the self
 COMMOM - communicating mother
 COMDAD - communicating father
 COMSEL - communicating self
 COOPMO - cooperative mother
 COOPDA - cooperative father
 COOPSE - cooperative self
 MASMOM - masochistic mother
 MASDAD - masochistic father
 MASSEL - masochistic self
 NARMOM - narcissistic mother
 NARDAD - narcissistic father
 NARSEL - narcissistic self
 NURDAD - nurturing father
 NURMOM - nurturing mother
 NURSEL - nurturing self
 SADDAD - sadistic father
 SADMOM - sadistic mother
 SADSEL - sadistic self
 TENDAD - tense father
 TENMOM - tense mother
 TENSEL - tense self

Variables Regarding Figure characteristics

ARMDAD - arm length of father
 ARMMOM - arm length of mother
 ARMSEL - arm length of self
 BODDAD - body completion of father
 BODMOM - body completion of mother
 BODSEL - body completion of self
 EYEDAD - eye of father
 EYEMOM - eye of mother
 EYESEL - eye of self
 FACDAD - face completion of father
 FACMOM - face completion of mother
 FACSEL - face completion of self
 FACEXD - facial expression of father
 FACEXM - facial expression of mother
 FACEXS - facial expression of self
 FEEDAD - size of father's feet
 FEEMOM - size of mother's feet
 FEESEL - size of self's feet
 NOSIBS - number of siblings found in KFD
 PARMSM - mother missing
 PARMSD - father missing
 PARMSB - both parents missing
 SEX - male or female
 SIZDAD - size of the father figure (in m.m.)
 SIZMOM - size of the mother figure
 SIZSEL - size of the self
 TEEDAD - teeth in father figure
 TEEMOM - teeth in mother figure
 TEESEL - teeth in self figure
 RSIZESEL - relative size of self *

Variables Regarding Position, Distance, and Barrier

ASCEAD - ascendent father
 ASCMOM - ascendent mother
 ASCSEL - ascendent self
 BARRMD - number of barriers between mother and father
 BARRSD - number of barriers between self and father
 BARRSM - number of barriers between self and mother
 DIRDAD - direction faced by father
 DIRMOM - direction faced by mother
 DIRSEL - direction faced by self
 DISTMD - distance from mother to father
 DISTSD - distance from self to father
 DISTSM - distance from self to mother
 ORDM - orientation between father and mother
 ORDS - orientation between father and self
 ORMD - orientation between mother and father
 ORMS - orientation between mother and self
 ORSM - orientation between self and mother
 ORSD - orientation between self and father

TBARRMD- types of barriers between mother and father *
 TBARRSD- types of barriers between self and father *
 TBARRSM- types of barriers between self and mother *

Variables Regarding Styles

COMPART- compartmentalization of figures
 EDGING - placing figures along the edges
 ENCAPS - encapsulation of individual figure
 FOLCOM - folding compartmentalization
 LINBOT - lining at the bottom
 LINTOP - lining on the top
 UNDLIF - underlining individual figures
 BIRDIV - bird's-eye-view

Like-To-Live-In-Family-Variable

LILIF - general impression of the family from the drawing

* Variables rated according to an alternative different scoring system from Burns' system (1982).

Instrumentation

The Kinetic Family Drawing

Description of the Instrument

The instrument to be validated in Taiwan was the Kinetic Family Drawing introduced by Burns and Kaufman (1970). A complete description of the instrument is found in Chapter II.

The child was asked to sit on a chair at a table of appropriate height. A sheet of plain white, 8-1/2 x 11 inch paper was placed on the table right in front of the child. A pencil was placed in the center of the paper. The child was then instructed to:

Draw a picture of everyone in your family, including you, DOING something. Try to draw whole people, not cartoons or stick people. Remember, make

everyone DOING something--some kind of action. (Burns & Kaufman, 1970, p. 5)

Scoring

The scoring system used to rate the KFD was mainly from Burns' most recent book (1982). He summarized the system used in Burns and Kaufman's second KFD book (1972) and the systems suggested by several other researchers (O'Brien & Patton, 1974; McPhee & Wegner, 1976; Myers, 1978). This system was an attempt to quantify the characteristics or signs given by the KFD. (The scoring criteria recommended by Burns are given in Appendix A).

However, four variables were rated using an alternative scoring system which seemed to be more valid. Instead of measuring the actual size of self figures in millimeters, the relative size of self figures in the whole family constellation was considered. A rating of "0" was given to the self figure if the relative size of self compared to other family members was normal. A rating of "1" was given if the relative size of self compared to other family members was not normal. For instance, if the child was the oldest child in the family yet drew himself the smallest of all, a rating of "1" was given. In other cases, if the child drew himself bigger than his parents, a rating of "1" was also given.

When looking at the barriers between the major figures, instead of counting the number of objects between

two figures, as suggested by Burns and many other researchers, a new system was developed based on criteria which seem to be used by some clinicians. A rating of "0" means no significant barrier between two figures. A rating of "1" was given when two or fewer than two persons stood between two figures. A rating of "2" was given when more than two persons stood between two figures. A rating of "3" was given when there was a physical barrier between the figures which would hinder physical movement or contact. When a barrier took the form of objects which would inhibit visual contact, such as a wall, a rating of "4" was given. For instance, when two figures were placed at two sides of a table, a rating of "3" was warranted. When two figures were placed in two different rooms, the rating for barrier between these two figures was "4".

The Semantic Differential Family Scale

The criterion against which the KFD was to be compared was the Semantic Differential Family Scale. The Semantic Differential technique was selected for this study because of its well-recognized reliability, validity and flexibility, as discussed in Chapter II.

Description of the Instrument

Since the Kinetic Family Drawing is a projective test, any criterion used to validate this test should be close to being projective in nature. The Semantic Differential is basically a projective measure which taps

the connotative meaning of concepts held by an individual toward objects, events, or ideas and is related to a person's unconscious thinking (Osgood, Suci, & Tannenbaum, 1957). Kaufman's (1959) study indicated that the Semantic Differential tapped the emotional state and unconscious responses. "It helps to get around people's tendency to give well-reasoned, logical, socially acceptable replies. It encourages intuitive, impulsive, emotional expression of reactions" (p. 437). Gage (1963) contended that the Semantic Differential technique appeared to be a widely useful research instrument that could be utilized in a variety of situations. It has been demonstrated repeatedly in various research studies to be a reliable and valid technique for measuring attitude change, self-concept, and family relationship. Thus, the Semantic Differential seemed to be the right instrument to use to compare with the Kinetic Family Drawing.

The Semantic Differential rating scale consists of a series of concepts, each rated in terms of several criteria. The criteria are pairs of bipolar adjectives at opposite ends of a 5- or 7-point scale. The subject is asked to rate a concept somewhere on the scale between the two bipolar adjectives.

It was found that grade-school children seemed to work better with a five-step scale rather than a seven-step scale (Osgood, Suci, & Tannenbaum, 1957), so for this study five-point, Likert-type scales were used. The

concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family" were rated along the five-step scales from one to five. While one end of each scale was assigned "1," the other end of the scale was assigned "5," and the neutral or mid-point assigned "3." Those scales having negative adjectives on the left-hand side were scored as the scales appeared. On the other hand, those scales with positive adjectives on the left-hand side were scored in a reverse manner, that is, a "1" was scored as 5 points, a "2" was scored as 4 points, and a "5" as 1 point. Scores of each subject on each concept were summed.

Since the subjects of this study were children aged 10-13 years, instructions for the Semantic Differential had to be simplified so the children could fully understand. The whole instrument was translated into Chinese for administration (see Appendix B).

Development of the Instrument

Ten psychologists and experts in education, seven Americans and three Chinese, were involved in the process of developing the concepts to be rated and the semantic scales for the Semantic Differential. The 10-member jury was selected on the basis of professional experience and knowledgeability in the areas of psychology and education. All 10 members had sufficient knowledge to judge the content validity of the instrument. Five concepts relating

to family relationship, "Father," "Mother," "Father and Me," "Mother and Me," and "Me" were selected to be rated on 26 semantic items initially. The semantic scales were arranged randomly in such a way that half of the adjectives on each side were positive and half negative.

The Semantic Differential Family Scale was then administered in a preliminary study to 23 American children, aged 9-12 years. Five item analyses were undertaken to examine the reliabilities of the scales for each concept. Cronbach alpha coefficients of .876, .939, .932, .95, and .957 were obtained for the concepts of "Me," "Father," "Mother," "Father and Me," and "Mother and Me," respectively. The point-multiserial correlation was also obtained for each item. However, during the preliminary study, it was found that the children seemed to have difficulty differentiating between the concepts of "Father" and "Father and Me," and "Mother" and "Mother and Me." The t-test for correlated samples was used to examine the mean differences between the concepts of "Father" and "Father and Me," and also "Mother" and "Mother and Me." The ratings on the related concepts were very similar. This was again confirmed by the pilot study. Therefore, the concepts of "Father" and "Mother" were eventually discarded in the main study. Several members of the jury suggested that other family members, such as grandparents and siblings, might also be important factors in determining a child's perception of

familial relationship. Therefore for the pilot study one more concept, "My Whole Family," was added to the original concepts.

The point-multiserial correlations as obtained from the item analyses provided information used to delete certain inconsistent items. Any item with a point-multiserial below .3 was considered for elimination. Reactions of the participants in the preliminary test were also considered. For example, quite a number of respondents expressed difficulty in rating the item 'far-close' in relation to the concept of "Me," so it was eliminated. More consideration was placed on the factor loadings of the adjective pairs as reported by Osgood and his colleagues (1957), so the scales used for each concept covered the three dimensions of evaluation(E), activity(A), and potency(P). Twenty-five scales were formulated for the pilot study: happy-unhappy(E), good-bad(E), kind-unkind(E), friendly-unfriendly(E), sweet-sour(E), clean-dirty(E), beautiful-ugly(E), wonderful-terrible(E), helpful-harmful(E), important-unimportant(A,E), meaningful-meaningless(A,E), interesting-boring(A,E), relaxed-tense(A,E), warm-cold(A), fast-slow(A), active-passive(A), accepting-rejecting(A), sociable-unsociable(A), strong-weak(P), light-dark(P), big-little(P), full-empty(P), heavy-light(P), encouraging-discouraging(P), smooth-rough(P).

Pilot Study

Sixty-six Chinese children in grades 4 to 6 from a public school in central Taiwan were involved in the pilot study to determine whether the Semantic Differential instrument was comprehensible, clear, and reliable. The subjects were evenly divided among the three grade levels with 50% males and 50% females. Item analyses were performed to study the reliability and the discriminating power of each item. Cronbach alpha coefficients of .9520, .9529, .9514, .9495, .9413, and .9631 were obtained for the concepts of "Father and Me," "Mother and Me," "Father," "Mother," "Me," and "My Whole Family," respectively.

A point-multiserial correlation was used to examine the correlation between an individual item and the concept scale as a whole. The point-multiserial correlations ranged from .0776 to .9019, as reported in Appendix C. Items with point-multiserial correlation below .5 and above .87 were considered for elimination. Six pairs, slow-fast, little-big, weak-strong, tense-relax, boring-interesting, heavy-light, were eliminated on the basis of their low point-multiserial correlations. Two pairs, ugly-beautiful and full-empty, were eliminated because of their high point-multiserial correlations. Three other pairs, terrible-wonderful, clean-dirty, and smooth-rough, were eliminated because of the feedback from the participants during the pilot study. One item

with a point-multiserial correlation lower than .5 and three items with point-multiserial correlations higher than .87 were kept for the sake of face validity.

Fourteen pairs of words were finalized for the main study: happy-unhappy(E), bad-good(E), kind-unkind(E), friendly-unfriendly(E), sour-sweet(E), helpful-harmful(E), warm-cold(A), rejecting-accepting(A), sociable-unsociable(A), passive-active(A), meaningless-meaningful(A,E), important-unimportant(A,E), discouraging-encouraging(P), dark-light(P). Again, the items were scrambled in random order. The final Semantic Differential Family Scales consisted of four concepts, "Father and Me," "Mother and Me," "Me," and "My Whole Family." Each of the concepts was rated on each of the 14 bipolar scales.

A demographic questionnaire was prepared to supply information about the child's age, sex, number of siblings, number of family members, family members who live in the same house, and the occupations of the parents. A copy of the questionnaire together with its Chinese translation is found in Appendix D.

Collection of Data

Data collection was done in Taiwan by a trained examiner and an assistant. First of all, a letter from the research adviser and a letter from the researcher stating the purpose and procedures of the study, together with a copy of the final instrument, were sent to the

Ministry of Education and the four randomly selected schools in Taiwan (See Appendix E). Permission to conduct the study was obtained from the Ministry of Education (See Appendix E). Information concerning the number of classes in each grade was obtained from each school. An APL random-number generator was used to select the classes which were to be used. After knowing the specific classes to be used, information about the number of students in each class, and the ID number and sex of each student was obtained. A stratified sample of 17 male students and 17 female students was randomly selected from each class. Hence, the total sample was comprised of 408 students, 136 students from each grade level, from grades 4 to 6.

Administration of the instruments and questionnaire was done through the cooperation of the principals and class-room teachers of the four schools. Two class periods were given for each class. The subjects were asked, first of all, to fill in the demographic questionnaire. After that, the examiner read the instructions for the Semantic Differential instrument, which was entitled "Word Game." The subjects were then told:

When you finish please bring your questionnaire up to me. If you have any questions please raise your hand. Now begin.

When the subject brought the completed questionnaire and Semantic Differential to the examiner, the subject was taken to a separate part of the room and given

a piece of 8" x 11" white paper. Oral instructions for the KFD were given individually. These instructions were:

Draw a picture of your family, including you, doing something. Please draw whole people, not cartoons or stick people. Make everyone doing something--some kind of action. (Burns & Kaufman, 1972, p. 5)

When you are finished with your drawing please label who everyone is so that I will know who are your brothers, sisters, and parents. Also put down how old everyone is. Do you have any questions? When you are finished with your drawing please bring it up to me in the front of the room. OK, begin. (O'Brien & Patton, 1974, p. 158)

All questionnaires, The Semantic Differential Family Scale, and drawings were numerically coded in order to protect the anonymity of the subjects and to allow the researcher to correctly match the questionnaire, Semantic Differential, and KFD for each subject.

Hypotheses and Statistical Analysis

There were eight hypotheses relating to the first research question. For the purpose of statistical analysis the hypotheses were stated in the null form. There was no hypothesis relating to the second research question.

Hypothesis 1

There is no statistically significant correlation between the scores obtained from the KFD on the variables regarding the drawing of the self and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Hypothesis 2

There is no statistically significant correlation between the scores obtained from the KFD on the variables regarding the drawing of the father and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Hypothesis 3

There is no statistically significant correlation between the scores obtained from the KFD on the variables regarding the drawing of the mother and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Hypothesis 4

There is no statistically significant correlation between the scores obtained from the KFD on the variables regarding the actions of the figures in the drawing and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Hypothesis 5

There is no statistically significant correlation between the scores obtained from the KFD on the variables regarding overall characteristics of the figures in the

drawing and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Hypothesis 6

There is no statistically significant correlation between the scores obtained from the KFD on the variables regarding the position, distance, and barriers of the drawing and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Hypothesis 7

There is no statistically significant correlation between the scores obtained from the KFD on the variables regarding the style of the drawing and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Hypothesis 8

There is no statistically significant correlation between the score on the general impression of the family as indicated by the Like-To-Live-In-Family variable and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

The first seven hypotheses were tested by using canonical correlation analyses to explore the correlation

between the linear combinations of the seven sets of KFD variables and the four Semantic Differential variables. By identifying the components of each set of the KFD variables that were most highly related to the components of the Semantic Differential variables, the validity of the KFD variables could be demonstrated. The eighth hypothesis was tested by using multiple-regression analysis. Alpha was set at the .05 level for all tests. Data concerning the normative information was treated descriptively.

The statistical treatment of data was done on the Xerox Sigma Computer at the Andrews University Computing Center. The Bio-Medical Program BMDP6M was utilized to perform the canonical correlation analysis, and the BMDP2R was used to perform the step-wise multiple-regression analysis. A BMDP2D program was used to obtain the mean, mode, standard deviation, and frequency count of each variable on the Semantic Differential Family Scale and the Kinetic Family Drawing. It also provided the information concerning the demographic characteristics of the sample.

Chapter Summary

This chapter dealt with the type of research, description of the population, selection of the sample, variables identified, descriptions of the two instruments --the Kinetic Family Drawing and the Semantic Differential Family Scale, procedures for the development of the SD,

validation of the SD, pilot study, procedure for collection of data, null hypotheses, and the statistical analysis.

Chapter IV

PRESENTATION AND ANALYSIS OF DATA WITH DISCUSSION

Chapter IV presents information concerning the data-producing sample, the normative data, and the analysis of data concerning the correlation between the ratings from the Kinetic Family Drawing and the Semantic Differential Family Scale. Appropriate statistical procedures were used to explore the research questions. The primary purpose of this study was to investigate the validity of the Kinetic Family Drawing as a measure of self-concept and intra-familial relationship in Taiwan and to provide normative information for children in that country. Using the Semantic Differential as a criterion instrument, the ratings from the two instruments were correlated in order to establish the concurrent validity of the Kinetic Family Drawing.

This chapter has four parts. The first part presents the demographic data concerning the sample; the second presents psychometric information for the Semantic Differential Family Scale; the third presents the basic data from the study; and the fourth presents the tests of the hypotheses and discussion of the findings.

Demographic Data of the Sample

The subjects for this study were 204 male and 204 female students, grades 4-6, in Taiwan. The sample was a stratified random sample from four public schools representing three grade levels and four different residential areas in Taiwan.

Sex and Grade Levels of the Sample Subjects

There were 68 male and 68 female students from each of the three grades from four schools. The total sample comprised 136 fourth graders, 136 fifth graders, and 136 sixth graders, equally distributed among the four schools.

Age of the Sample Subjects

Table 1 presents the data about the age of the subjects. While the age of the entire sample ranged from 10-14 years, the sample was predominantly 11 and 12 year-olds (66.66%), with a mean age of 11.59 years.

TABLE 1
SAMPLE DISTRIBUTION BY AGE

Age	Sample	Percentage
10	57	13.97
11	140	34.31
12	132	32.35
13	70	17.16
14	9	2.21
Total	408	100.00

Number of Brothers and Sisters

Table 2 presents data concerning the siblings of the subjects. The average number of brothers was 1.186 and the average number of sisters was 1.196.

TABLE 2
SAMPLE DISTRIBUTION BY NUMBER
OF BROTHERS AND SISTERS

Number of Brothers			Number of Sisters		
	Sample	%		Sample	%
0	94	23.04	0	116	28.43
1	188	46.08	1	162	39.71
2	90	22.06	2	82	20.10
3	29	7.10	3	33	8.08
4	6	1.47	4	12	2.94
5	1	.25	5	3	.74
Total	408	100.00		408	100.00

Grandparents in the Same Household

While the majority of subjects did not have grandparents living in the same household, 19.12% had a grandfather and 25.74% had a grandmother living with them.

Other Relatives in the Same Household

Only 13% of the subjects had one other relative living in the same household. There was one case where seven relatives resided in the same household.

Family Size of the Sample Subjects

Table 3 presents information concerning the sample distribution according to family size. The average family size for this sample was 5.7 members.

TABLE 3
SAMPLE DISTRIBUTION BY FAMILY SIZE

=====		
Family Size	Sample	Percentage
3	10	2.45
4	69	16.91
5	122	29.90
6	97	23.78
7	55	13.48
8	38	9.31
9	17	4.17
<hr/>		
Total	408	100.00
<hr/>		

Marital Status of Parents

The majority of the subjects came from intact families, that is, families with both parents present. All had at least one parent. Only .74% of the sample were from families without a father, and 1.22% from families without a mother. That means 1.96% of the sample were from non-intact families. However, the cause was unknown.

Occupation of Parents

Table 4 represents data about the socio-economic status of the families of the subjects. This sample could well represent the population of Taiwan, since it covered quite a wide range of occupations. A little over half of the subjects were from families where the mothers stayed home as housewives. Among the 48 cases of those who reported the mothers' occupation as manual workers, most actually worked at home on piece-work.

TABLE 4

OCCUPATION OF PARENTS

=====			=====		
Occupation of Father	Sample	%	Occupation of Mother	Sample	%
Businessman	132	32.35	Housewife	230	56.37
Manual worker	104	25.49	Businesswoman	62	15.20
Farmer	62	15.20	Manual worker	48	11.76
Government worker	44	10.78	Office worker	24	5.88
Office worker	27	6.62	Farmer	18	4.41
Teacher	12	2.94	Teacher	13	3.19
Engineer	10	2.46	Government worker	6	1.47
Medical worker	6	1.47	Medical worker	5	1.23
Journalist	3	.73	No information	2	.48
Lawyer	2	.48			
Actor	1	.25			
Minister	1	.25			
No information	4	.94			
<hr/>			<hr/>		
Total	408	100.00		408	100.00
<hr/>			<hr/>		

Information about the Semantic
Differential Family Scale

The Semantic Differential Family Scale was administered to the subjects along with the KFD. The Semantic Differential ratings were then analyzed to obtain the reliability for each concept scale as well as the point-multiserial correlation coefficient for each individual item for each concept. The highest possible score for each concept was 70. Table 5 presents the reliability for each concept scale as estimated by the Cronbach coefficient alpha, measuring internal consistency, as well as the mean and standard deviation for each concept scale. The point-multiserial correlation coefficient for each item, measuring the consistency between each item and the overall concept scale, is presented in Appendix C. The obtained reliability coefficients alpha ranged from .8649 to .8971, and the point-multiserial correlations ranged from .4877 to .7556. The reliability of this instrument was established.

TABLE 5

CRONBACH COEFFICIENT ALPHA, MEAN, AND
STANDARD DEVIATION FOR THE
SEMANTIC DIFFERENTIAL

Scale	N of items	Mean	Std. Dev.	Cronbach Alpha
Father & Me	14	63.208	7.309	.8649
Mother & Me	14	64.473	7.293	.8866
Me	14	60.554	8.193	.8742
My Whole Family	14	64.561	7.367	.8971

Basic Data

The Semantic Differential Scale

Table 6 presents the mean scores and standard deviation of the ratings on each item of the Semantic Differential for the four concepts: "Father and Me," "Mother and Me," "Me," and "My Whole Family." The items with asterisks have the negative adjective at the right hand end of the response scale, and hence were scored from 5 (e.g., happy) to 1 (unhappy). The other items, with the positive adjective at the right hand end were scored from 1 to 5. For each item, the higher score indicates the more positive response. The neutral point in each case is 3.

The Kinetic Family Drawing

The text presents measures of central value for each KFD variable together with the standard deviation. Tables 7-11 present the mean, mode, and standard deviation for all the KFD variables, including the four variables which were rated according to an alternative system. Appendix D gives, for each variable, the percentile rank corresponding to each score. Double asterisks are used in Appendix D to indicate those variables which correlated significantly with the SD variables in the analyses. Other meaningful variables, even though they did not correlate significantly with the SD variables, are marked with a single asterisk. For these two groups of variables, the percentile ranks are useful. The percentile ranks for

TABLE 6
MEAN AND STANDARD DEVIATION OF THE
SEMANTIC DIFFERENTIAL ITEMS

Item	Father & Me		Mother & Me		Me		My Family	
	$\bar{X}$	S	$\bar{X}$	S	$\bar{X}$	S	$\bar{X}$	S
Happy-Unhappy*	4.598	.768	4.791	.706	4.681	.819	4.667	.756
Helpful-Harmful*	4.699	.586	4.772	.603	4.466	.814	4.684	.705
Dark-Light	4.608	.855	4.669	.791	4.480	.884	4.679	.747
Passive-Active	4.015	1.252	4.206	1.201	3.493	1.390	4.287	1.031
Bad-Good	4.559	.874	4.647	.807	4.238	.986	4.615	.806
Warm-Cold*	4.632	.756	4.721	.701	4.439	.873	4.699	.745
Kind-Unkind*	4.627	.757	4.730	.643	4.287	.855	4.703	.671
Rejecting-Accepting	4.270	1.021	4.404	.977	4.235	1.005	4.461	.924
Friendly-Unfriendly*	4.689	.689	4.708	.684	4.502	.755	4.713	.660
Important-Unimportant*	4.711	.631	4.706	.709	4.409	.862	4.694	.692
Discouraging- Encouraging	4.550	.880	4.600	.814	4.392	.918	4.598	.835
Sour-Sweet	4.320	.975	4.483	.906	4.201	1.094	4.561	.882
Sociable-Unsociable*	4.468	.983	4.613	.857	4.471	.903	4.645	.798
Meaningless-Meaningful	4.461	.891	4.522	.892	4.360	.986	4.556	.926

$\bar{X}$ = Mean S = Standard Deviation
* Items rated negatively.

other variables are given for completeness. These latter percentile ranks are, however, of little value because of the lack of variance on the measures.

KFD Action

Table 7 presents data concerning the KFD action variables. Zero was the mode for most of the variables. The distribution of all these variables was extremely skewed and the standard deviation of all the variables was very small. This means the drawings of the subjects did not vary much on these variables. For instance, about half of the pictures depicted the father either reading a book, a newspaper or watching television, and self either writing, studying, or doing homework. Most of the drawings showed the mother either cleaning house or cooking. Communication, cooperation and nurturance levels were very low for the major figures, except for the mother who more often showed cooperation and nurturance. About two-thirds of the mothers were either helping or cooking.

KFD Figure Characteristics

In the Kinetic Family Drawings, most of the subjects drew the major figures with arms about $1/4$ to $3/8$ the length of the body, and a complete body, eyes, and face, but no teeth. The only variables distributed more evenly were the facial expression of the three major figures, arm variables, feet variables, number of siblings, sex, and size of figures. The distributions of

TABLE 7
NORMATIVE DATA ON THE KFD
ACTION VARIABLES

Variable	Mean	Mode	Std. dev.
ACTDAD	3.980	3.000 (48.53%)	1.730
ACTMOM	4.667	5.000 (77.94%)	1.259
ACTSEL	5.395	5.000 (40.20%)	1.801
COMDAD	1.270	1.000 (86.03%)	.906
COMMOM	1.301	1.000 (85.54%)	.958
COMSEL	1.336	1.000 (85.78%)	.968
COOPDA	.500	.000 (73.53%)	.964
COOPMO	1.542	2.000 (63.24%)	1.003
COOPSE	.534	.000 (74.51%)	1.030
MASDAD	.083	.000 (95.59%)	.484
MASMOM	.054	.000 (98.77%)	.493
MASSEL	.105	.000 (94.85%)	.482
NARDAD	.209	.000 (99.26%)	.349
NARMOM	.051	.000 (98.04%)	.377
NARSEL	.007	.000 (99.75%)	.149
NURDAD	.257	.000 (87.75%)	.735
NURMOM	2.047	2.000 (32.60%)	1.618
NURSEL	.279	.000 (98.04%)	.855
SADDAD	.123	.000 (89.46%)	.408
SADMOM	.096	.000 (95.10%)	.585
SADSEL	.321	.000 (75.98%)	.810
TENDAD	.069	.000 (95.10%)	.329
TENMOM	.071	.000 (95.34%)	.340
TENSEL	.100	.000 (92.89%)	.393

The figures in parentheses are the percentage of cases whose items were rated at the modal value.

the rest of the variables were skewed. The most skewed ones were variables concerning missing parents. Only eight pictures were drawn without a father, six pictures had a missing mother and four pictures left out both parents. Among these pictures, three were drawn by children who actually did not have a father, and five were drawn by children without a mother. Generally, all three

major figures were drawn with a friendly face. The mother was the largest figure in the drawings, followed by the father. The self figure was the smallest of the three. Table 8 presents the data for the Figure Characteristics variables.

TABLE 8
NORMATIVE DATA ON THE KFD FIGURE
CHARACTERISTICS

Variable	Mean	Mode	Std. dev.
ARMDAD	2.770	3.000 (50.74%)	1.100
ARMOM	3.010	3.000 (57.60%)	.953
ARMSEL	3.017	3.000 (58.58%)	.902
BODDAD	4.654	5.000 (80.64%)	.865
BODMOM	4.542	5.000 (75.00%)	.953
BODSEL	4.630	5.000 (78.19%)	.795
EYEDAD	1.522	2.000 (64.71%)	.708
EYEMOM	1.505	2.000 (62.50%)	.701
EYSEL	1.566	2.000 (64.71%)	.639
FACDAD	2.426	3.000 (68.63%)	1.001
FACMOM	2.434	3.000 (67.89%)	.969
FACSEL	2.578	3.000 (73.77%)	.843
FACEXD	2.157	2.000 (37.01%)	.847
FACEXM	2.051	2.000 (36.52%)	.925
FACEXS	2.150	2.000 (33.33%)	.971
FEEDAD	2.034	2.000 (50.00%)	.986
FEEMOM	1.887	2.000 (48.77%)	1.062
FESEL	2.022	2.000 (44.85%)	1.048
NOSIB	2.093	2.000 (39.46%)	0.957
PARMSM	.020	.000 (98.04%)	.139
PARMSD	.015	.000 (98.53%)	.121
PARMSB	.010	.000 (99.02%)	.099
SX	1.500	NOT UNIQUE	.501
SIZDAD	80.980	80.000 (6.13%)	32.930
SIZMOM	90.061	90.000 (5.88%)	64.830
SIZSEL	75.956	NOT UNIQUE	28.290
TEEDAD	.007	.000 (99.26%)	.086
TEEMOM	.010	.000 (99.02%)	.099
TESEL	.014	.000 (98.53%)	.121

The figures in parentheses are the percentage of cases whose items were rated at the modal value.

KFD Distance, Position, and Barrier

Data on the KFD distance, position, and barrier variables are presented in Table 9. The father was often placed on the highest part of the paper, with the mother lower, and the self the lowest. About half of the subjects drew their pictures with no barriers between the mother and the father, or between self and mother. More than half of the pictures had the major figures facing into the drawings. Distance between self and father was the greatest, followed by the distance between self and mother. The mother and father were the closest. Most of the figures did not face each other since they were facing into the drawings.

KFD Style

Data on the KFD style variables are presented in Table 10. The pictures drawn for this sample were predominantly free from KFD styles. The only style that was present to any extent was Encapsulation, mostly shown in the drawing of self jumping rope. Compartmentalization appeared in 9% of the drawings. Other style variables appeared from only one (Underlining and Bird's Eye View) to three times (Lining on Top) in all the drawings.

TABLE 9

NORMATIVE DATA ON THE KFD DISTANCE
POSITION AND BARRIER

Variable	Mean	Mode	Std. dev.
ASCDAD	4.250	5.000 (34.80%)	1.297
ASCMOM	4.169	5.000 (33.58%)	1.346
ASCSEL	3.887	5.000 (30.64%)	1.201
BARRMD	.770	.000 (51.96%)	.992
BARRSD	1.277	1.000 (33.82%)	1.160
BARRSM	1.083	.000 (40.44%)	1.170
DIRDAD	2.794	3.000 (51.96%)	.923
DIRMOM	2.772	3.000 (54.17%)	.897
DIRSEL	2.782	3.000 (57.84%)	.777
DISTMD	105.221	80.000 (6.86%)	53.077
DISTSD	126.525	110.000 (6.62%)	52.332
DISTSM	123.412	NOT UNIQUE	55.439
ORDM	.194	.000 (80.88%)	.402
ORDS	.152	.000 (84.80%)	.359
ORMD	.140	.000 (86.27%)	.354
ORMS	.154	.000 (84.80%)	.369
ORSM	.147	.000 (85.54%)	.147
ORSD	.120	.000 (88.24%)	.333

The figures in parentheses are the percentage of cases whose items were rated at the modal value.

TABLE 10

NORMATIVE DATA ON THE KFD STYLES

Variable	Mean	Mode	Std. dev.
COMPART	.279	.000 (90.93%)	.946
EDGING	.010	.000 (99.51%)	.140
ENCAPS	.571	.000 (69.36%)	1.090
FOLCOM	.015	.000 (99.51%)	.221
LINBOT	.015	.000 (99.51%)	.221
LINTOP	.017	.000 (99.26%)	.226
UNDLIF	.005	.000 (99.75%)	.099
BIRDIV	.005	.000 (99.75%)	.099

The figures in parentheses are the percentage of cases whose items were rated at the modal value.

KFD Like-To-Live-In-Family

Almost half of the pictures in this study gave the general impression of a family in which one would probably like to live (43.14%). The mean rating was 2.392, and the standard deviation was 1.015. Burns (1982) introduced the Like-To-Live-In-Family variable as an attempt to take the child's view-point to judge if a family was a desirable family or not. Instead of taking note of each variable separately, this variable examined the family dynamics as a whole. In other words, the examiner integrated all the variables together to form a general impression of that family.

Due to the subjectivity of this variable, a second rating was sought for this study. Since the drawings were done by children in Taiwan, a knowledge of the cultural background was needed in order to understand the drawings properly. An educator from Taiwan was asked to rate this variable on all the drawings. The rating thus obtained was correlated with the first rating done by the researcher to examine the reliability of this variable. An interrater reliability of .6591 was obtained, suggesting that this variable does not have very high reliability and should be used with caution. However, when the 58 pictures which were rated by the researcher with extreme scores (ratings of 0 or 4) on this variable were considered alone, the two ratings correlated much better. The interrater reliability between those drawings

was .8553. The reliability of this variable was acceptable for those drawings rated either as definitely-not-like-to-live-in or definitely-like-to-live-in. Therefore, it appeared that this variable was useful for identifying extreme cases, rather than for generating general impressions on all the drawings. In an earlier study by Layton (1984), psychologists were successful in sorting the drawings of extreme subjects into their appropriate diagnostic group, problem versus well-adjusted. It appears that when all the KFD variables were viewed together, information was given about the family dynamics that could not be obtained when the variables were viewed separately. Apparently the extraordinary family dynamics of the extreme cases made it easier to distinguish them from the common cases.

Alternative Scoring System

Table 11 presents the mean, mode, and standard deviation of each of the four variables which were rated according to an alternative scoring system rather than the system recommended by Burns (1982). They were the relative size of self (RSIZSEL), the types of barriers between father and mother (TBARRDM), the types of barriers between self and father (TBARRSD), and the types of barriers between self and mother (TBARRSM). This scoring alternative was explained in Chapter 3.

Using the alternative scoring system, most

subjects pictured themselves with a size congruent with their possible relative size within the family constellation. Only 26.47% drew themselves either too big or too small in comparison with the rest of the family members. With the new system, the distribution of the barrier variables was less skewed. The barrier between self and father was still the greatest, followed by the barrier between self and mother. The smallest barrier was between the mother and father.

TABLE 11
NORMATIVE DATA ON THE KFD RELATIVE
SIZE OF SELF AND TYPES OF
BARRIER VARIABLES

Variable	Mean	Mode	Std. dev.
RSIZSEL	.265	.000 (73.53%)	.442
TBARRMD	1.282	.000 (51.23%)	1.557
TBARRSD	1.659	.000 (30.39%)	1.498
TBARRSM	1.353	.000 (42.16%)	1.444

The figures in parentheses are the percentage of cases whose items were rated at the modal value.

Testing of Hypotheses and Discussion of the Findings

Canonical correlations were used to test hypotheses 1-7 and multiple regression was used for hypothesis 6. For hypotheses 1, 2, 3, 5, and 6, two canonical correlations were performed for each hypothesis using the two different scoring systems for the KFD variables. The first canonical correlation analysis

(Analysis 1) was done on the KFD variables using the scoring system recommended by Burns (1982). Four KFD variables, using the alternative scoring system, were used to take the place of the corresponding variables in the second canonical correlation analysis (Analysis 2). They were the relative size of self (RSIZSEL), the types of barriers between father and mother (TBARRDM), the types of barriers between self and father (TBARRSD), and the types of barriers between self and mother (TBARRSM). All hypotheses are presented in the null form.

Hypothesis 1

Hypothesis 1 states that there is no statistically significant correlation between the scores obtained from the KFD on the variables regarding the drawing of self and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Analysis 1

The canonical correlation between the two sets of variables (The Semantic Differential Scale and the Kinetic Family Drawing scores) was .433. With 108 degrees of freedom, a chi-square of 161.98 was obtained, with $p = .00061$. Therefore, this hypothesis was rejected. There was only one significant function ($p < .05$). Table 12 shows the standardized coefficients of set 1 variables (the Semantic Differential Scores) and set 2 variables

TABLE 12

STANDARDIZED COEFFICIENTS OF SD VARIABLES
AND KFD VARIABLES REGARDING SELF I

Set	Variable	Standardized Coefficient
1 (SD)	Father and Me	.156
	Mother and Me	.258
	Me	.618 **
	My Whole Family	.115
2 (KFD)	ACTSEL	-.102
	COMSEL	.138
	COOPSE	-.010
	MASSEL	-.130
	NARSEL	-.034
	NURSEL	.159
	SADSEL	-.016
	TENSEL	-.113
	ARMSEL	-.001
	BODSEL	.043
	EYESEL	.099
	FACSEL	-.336
	FACXS	-.781 **
	FEESEL	.079
	SX	.289
	SIZSEL	-.224
	TEESEL	.268
	ASCSEL	.007
	BARRSD	-.331
	BARRSM	.085
	DIRSEL	.178
	DISTSD	.291
	DISTSM	-.089
	ORDS	.028
	ORMS	.056
	ORMS	-.344
	ORSD	.260

** The major coefficients considered in the significant canonical function.

(the Kinetic Family Drawing Scores) for the canonical function. An accepted criterion is to take into consideration all variables in each set in which the standardized coefficient is about 50 percent or more of the highest coefficient in that set. Such coefficients are marked with double asterisks. This function indicated that those who scored higher on the SD concept of "Me" tended to score lower on FACEXS (facial expression of self) on the KFD.

Analysis 2

When variables SIZESEL, BARRSD, and BARRSM were replaced by RSIZESEL, TBARRSD, and TBARRSM, the correlation function changed. The canonical correlation between the two sets of variables was .57966. With 108 degrees of freedom, a chi-square of 249.64 was obtained, with $p < .000005$. Therefore, this hypothesis was rejected. There was only one significant function ($p < .05$). Table 13 gives the standardized coefficients for the two sets of variables. This function indicated that those who scored higher on the SD concept of "Me" tended to score lower on RSIZESEL (relative size of self), FACEXS (facial expression of self), and TBARRSD (types of barrier between self and father).

Discussion

In both analyses, subjects who scored higher on the SD concept of "Me" tended to draw the self with a

TABLE 13

STANDARDIZED COEFFICIENTS OF SD VARIABLES
AND KFD VARIABLES REGARDING SELF II

Set	Variable	Standardized Coefficient
1 (SD)	Father and Me	.051
	Mother and Me	.080
	Me	.776 **
	My Whole Family	.193
2 (KFD)	ACTSEL	-.069
	COMSEL	-.029
	COOPSE	.112
	MASSEL	-.035
	NARSEL	-.072
	NURSEL	.051
	SADSEL	-.041
	TENSEL	-.003
	ARMSEL	-.071
	BODSEL	-.043
	EYESEL	.062
	FACSEL	-.283
	FACEXS	-.432 **
	FEESEL	.077
	SX	.103
	TEESEL	.188
	ASCSEL	.008
	DIRSEL	.189
	DISTSD	.051
	DISTSM	.023
	ORDS	.013
	ORMS	.026
	ORSM	-.206
	ORSD	.099
	RSIZSEL	-.613 **
	TBARRSD	-.336 **
	TBARRSM	-.086

** The major coefficients considered in the significant canonical function.

friendlier facial expression. It seemed that the child expressed his feelings toward the self through the facial expression of the self figure. This finding was in agreement with general belief. Machover (1949) explained one of the sources of projection in projective tests:

The problem of how certain organs come to have certain meanings so that they could be communicated in the drawing of a human figure is a puzzling one. It suffices to say that, from the empirical standpoint, such graphic communications occur regardless of age, skill, or culture. One source to consider is the common social meanings that physical attributes tend to acquire in the course of social expression and intercourse. (p. 7)

In social interaction, a person with a friendly face often gives an impression of confidence and indication of healthy personality. Therefore, it seemed logical that a person who felt good about himself would depict himself as a happy person.

In Analysis 2, subjects who scored higher on the SD concept of "Me" tended to draw themselves with a more accurate relative size of self within the family constellation, and have less significant barriers between self and father. While the actual size of the self figure in the drawing did not correlate significantly with any of the SD variables, the relative-size-of-self variable (RSIZSEL) seemed to be a better expression of the child's feelings about the self. According to Knoff's (1985b) interpretive hypotheses concerning the relative size of figures on a KFD drawn by a 15-year-old boy, when the relative size of self was small, it represented a poor

self-concept, feelings of insignificance and inadequacy. The child's perception of his relative importance in the family was directly related to his feelings toward self.

This study showed that the child's self-concept, as reflected by the SD "Me" concept score, correlated negatively with the significant barriers between self and father. During the last twenty years the importance of the father in the family has been rediscovered. Biller (1982) found that the presence of an affectionate father had a positive impact on the development of male children. The sons of such fathers tended to feel more positive about themselves and had more self-confidence. Girls raised in families which included a loving and respected father were also more likely to become healthy and well-adjusted young women (Fish & Biller, 1973).

Even though the father/child relationship in Chinese families is not so close as the mother/child relationship, this does not mean the role of the father is insignificant to a child. The father is usually the one who brings the social standard to the family and serves as a maintainer of the standard. A child's self-concept seems to depend a lot on the relationship with the father. It may not be a very close relationship, but a peaceful relationship with the father is important.

It appeared that the relative size of self, facial expression of self, and the types of barriers between self

and father were the most valid variables to indicate a child's self-concept.

Hypothesis 2

Hypothesis 2 states that there is no statistically significant correlation between the scores obtained from the KFD on the variables regarding the drawing of the father and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Analysis 1

The canonical correlation between the two sets of variables was .45145. With 108 degrees of freedom, a chi-square of 181.29 was obtained, with $p = .00001$. Therefore, this hypothesis was rejected. There was only one significant function ($p < .05$). Table 14 gives the standardized coefficients for the two sets of variables. This function indicated that those who scored higher on the SD concept of "Mother and Me" tended to score lower on FACEXD (facial expression of father), lower on FACDAD (face completion of father), and higher on EYEDAD (eye completion of father) on the KFD.

Analysis 2

When BARRMD and BARRSD were replaced by TBARRMD and TBARRSD, the canonical function was again changed. The canonical correlation between the two sets of

TABLE 14
STANDARDIZED COEFFICIENTS OF SD VARIABLES
AND KFD REGARDING FATHER I

Set	Variable	Standardized Coefficient
1 (SD)	Father and Me	.317
	Mother and Me	.730 **
	Me	.242
	My Whole Family	-.193
2 (KFD)	ACTDAD	-.213
	COMDAD	.063
	COOPDA	.107
	MASDAD	.113
	NARDAD	-.030
	NURDAD	.047
	SADDAD	-.137
	TENDAD	-.080
	ARMDAD	-.030
	BODDAD	.039
	EYEDAD	.484 **
	FACDAD	-.704 **
	FACEXD	-.716 **
	FEEDAD	.062
	PARMSD	.086
	SIZDAD	-.137
	TEEDAD	.181
	ASCDAD	-.174
	BARRMD	.015
	BARRSD	-.230
	DIRDAD	.101
	DISTMD	.276
	DISTSD	.289
	ORDM	-.071
	ORMS	.027
	ORMD	.077
	ORSO	.094

** The major coefficients considered in the significant canonical function.

variables was .52688. With 108 degrees of freedom, a chi-square of 223.96 was obtained, with $p < .000005$. Therefore, this hypothesis was rejected. There was only one significant function ($p < .05$). Table 15 shows the standardized coefficients for the two sets of variables. This function indicated that those who scored higher on the SD concepts of "Father and Me," "Mother and Me," and "Me" tended to score lower on FACEXD (face expression of father), lower on FACDAD (face completion of father), lower on TBARRSD (types of barrier between self and father), and higher on EYEDAD (eye completion of father) on the KFD.

Discussion

For Analysis 1, subjects who scored higher on the SD concept of "Mother and Me" tended to draw the KFD father with a friendlier facial expression, incomplete face, but complete eyes.

Among the 408 pictures, 151 pictures (37%) drew the father reading a book or a newspaper. It was logical that the newspaper covered part of the face of the father. Whether the finding would have been different if this factor had been considered remains a question to be investigated.

According to Analysis 1, the KFD father variables correlated only with the SD "Mother and Me" variable. In Chinese families the father usually has very little communication with the child. The mother usually stays at home

TABLE 15

STANDARDIZED COEFFICIENTS OF SD VARIABLES
AND KFD VARIABLES REGARDING FATHER II

Set	Variable	Standardized Coefficient
1 (SD)	Father and Me	.389 **
	Mother and Me	.501 **
	Me	.266 **
	My Whole Family	-.017
2 (KFD)	ACTDAD	-.120
	COMDAD	-.041
	COOPDA	.182
	MASDAD	.079
	NARDAD	-.016
	NURDAD	-.042
	SADDAD	-.165
	TENDAD	-.022
	ARMDAD	-.049
	BODDAD	-.075
	EYEDAD	.329 **
	FACDAD	-.587 **
	FACEXD	-.604 **
	FEEDAD	.065
	PARMSD	.120
	SIZDAD	-.117
	TEEDAD	.209
	ASCDAD	-.131
	TBARRMD	-.116
	TBARRSD	-.557 **
	DIRDAD	.061
	DISTMD	.239
	DISTSD	.239
	ORDM	-.044
	ORMS	.054
	ORMD	.134
	ORS	.042

** The major coefficients considered in the significant canonical function.

and is the central supporting force of the whole family. Very often a child gets to know the father through the mother. The relationship between the father and the child depends on the way the mother relates to the child. It would seem logical, then, that the relationship between the child and the mother would affect the child's perception of the father.

A friendly facial expression and a complete eye on the father figure are supposed to represent the positive feelings one has toward the father. However, this analysis showed a positive relationship between the father's facial expression and eye completion on the KFD and the SD concept of "Mother and Me", instead.

An incomplete face on a figure is supposed to be related to anxiety or conflict that one holds toward that figure. In this analysis, scores on the concept of "Mother and Me" correlated negatively with face completion of the father, that is, subjects who scored higher on the SD concept of "Mother and Me" tended to draw the father with an incomplete face. This seems to be contradictory to Burns and Kaufman's hypothesis (1972). The scoring system for this variable seems to be questionable for this population.

The result of Analysis 2 showed that those who scored higher on the SD concepts of "Father and Me," "Mother and Me," and "Me" tended to draw the father with a friendlier facial expression, an incomplete face, complete

eyes, and less significant barriers between the father and the self.

Instead of just correlating with the SD "Mother and Me" variable, the KFD father variables correlated with the "Father and Me," "Mother and Me," and "Me" variables on the Semantic Differential in Analysis 2, although they still correlated the most with "Mother and Me". It seemed that when the importance of the barriers was considered, the KFD father variables could better reflect a child's perception of his relationship with father and mother, and his self-concept.

Hypothesis 3

Hypothesis 3 states that there is no statistically significant correlation between the scores obtained from the KFD on the variables regarding the drawing of the mother and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Analysis 1

The canonical correlation between the two sets of variables was .44921. With 108 degrees of freedom, a chi-square of 179.35 was obtained, with $p = .00002$. Therefore, this hypothesis was rejected. There was only one significant function ($p < .05$). Table 16 shows the standardized coefficients for the two sets of variables. This function indicated that those who scored higher on the SD concept

of "Mother and Me" tended to score lower on FACEXM (facial expression of mother) on the KFD.

TABLE 16

STANDARDIZED COEFFICIENTS OF SD VARIABLES
AND KFD VARIABLES REGARDING MOTHER I

Set	Variable	Standardized Coefficient
1 (SD)	Father and Me	-.268
	Mother and Me	.986 **
	Me	.372
	My whole Family	-.065
2 (KFD)	ACTMOM	-.196
	COMMOM	.067
	COOMOM	.216
	MASMOM	.114
	NARMOM	.082
	NURMOM	-.179
	SADMOM	.149
	TENMOM	-.010
	ARMOM	.129
	BODMOM	.044
	EYEMOM	.220
	FACMOM	-.181
	FACEXM	-.829 **
	FEEMOM	.110
	PARMSM	-.317
	SIZMOM	-.133
	TEEMOM	.013
	ASCMOM	-.122
	BARRMD	.026
	BARRSM	.013
	DIRMOM	-.176
	DISTMD	.388
	DISTSM	.113
	ORDM	.002
	ORMD	.024
	ORMS	-.053
	ORSM	-.062

** The major coefficients considered in the significant canonical function.

Analysis 2

The second analysis for this hypothesis involved the variables of TBARRDM and TBARRSM instead of BARRDM and BARRSM. The canonical correlation between the two sets of variables was .48619. With 108 degrees of freedom, a chi-square of 204.16 was obtained, with $p < .000005$. Therefore, this hypothesis was rejected. There was only one significant function ($p < .05$). Table 17 gives the standardized coefficients for the two sets of variables. This function indicated that those who scored higher on the SD concept of "Mother and Me" tended to score lower on FACEXM (facial expression of mother), and TBARRSM (types of barrier between the self and mother), but higher on DISTMD (distance between mother and father) on the KFD.

Discussion

Subjects who scored higher on the SD concept "Mother and Me" tended to draw the KFD mother with a friendlier facial expression in both analyses. The results of the second analysis showed that those who scored higher on the SD concept "Mother and Me" tended to draw less significant barriers between self and mother on the KFD. They also drew the mother more distant from the father.

As mentioned earlier, a friendly facial expression most likely represents positive feelings toward the figure. It is understandable that a friendly mother would

TABLE 17

STANDARDIZED COEFFICIENTS OF SD VARIABLES
AND KFD VARIABLES REGARDING MOTHER II

Set	Variable	Standardized Coefficient
1 (SD)	Father and Me	.037
	Mother and Me	.731 **
	Me	.221
	My Whole Family	.125
2 (KFD)	ACTMOM	-.207
	COMMOM	.072
	COOMOM	.200
	MASMOM	.066
	NARMOM	.127
	NURMOM	-.095
	SADMOM	.018
	TENMOM	.025
	ARMOM	.075
	BODMOM	-.035
	EYEMOM	.222
	FACMOM	-.193
	FACEXM	-.712 **
	FEEMOM	.109
	PARMSM	-.101
	SIZMOM	-.174
	TEEMOM	.075
	ASCMOM	-.106
	TBARRMD	-.244
	TBARRSM	-.372 **
	DIRMOM	-.182
	DISTMD	.393 **
	DISTSM	.207
	ORDM	-.023
	ORMD	.133
	ORMS	-.058
	ORSM	-.014

** The major coefficients considered in the significant canonical function.

enhance the relationship between self and the mother, and the less significant barriers drawn between the mother and self, the better the relationship between the two. However, it is more difficult to explain why the child's perception of his relationship with his mother correlated negatively with the distance between the mother and the father. Fish and Biller (1973) observed that if a mother and father had a warm and satisfying relationship with one another, the daughter usually grew up to be a healthy and well-adjusted individual. It might be reasonable to speculate that a warm and satisfying relationship between the father and the mother might enhance the happiness of a child in the family, and thus reflect a good relationship with the mother. However, since the father is such a remote figure in Chinese families, the mother drawn closer to the father may suggest the remoteness of the mother as well.

This negative correlation between the child's perception of his relationship with his mother and the distance between the father and the mother may suggest the invalidity of measuring distances between family members as proposed in the Burns' (1982) scoring system. The child may not express the emotional distance between major figures in actual length on the paper. The distance may be expressed in a more subtle way.

Hypothesis 4

Hypothesis 4 states that there is no statistically significant correlation between the scores obtained from the KFD on the variables regarding the actions of the figures in the drawing and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

In testing this hypothesis, only one canonical correlation analysis was performed. There was no significant canonical correlation between criterion scores and the scores obtained from the KFD on the variables regarding the actions of the figures in the drawing. A chi-square of 106.15 with 96 degrees of freedom was obtained, with $p = .2248$. Thus, this hypothesis was retained.

Discussion

The small variation seen in the actions of the figures drawn accounts for the lack of correlation between the KFD variables and the SD variables. De Joode (1976) commented that the activities seen in the KFD seemed to reflect the actual daily activities of the family members. In this sample, almost half of the drawings depicted the father either reading a book or newspaper, or watching television, and the self either writing, studying, or doing homework. Most of the mothers were either cleaning house or cooking. This is clearly the commonly held picture of the Chinese family in Taiwan. A current first-

grade Chinese textbook (Lee, 1985) used in the public schools of Taiwan reads:

Lesson 3 Who Gets Up Early?
Who gets up early? Mother gets up early.
Mother gets up early to clean the house.
Who gets up early? Father gets up early.
Father gets up early to read books or newspaper.
Who gets up early? I get up early.
I get up early to go to school. (p. 5)

Chinese education never emphasizes self-expression and individualism (Hsu, 1970). Chinese children feel more restrained by the group, and thus may be prone to the influence of the stereotype prevailing in society. That may be why there was such a small variation in the KEDs of these Chinese children. The father is usually the head figure in the Chinese family. Great respect for him is required from the children. The father's role is to work outside the home and bring honor and financial income for the whole family. When a father comes home, it is his time for relaxation and enjoyment, unless great problems come up which demand his attention. To the children and the husband, the mother is the nurturing figure in the family. Respect and obedience are the highest virtues Chinese children learn, while American children learn to cooperate and develop sportsmanship (Hsu, 1970). Since Chinese education does not emphasize self-expression in children, interpersonal communication is very different from that of Western culture. Communication for Chinese means living in peace together, in great respect, rather than intimate contact. This could be the reason why the

levels of cooperation and communication were very low in the KFDs for this study.

The strong emphasis on academic achievement in Chinese families may well account for the many subjects who drew themselves either writing, studying, or doing homework. Hsu (1970) observed that there were two basic elements in traditional Chinese education: (1) the goal of passing stiff examinations, and (2) saturation school work, a major part of which is rote learning, so each generation follows in the footsteps of the last (p. 91). The situation has not essentially changed in the 16 years since Hsu (1970) published his book. After nine grades, students have to sit for competitive entrance examinations to enter the better senior high schools. The examinations are so competitive that all school work is focused on passing. Very often, students receive supplementary instruction from private tutors for several hours after school each day. Homework is usually so demanding that students have to work until late at night. This strong focus on academic achievement is clearly reflected in the KFDs of these subjects. Another reason for the heavy emphasis on studying in the KFDs may be related to the fact that these drawings were obtained in a school setting.

Since this study only intended to include a normal non-clinical population, it is not surprising that the masochism level, sadism level, narcissism level, and tension level are all very low.

Even though this hypothesis was retained, it does not mean that the variables relating to the actions of the figures in the drawings are not useful. They provide a description of the drawings of a normal, non-clinical Chinese population in Taiwan.

Hypothesis 5

Hypothesis 5 states that there is no statistically significant correlation between the scores obtained from the KFD on the variables regarding overall characteristics of the figures in the drawing and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Analysis 1

The canonical correlation between the two sets of variables was .51861. With 116 degrees of freedom, a chi-square of 212.19 was obtained, with $p < .000005$. Therefore, this hypothesis was rejected. There was only one significant function ($p < .05$). Table 18 shows the standardized coefficients for the two sets of variables. This function indicated that those who scored higher on the SD concepts of "Mother and Me" and "Me" tended to score lower on FACDAD (face completion of father), higher on EYEDAD (eye completion of father), lower on FACEXM (facial expression of mother), FACEXS (facial expression of self), and FACEXD (facial expression of father) on the KFD.

TABLE 18

STANDARDIZED COEFFICIENTS OF SD VARIABLES
AND KFD VARIABLES REGARDING
FIGURE CHARACTERISTICS I

=====		
Set	Variable	Standardized Coefficient
<hr/>		
1 (SD)	Father and Me	.254
	Mother and Me	.615 **
	Me	.368 **
	My Whole Family	-.103
2 (KFD)	ARMDAD	.007
	ARMMOM	-.028
	ARMSEL	.045
	BODDAD	.060
	BODMOM	.000
	BODSEL	-.095
	EYEDAD	.474 **
	EYEMOM	-.142
	EYESEL	-.103
	FACDAD	-.524 **
	FACMOM	.157
	FACSEL	-.130
	FACEXD	-.400 **
	FACEXM	-.454 **
	FACEXS	-.411 **
	FEEDAD	-.027
	FEEMOM	.044
	FEESEL	.143
	NOSIB	.125
	PARMSM	-.031
	PARMSD	-.011
	PARMSB	.091
	SX	.191
	SIZDAD	-.258
	SIZMOM	-.125
	SIZSEL	.047
	TEEDAD	.116
	TEEMOM	.109
	TEESEL	.082
<hr/>		

** The major coefficients considered in the significant canonical function.

Analysis 2

The second analysis for this hypothesis involved the variables of RSIZSEL instead of SIZSEL. The canonical correlation between the two sets of variables was .58858. With 116 degrees of freedom, a chi-square of 270.47 was obtained, with $p < .000005$. Therefore, this hypothesis was rejected. There was only one significant function $p < .05$). Table 19 gives the standardized coefficients for the two sets of variables. This function indicated that those who scored higher on the SD concepts of "Mother and Me" and "Me" tended to score lower on RSIZSEL (relative size of self), FACDAD (face completion of father), FACEXS (facial expression of self), FACEXM (face expression of mother), FACEXD (facial expression of father), and higher on EYEDAD (eye completion of father) on the KFD.

Discussion

Subjects who scored higher on the SD concepts of "Mother and Me" and "Me" tended to draw the father with an incomplete face, but complete eyes, in both analyses. They also drew all major figures (father, mother and self) with friendlier facial expressions.

As mentioned earlier, 37% of the drawings depicted the father reading either a book or a newspaper. This might be one of the contributing factors toward the negative correlation between the SD variables and the KFD facial completion variable.

TABLE 19

STANDARDIZED COEFFICIENTS OF SD VARIABLES
AND KFD VARIABLES REGARDING
FIGURE CHARACTERISTICS II

Set	Variable	Standardized Coefficient
1 (SD)	Father and Me	.155
	Mother and Me	.351 **
	Me	.636 **
	My Whole Family	.001
2 (KFD)	ARMDAD	.008
	ARMOM	-.064
	ARMSEL	.011
	BODDAD	.011
	BODMOM	.004
	BODSEL	-.070
	EYEDAD	.365 **
	EYEMOM	-.175
	EYSEL	-.035
	FACDAD	-.422 **
	FACMOM	.215
	FACSEL	-.145
	FACEXD	-.287 **
	FACEXM	-.308 **
	FACEXS	-.382 **
	FEEDAD	.039
	FEEMOM	-.002
	FESEL	.115
	NOSIB	.091
	PARMSM	.041
	PARMSD	-.020
	PARMSB	.005
	SX	.181
	SIZDAD	-.188
	SIZMOM	-.112
	RSIZSEL	-.539 **
	TEEDAD	.116
	TEEMOM	.108
	TESEL	.083

** The major coefficients considered in the significant canonical function.

It appeared that the variables relating to the KFD figure characteristics did not correlate with the child's perception of the relationship with the father. They only reflected the child's perception of the relationship with the mother and his self-concept. Since the mother is the one whom the child has most contact with in the family and the father is a remote figure, it is possible that the child's position in the family centered around the relationship with the mother.

The results for Analysis 2 were similar to Analysis 1, except for the variable relating to the size of self. Using the relative size of self rather than the actual height of self figure in the drawings for analysis, the RSIZSEL (relative size of self) variable became significantly correlated with two SD variables, "Mother and Me" and "Me."

As demonstrated in the second analysis of Hypothesis 1, the relative size of self within the family constellation represents the child's perception of his importance in the family and his self-concept. This variable, together with the other variables, also correlates with the child's perception of his relationship with his mother.

Hypothesis 6

Hypothesis 6 states that there is no statistically significant correlation between the scores obtained from

the KFD on the variables regarding the position, distance, and barriers of the Kinetic Family Drawing and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Analysis 1

In testing this hypothesis, there was no significant canonical correlation between criterion scores and the scores obtained from the KFD on the variables regarding the position, distance, and barriers of the drawing. A chi-square of 85.25 with 72 degrees of freedom was obtained, with $p = .1363$. Thus, this hypothesis was retained when the barrier variables on the Kinetic Family Drawings were scored according to the system recommended by Burns (1982).

Analysis 2

The second analysis for this hypothesis involved the variables of TBARRMD, TBARRSD, and TBARRSM instead of BARRMD, BARRSD, and BARRSM. The canonical correlation between the two sets of variables was .38765. With 72 degrees of freedom, a chi-square of 124.04 was obtained, with $p = .00014$. Therefore, this hypothesis was rejected when the barrier variables were scored according to the alternative scoring method. There was only one significant function ($p < .05$). Table 20 gives the standardized coefficients for the two sets of variables. This function

TABLE 20
STANDARDIZED COEFFICIENTS OF SD VARIABLES
AND KFD VARIABLES REGARDING POSITION
DISTANCE AND BARRIER

Set	Variable	Standardized Coefficient
1 (SD)	Father and Me	.292 **
	Mother and Me	.225 **
	Me	.315 **
	My Whole Family	.324 **
2 (KFD)	ASCDAD	-.145
	ASCMOM	-.086
	ASCSEL	.025
	JIRDAD	-.026
	DIRMOM	-.045
	DIRSEL	.202
	DISTMD	.327 **
	DISTSD	.238
	DISDSM	.081
	ORDM	-.016
	ORDS	.124
	ORMD	.273
	ORMS	.056
	ORSM	-.096
	ORSD	.002
	TBARRDM	-.093
	TBARRSD	-.685 **
	TBARRSM	-.247

** The major coefficients considered in the significant canonical function.

indicated that those who scored higher on the SD concepts of "Mother and Me," "Me," "My Whole Family," and "Father and Me" tended to score lower on TBARRSD (types of barrier between self and father) but higher on DISTMD (distance between mother and father) on the KFD.

Discussion

Using the Burns' (1982) scoring system there was no significant canonical correlation between the SD variables and the KFD variables relating to the position, distance, and barriers of the drawings. This finding was in agreement with Holtz, Brannigan, and Schofield's (1980) finding. They found no significant correlations for distance between the self and other family figures in the KFD and either of the two interpersonal distance scales.

A second analysis was undertaken to consider the importance, rather than the number, of the barriers between the major figures, using a different scoring system designed by the researcher. (See Chapter III for a detailed explanation.)

When the types of barriers, rather than the literal number, were considered, the barriers between father and self and the distance between father and mother correlated with the child's perception of his relationship with mother and father, his self-concept, and his general perception of his whole family. Brannigan, Schofield, and Holtz (1982) confirmed the barrier in KFDs as an indicator of remote distance between self and others. Even though the Chinese child has more contact with the mother, problems between the father and the child have a great influence on the child's well-being and his perception of his relationship with both father and mother. In Chinese culture, a remote father appears to be accepted by the

child since it is the way most families are, so long as there are no significant barriers between the child and the father. However, the mother is usually a nurturant person and the heart of the family. A mother perceived as close to the father, and thus remote to the child, may affect the child's relationship with both parents and his perception of the whole family.

Hypothesis 7

This hypothesis states that there is no statistically significant correlation between the scores obtained from the Kinetic Family Drawing on the variables regarding the style of the drawing and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Only one canonical correlation analysis was performed to test this hypothesis. Only two of the eight style variables, ENCAPS and COMPART, were used to correlate with the criterion scores on the SD because the other styles (EDGING, FOLCOM, LINBOT, LINTOP, UNDLIF, and BIRDIV) appeared very few times in the KFDs of this population. Lining on the top appeared only three times in all the 408 KFDs. Edging, folding compartmentalization, and lining at the bottom appeared two times, and underlining individual figures and bird's-eye-view only once. No significant correlation was found. A chi-square

of 5.19 with 8 degree of freedom was obtained with $p = .7368$. Thus, this hypothesis was retained.

Discussion

Encapsulation was the only style used with any frequency in this sample (30.64%). Most of the drawings used a jump rope to show encapsulation. Since jumping rope is a very popular exercise with Chinese children, it is speculated that this style may not have the same meaning as other forms of encapsulation, such as placing a person alone in a room. Even though compartmentalization was the second most popular style in the drawings of this sample, the incidence was actually very small (9.07%). This finding is very similar to those of Katoh, Ikura, and Kubo's study (1976). In their study, compartmentalization appeared in only 4.04% of all the KFDs. It was hard to reach a conclusion about the validity of the style variables for this study. However, since the sample of this study was from a presumably normal population, the rare incidence of styles among the KFDs of this sample was in agreement with Burns and Kaufman's (1972) hypothesis that styles are pathological signs. This provided valuable information concerning the norm on the style variables for the Chinese population.

Hypothesis 8

This hypothesis states that there is no statistically significant correlation between the score on

the general impression of the family as indicated by the Like-To-Live-In-Family Kinetic Family Drawing variable and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

A step-wise multiple-regression analysis was performed to obtain the correlation between the criterion scores from the Semantic Differential and the dependent variable, the Like-To-Live-In-Family variable. In testing this hypothesis, the four criterion scores were entered one at a time to correlate with the dependent variable. Table 21 presents the summary of the results from the multiple-regression analysis. Since all four steps were significant, only the last step was considered. The analysis of variance for step 4 is presented in Table 22.

All four criterion scores, "Father and Me," "Mother and Me," "Me," and "My Whole Family," yielded significant positive correlation with the Like-To-Live-In-Family variable. The linear combination of these four variables yielded a multiple correlation coefficient of .5904, explaining 34.85% of the variance. Therefore, this hypothesis was rejected. Table 23 presents the variables in the equation for step four. The standardized coefficients indicated that scores on the SD concepts of "My Whole Family" and "Me" were most correlated to the rating on the Like-To-Live-In-Family variable, followed by the concept of "Mother and Me," and then the concept of

TABLE 21

SUMMARY TABLE OF STEP-WISE MULTIPLE
REGRESSION ANALYSIS

Step No.	Var. Entered	Multiple R	Multiple RSQ	Increase in RSQ	F-to- Enter
1	My Whole Family	.5381	.2895	.2895	165.43
2	Me	.5691	.3239	.0344	20.62
3	Mother and Me	.5854	.3427	.0187	11.51
4	Father and Me	.5904	.3485	.0059	3.63

TABLE 22

ANALYSIS OF VARIANCE TABLE
OF STEP FOUR

Source	Sum of Squares	df	Mean Square	F Ratio	p
Regression	148.052	4	37.013	53.90	<.000005
Residual	276.739	403	.687		

TABLE 23

VARIABLES IN EQUATION

Variable	Coefficient	Std. Error of Coeff.	Std. Regression Coefficient
My Whole Family	.031	.009	.221
Me	.022	.007	.180
Mother and Me	.022	.009	.154
Father and Me	.018	.009	.127

"Father and Me." The result indicated that the higher the scores on the SD concepts of "My Whole Family," "Me," "Mother and Me," and "Father and Me" in descending order of importance, the higher the score on the KFD Like-To-Live-In-Family variable.

Discussion

The multiple-regression analysis indicated that scores on the concepts of "My Whole Family," "Me," "Mother and Me," and "Father and Me" correlated positively with the rating on the Like-To-Live-In-Family variable. Thus, this hypothesis was rejected.

Since it was found that the ratings on the Like-To-Live-In-Family variable correlated the most with the "My Whole Family" variable on the Semantic Differential, it seemed to be a valid variable to obtain the child's general feeling about his whole family. It also measured the child's self-concept and his perception of his relationship with both parents. The results from this analysis confirmed the beliefs of several other researchers. Younger (1982) found that the KFD might best be used to generate clinical impressions. Layton (1984) also concluded that, despite the problems in shaping the family drawing into a valid research tool that could be objectively scored, the KFD could be utilized in clinical settings to generate clinical impressions. The higher reliability on the extreme cases--those who received a

rating of "4" or "0" on the Like-To-Live-In-Family variable--highlights the usefulness of this variable in generating clinical impressions.

Chapter Summary

Chapter IV has presented an analysis of data obtained from the Chinese children, grades 4-6, in Taiwan. Various demographic characteristics of the sample were first presented, next the psychometric information for the Semantic Differential Family Scale. Then the basic data from the study, including the normative data on the KFD were presented. Last, the results from the tests of the eight hypotheses were also presented. For hypotheses 1, 2, 3, 5, and 6 two canonical correlations were performed for each hypothesis using the two different scoring systems for the KFD variables. Of the eight hypotheses, five were rejected if Burns' scoring system was used for the KFD variables. If an alternative system was used, one more hypothesis was rejected.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents the summary and conclusions of the study, implications of the findings and recommendations for further research. The summary briefly describes the problem statement, review of literature, the purpose of the study, methodology, and findings. Based on the findings, the conclusions and recommendations are given.

Summary

Statement of the Problem

Valid psychological instruments for use with Chinese children in Taiwan are scarce. No published study using the Kinetic Family Drawing with a Chinese population was found. Therefore, no normative data have been reported for this population. Since Chinese culture has unique concepts regarding the self, family, and interpersonal relationships, it is not appropriate to use the KFD with a Chinese population without properly validating its use for this population.

Overview of Related Literature

Actual use of drawings as projective techniques began when Goodenough (1926) introduced the Draw-A-Man test as a measure of intelligence. Buck (1948) introduced the House-Tree-Person test in one of the first uses of human figure drawings as a psychological projective test. Shortly after, Hulse (1951, 1952) reported the use of family drawings with children. Burns and Kaufman's (1970) Kinetic Family Drawing was an extension of these human figure drawing techniques.

Burns and Kaufman (1970, 1972) modified Hulse's Family Drawing Test by requiring the child to draw his or her family doing something. Four dimensions of variables (characteristics, actions, symbols, and styles) were identified. Studies on the KFD have achieved high inter-rater reliabilities, but low test-retest reliability. In the validity studies, most of the KFD variables have been better discriminators between a normal group and a group with a clearly defined problem than between normal groups and vaguely defined emotionally disturbed groups. The concurrent validity of the KFD needs further exploration. However, studies have shown that it is feasible to develop an objective scoring system. The Kinetic Family Drawing has been used with different populations and has been investigated cross-culturally. This instrument has been introduced to Britain and Germany. One study done in Brazil demonstrated the validity of the KFD for a small

sample from that country. A study with a Filipino population and another one with a Japanese population demonstrated the feasibility of using the KFD with Eastern populations.

Purpose of the Study

The purpose of this study was, first, to validate the KFD as a measure of the self in the family context and of the perceived parent-child relationship among Chinese children in Taiwan and, second, to obtain descriptive data on KFDs of Chinese children in Taiwan as a step toward establishing norms for this population.

Methodology

A correlational research design was used to determine the validity of the KFD in Taiwan using the Semantic Differential Family Scale as a criterion measure.

Sampling

Four schools were randomly selected, one to represent each of the four different residential areas in Taiwan. The sample population was selected from grades 4, 5, and 6. Seventeen boys and 17 girls were randomly selected from each grade, for a total sample size of 408 students. The ratio of sexes in the sample maintained the same ratio as the population being studied.

Instrumentation

This study employed two instruments. The Kinetic Family Drawing was the instrument to be validated. The scoring system used to rate the KFD was mainly from Burn's most recent book (1982). He summarized the system used in Burns and Kaufman's second KFD book (1972) and the systems suggested by several other researchers (O'Brien & Patton, 1974; McPhee & Weger, 1976; Myers, 1978).

Four additional variables were rated using an alternative scoring system. Instead of measuring the actual size of self figures in millimeters, the relative size of self figures in the whole family constellation was considered. A rating of "0" was given to the self figure if the relative size of self compared to other family members was accurate, and a rating of "1" was given if otherwise. Three other variables regarding the types of barriers between the major figures were considered rather than the actual numbers of barriers. A rating of "0" was given if there was no significant barrier between two figures. A rating of "1" was given when two or fewer than two persons stood between two figures. A rating of "2" was given when more than two persons stood between two figures. A rating of "3" was given when there was a physical barrier between the figures which would hinder physical movement or contact. When a barrier took the form of objects which would inhibit visual contact, such as a wall, a rating of "4" was warranted.

The Semantic Differential Family Scale was the criterion against which the KFD was compared. The Semantic Differential Family Scale had four concept scales, "Father and Me," "Mother and Me," "Me," and "My Whole Family," which were constructed to measure the children's perceptions of self and the family relationship. The Semantic Differential technique was selected because it is similar to a projective technique. Since the Kinetic Family Drawing is a projective technique, any instrument used to validate this test should also be close to being projective in nature. The Semantic Differential technique was also selected for its well-recognized reliability, validity, and flexibility for measuring attitude change, self-concept, and family relationships in different cultures.

Analysis of Data

Eight hypotheses were generated from the first research question concerning the validity of the KFD for the Chinese population in Taiwan. The first seven hypotheses were tested by canonical correlation analyses. The eighth hypothesis was tested with a step-wise multiple-regression analysis. For the second research question, data were treated descriptively to obtain KFD norms for this population.

For hypotheses 1, 2, 3, 5, and 6, two canonical correlations were performed for each hypothesis using the

two different scoring systems for the KFD variables. The first analysis was done on the KFD variables using the scoring system recommended by Burns (1982). Four KFD variables--the relative size of self, the types of barriers between father and mother, the types of barriers between self and father, and the types of barriers between self and mother--were used in the second analysis to take the place of the corresponding variables in the first analysis.

Findings of the Study

This section presents a summary of the findings regarding the normative data and the results of the hypotheses testing.

Normative Data

The distribution of most of the KFD variables was extremely skewed and lacked variability for this sample. Hsu (1970) commented that Chinese education never emphasizes self-expression and individualism, and that Chinese children feel more restrained by the group. Therefore, they may be prone to the influence of the common pattern prevailing in society. That may be why there was such a small variation in the KFDs of these children.

All of the pathological signs in the KFDs for this sample were rated very low, probably because this sample was from a non-clinical population.

The KFDs of this sample did not vary much on the action variables. Almost half of the pictures (48.53%) depicted the father either reading a book or a newspaper, or watching television. Most of the mothers were either cleaning house or cooking (77.94%). The self was most often drawn either writing, studying or doing homework (40.20%). Communication, cooperation, and nurturance levels were very low for the major figures, except for the mothers, who showed a higher level of cooperation and nurturance. About two-thirds of the mothers were either helping other family members or cooking. The Masochism level, sadism level, narcissism level, and tension level were all very low. Zero was the mode for these variables.

Most of the subjects drew the major figures with arms about $1/4$ to $3/8$ the length of the body, moderate sized feet, complete body, eyes, and face, but no teeth. They also drew the major figures with friendly facial expressions. Only eight pictures were without a father, six without a mother, and four without both parents. Among these pictures, three were drawn by subjects who did not have a father, and five were drawn by subjects without a mother. Only ten children with parents omitted them from the KFD. The mother was the largest figure drawn and the self was the smallest. Approximately one-fourth (26.47%) of the subjects drew themselves either too big or too small in comparison with the rest of the family members.

The father was placed a little higher than the mother in the KFDs, and the self was placed lower than the mother. About half of the subjects drew their pictures with no barriers between the mother and the father, or between the self and the mother. The barriers and the distance between the self and the father were greater than between the mother and the father or between the self and the mother. The mother and the father were the closest. Most of the figures faced into the drawings.

The pictures drawn for this sample were predominantly free from KFD styles. The only style that was present to any extent was encapsulation (30.64%), mostly shown by drawing the self jumping rope. The next most frequent style was compartmentalization, which appeared in only 9% of the drawings.

Nearly half of the pictures in this study gave the general impression of a family in which one would probably like to live (43.14%). Instead of taking note of each variable separately, this variable examined the family dynamics as a whole.

In Chinese families, the father is usually the head figure. Great respect for him is required from the children. The father's role is to work outside and bring honor and financial income for the family. When a father comes home, it is his time for relaxation and enjoyment. The mother is the nurturing figure in the family, cooking and taking care of children at home. She is the heart of

the family. High academic achievement is demanded of children. Homework is usually so demanding that students have to work until late at night. The KFDs of the Chinese children in this sample were clearly influenced by their culture. Therefore, their drawings should be interpreted in light of the cultural background.

Results of Hypotheses Testing

Hypothesis 1

There is no significant correlation between the scores obtained from the KFD on the variables regarding the drawing of the self and scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

This hypothesis was rejected for both analyses. Subjects who scored higher on the SD concept of "Me" tended to draw the self with a more accurate relative size within the family constellation and with a friendlier facial expression. They also drew less significant barriers between self and father on the KFD.

Hypothesis 2

There is no significant correlation between the scores obtained from the KFD on the variables regarding the drawing of the father and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

This hypothesis was rejected for both analyses.

Subjects who scored higher on the SD concept of "Mother and Me" tended to draw the father with a friendlier facial expression and incomplete face, but with complete eyes. When the types of barriers were measured, rather than the actual number of barriers, the result was different. Subjects who scored higher on the SD concepts of "Father and Me," "Mother and Me," and "Me" tended to draw the father with a friendlier facial expression, an incomplete face, but complete eyes, and less significant barriers between the father and self.

Hypothesis 3

There is no significant correlation between the scores obtained from the KFD on the variables regarding the drawing of the mother and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

This hypothesis was rejected for both analyses. Subjects who scored higher on the SD concept of "Mother and Me" tended to draw the KFD mother with a friendlier facial expression, and place less significant barriers between self and mother. Also, the mother is drawn more distant from the father.

Hypothesis 4

There is no significant correlation between the scores obtained from the KFD on the variables regarding the actions of the figures in the drawing and the scores

obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

There was no significant correlation between the SD variables and the KFD variables relating to the actions of the figures. Thus, this hypothesis was retained. The small variation seen in the actions of the figures drawn accounts for the lack of correlation between the KFD and the SD variables.

Hypothesis 5

There is no significant correlation between the scores obtained from the KFD on the variables regarding the figure characteristics of the drawing and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

This hypothesis was rejected for both analyses. Subjects who scored higher on the SD concepts of "Mother and Me" and "Me" tended to draw the self with more accurate size in relation to the other family members. They drew all three major figures with friendlier facial expressions, and drew the father with complete eyes, but with an incomplete face.

Hypothesis 6

There is no significant correlation between the scores obtained from the KFD on the variables regarding

the position, distance, and barriers of the drawing and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

No significant correlation was found between the SD variables and the KFD variables relating to the position, distance, and barriers of the drawings when the Burns' (1982) system was used to rate the barriers. When the types of barriers were rated instead of the actual number of barriers, subjects who scored higher on the SD concepts of "Mother and Me," "Me," "My Whole Family," and "Father and Me" tended to place less significant barriers between father and self. They also drew the father and the mother farther apart on the KFD. Thus, this hypothesis was rejected for the second analysis only.

Hypothesis 7

There is no significant correlation between the scores obtained from the KFD on the variables regarding the style of the drawing and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

Only two of the eight style variables, ENCAPS and COMPART, were used to correlate with the SD variables because the rest of the styles appeared very few times in the KFDs. No significant correlation was found. This hypothesis was retained.

Hypothesis 8

There is no significant correlation between the score on the general impression of the family as indicated by the variable Like-To-Live-In-Family (LILIF) and the scores obtained from the Semantic Differential on the concepts of "Father and Me," "Mother and Me," "Me," and "My Whole Family."

This hypothesis was rejected. The multiple-regression analysis showed that all four SD variables correlated positively with the Like-To-Live-In-Family variable on the KFD. The SD variables of "My Whole Family" and "Me" were most highly correlated with the Like-To-Live-In-Family variable, followed by the concept of "Mother and Me," and then the concept of "Father and Me."

It appeared that the relative size of self, facial expression of self, and the types of barriers between self and father were the most valid variables to indicate a child's self-concept. It seemed that when the importance of the barriers was considered, the KFD father variables could better reflect a child's perception of his relationship with father and mother, and his self-concept.

For hypotheses 2 and 5, scores on the SD variables correlated negatively with the face completion of the father: that is, subjects who scored higher on the SD variables tended to draw the father with an incomplete face. This seems to be contradictory to Burns and Kaufman's hypothesis (1972). However, it may be due to

the fact that 37% of the drawings depicted the father reading a book or a newspaper, a typical activity for Chinese fathers. It is logical that the newspaper covered part of the face of the father. The scoring system for this variable seems to be questionable for this population.

For hypotheses 3 and 6, the KFD distance between the father and the mother correlated negatively with the SD variables. This seems to be contradictory to Burns and Kaufman's hypothesis. The child may not express the emotional distance between major figures in actual length on the paper. The distance may be expressed in a more subtle way. However, it may be explained from a cultural view-point. Since the father is such a remote figure in Chinese families, the mother drawn closer to the father may suggest the remoteness of the mother as well.

Even though hypothesis 7 was retained, due to the rare incidences of the KFD styles, it was hard to reach a conclusion about the validity of the style variables. However, since the sample of this study was from a presumably normal population, the rare incidences of styles was in agreement with Burns and Kaufman's (1972) hypothesis that styles are pathological signs.

The positive correlation between the SD variables and the Like-To-Live-In-Family variable suggested that when all variables were viewed together, the KFD could be utilized in clinical settings to generate clinical impressions.

Conclusions

From an analysis of the findings, the following conclusions were drawn:

1. The usefulness of the Kinetic Family Drawing for this Chinese population was demonstrated.

2. The Semantic Differential Family Scale appeared to be a valid and reliable instrument as a criterion with which to validate the Kinetic Family Drawing.

3. Chinese are distinctive in their family relationships, personal interaction, and children's education. It appears that Chinese children draw their Kinetic Family Drawings from this background.

4. The comparative lack of variation in the KFDs of this sample suggests that Chinese are distinctively group-oriented. They are prone to the influence of the pattern prevailing in society, since individuality is not stressed.

5. The KFD actions of the major figures simply reflected the usual life of the family for this population. Chinese children normally depicted the father as more remote than the mother, the mother as the nurturant person and the heart of the family, and themselves in activities in connection with academic work.

6. The KFDs of this non-clinical sample of Chinese children depicted the major figures with a relatively normal length of arms; a complete body, face,

and eye; friendly facial expression; moderate-sized feet; and without teeth. This is in agreement with Burns' (1982) hypotheses. However, only the facial expression and eye completion were proven to be relevant in measuring the perception of self and of the family relationships.

7. Chinese children normally drew the mother larger in size than the father, and the self the smallest.

8. Most of the subjects had an accurate perception of their self-concept, as reflected in the drawing of the self with accurate relative size within the family constellation.

9. These Chinese children placed the father figure in the highest part of the paper and the self the lowest. Since the major figures were usually drawn facing into the drawing, they did not look at each other.

10. These Chinese children drew the greatest barriers between father and self to indicate the actual remote distance between father and self.

11. The most valid KFD variables for measuring a child's self-concept appeared to be the facial expression of self, the relative size of self and the types of barriers between father and self.

12. In measuring a child's self-concept together with his perception of his relationship with the mother, the most valid KFD variables appeared to be the facial expression of the major figures (father, mother, and self), the relative size of self, and the face and eye

completion of the father. However, the face completion of the father variable correlates negatively with a child's self-concept and his perception of the relationship with the mother. This may be because 37% of the children drew the father reading a book or a newspaper, which, in many cases, covered the face of the father.

13. The most valid KFD variables for measuring a child's perception of his relationship with the mother appeared to be the facial expressions of the father and the mother, the eye completion of the father, and the distance between the father and the mother. However, the face completion of the father correlated negatively with the child's perception of his relationship with the mother. The scoring system for this variable seems to be questionable for this population. The distance between the mother and the father correlated positively with the child's perception of the relationship with the mother; that is, the more distant the mother was from the father, the better relationship the child perceived he had with his mother. Since the father is such a remote figure in Chinese families, the mother drawn closer to the father may suggest the remoteness of the mother as well.

14. When using the Burns' (1982) scoring system, most of the KFD variables which appeared to be valid for measuring the self-concept and the mother/child relationship did not seem to measure the father/child relationship. Only when the types of barriers, rather than the number of

barriers, were considered, did certain variables seem to measure the father/child relationship as well as the mother/child relationship and the self-concept.

15. The facial expression of the father, the types of barriers between father and self, and the eye completion of the father seemed to measure the mother/child relationship, father/child relationship, and the self-concept. The distance between the father and the mother and the types of barriers between father and self reflected the child's perception of his relationship with both parents and with the whole family. These variables also reflected his self-concept.

16. The Like-To-Live-In-Family variable was useful for providing a general impression about the family as a whole, the child's self-concept, the mother/child relationship, and the father/child relationship. It was especially useful for identifying the extreme cases. However, the subjectivity of this variable must be carefully considered when using it to generate clinical impressions.

17. The relative size of the self figure, rather than the actual size, seemed to be a better variable for measuring the child's self-concept and his perceived family relationships.

18. The types of barriers between the major figures, rather than the actual number of barriers, seemed to be a better variable for measuring the perceived interpersonal relationships within the family.

19. The KFD variables regarding the direction faced by the major figures and the orientation between the major figures; the position of the major figures; arm, teeth, and feet variables; number of siblings drawn; and the sex of the subject seemed to be irrelevant in measuring the perception of self and of the family relationships for Chinese children.

20. The actual distance between father and self, and mother and self in the KFD may be irrelevant in measuring the child's current feelings of closeness with his parents.

21. Most of the pathological indicators, such as KFD styles, masochism, sadism, narcissism, tension levels, and parent(s) missing in the drawing were rated very low in the drawings of this non-clinical population. Even though they did not correlate with the SD variables, the validity of their use for reflecting pathological tendency was not disconfirmed.

Implications

The findings of this study support the following implications:

1. The Kinetic Family Drawing technique is useful with Chinese school children, grades 4-6, in Taiwan, if the Chinese culture is considered when making interpretations.

2. Children from different cultures will draw

their families differently.

3. The Kinetic Family Drawing is useful for generating clinical impressions about a child's self-concept and his perception of family relationships.

4. When using the KFD to measure a child's self-concept and perceived family relationships, the relative size of the self figure should be used rather than the actual size.

5. The relative size of the father and the mother should be more meaningful than the actual size to represent the child's perceived importance of the parents.

6. The KFD position variables may not be relevant in measuring the child's self-concept and his perception of the parent/child relationships, but they may be useful for studying the perceived family structure.

7. When using the KFD to measure the perceived interpersonal relationships within the family, the types of barriers between the major figures should be used rather than the actual number of barriers.

8. The closeness that the child feels towards his parents may be expressed in a more subtle way than the actual distance between the parents and the self figure on the KFD.

9. Even though the Chinese child has more contact with the mother, a child's self-concept seems to depend, to a great extent, on the relationship with the father. The relationship may not be very close, but a peaceful

relationship with the father is important. Problems between the father and the child have a great influence on the child's well-being and his perception of his relationship with both parents.

10. The relationship between the child and the mother not only affects the child's self-concept, it also affects his perception of the father.

11. Since the father is such a remote figure in Chinese families, the mother drawn closer to the father may suggest the remoteness of the mother as well.

Recommendations

Based on the foregoing findings and conclusions of the study, recommendations are proposed in two major areas: for practice and for further research.

Practice

1. When applying the KFD technique with Chinese children, the interpretation should be done in the context of the cultural background.

2. The normative data of a culture are important in aiding the work of interpreting children's Kinetic Family Drawings in that culture. The interpretation of children's KFDs from a foreign culture or from a minority population in the United States should not be attempted without norming data for the population.

3. The normative data obtained from this study serve as a guideline for interpreting the KFDs of fourth

to sixth-grade Chinese children in Taiwan. Any deviation from the norms should be treated with caution.

4. The Kinetic Family Drawing technique should be used along with other measures, such as behavioral observation, historical records, and parental reports, in measuring children's self-concept and perception of family relationship. It should not be used alone for diagnostic purposes.

Research

1. Since this study used a sample of Chinese school children in grades 4-6 only, further study should be done in Taiwan using a wider range of ages and psychological adjustment levels.

2. This study should be replicated with populations from other cultures for better understanding of cross-cultural differences on the KFD.

3. Further studies should be done to investigate the influence of siblings and grandparents on children's KFDs.

4. A better scoring system should be explored to measure the face completion of the father for the Chinese population.

5. A better scoring system should be explored for measuring the distance between the major figures, especially the distance between father and self and

between mother and self, and the direction faced by the major figures in the Chinese KFDs.

6. More research is needed for identifying the valid variables in the KFD for different populations.

APPENDICES

APPENDIX A
KFD SCORING CRITERIA

Scoring Criteria for Activity Level

Activity	ACTSEL	ACTMOM	ACTDAD
Laying	0	0	0
Sitting	1	1	1
Standing	2	2	2
Reading	3	3	3
Riding	4	4	4
Doing	5	5	5
Running	6	6	6
Throwing	7	7	7
Hitting	8	8	8

Scoring Criteria for Arm Length

Arm length	ARMSEL	ARMOM	ARMDAD
Arms Missing	0	0	0
0 to 1/8 length of body	1	1	1
1/8 to 1/4 length of body	2	2	2
1/4 to 3/8 length of body	3	3	3
3/8 to 1/2 length of body	4	4	4
1/2 to 3/4 length of body	5	5	5
Greater than 3/4 length of body	6	6	6

Scoring Criteria for Body Completion

Body	BODSEL	BODMOM	BODDAD
Absent	0	0	0
Head only	1	1	1
Head and Neck	2	2	2
Head, Neck, Torsel	3	3	3
Head, Neck, Torsel, Leg	4	4	4
Complete	5	5	5

Scoring Criteria for Communication Level

Communication	COMSEL	COMMOM	COMDAD
Sleeping	0	0	0
Watching	1	1	1
Listening	2	2	2
Talking	3	3	3
Playing with (person)	4	4	4
Touching (person)	5	5	5
Holding (person)	6	6	6

Scoring Criteria for Cooperation

Cooperating	COOPSE	COOPMO	COOPDA
Working	1	1	1
Helping	2	2	2
Playing (together)	3	3	3
Working (together)	4	4	4

Scoring Criteria for Eye Completion

=====	=====	=====	=====
Eyes	EYSEL	EYEMOM	EYEDAD
Absent	0	0	0
Eyes but no pupil showing	1	1	1
Complete (eyes plus pupil)	2	2	2

Scoring Criteria for Face Completion

=====	=====	=====	=====
Face	FACSEL	FACMOM	FACDAD
Absent	0	0	0
Eyes only	1	1	1
Eyes and nose or mouth	2	2	2
Eyes, nose, and mouth	3	3	3

Scoring Criteria for Facial Expression

=====	=====	=====	=====
Expression	FACEXS	FACEXM	FACEXD
Very Friendly	1	1	1
Friendly	2	2	2
Neutral	3	3	3
Unfriendly	4	4	4
Very unfriendly	5	5	5

Scoring Criteria for Figure Ascendence

Ascendence	ASCSEL	ASCMOM	ASCDAD
Head in bottom 1/8	1	1	1
Head in bottom 1/4	2	2	2
Head in bottom 1/2	3	3	3
Head in top 1/2	4	4	4
Head in top 1/4	5	5	5
Head in top 1/8	6	6	6

Scoring Criteria for Figure Direction

Figure Direction	DIRSEL	DIRMOM	DIRDAD
Facing out of drawing	1	1	1
Facing away from major figures	2	2	2
Facing into drawing	3	3	3
Facing major figures	4	4	4

Scoring Criteria for Like-To-Live-in-Family (LILIF)

	Definitely Not	Probably Not	Neutral	Probably	Definitely
Like-To-Live-In-Family	0	1	2	3	4

Scoring Criteria for Masochism

Masochism	MASSEL	MASMOM	MASDAD
No Masochism	0	0	0
Smoking	1	1	1
Being hit	2	2	2
Being hurt	3	3	3
Being kicked	4	4	4
Being cut	5	5	5
Being burned	6	6	6
Being shot	7	7	7
Being killed	8	8	8

Scoring Criteria for Narcissism

Narcissism	NARSEL	NARMOM	NARDAD
No Narcissism	0	0	0
Dressing	1	1	1
Combing	2	2	2
Grooming	3	3	3
Drinking	4	4	4
Looking in a mirror	5	5	5

Scoring Criteria for Number of Barriers

	BARRSM	BARRSD	BARRMD
Number of Barriers Between			

Scoring Criteria for Number of Sibs Present

0
1
2
3
4
5
6
7
8 and above

Scoring Criteria for Nurturing

Nurturance	NURSEL	NURMOM	NURDAD
No Nurturing	0	0	0
Planting	1	1	1
Helping	2	2	2
Grooming	3	3	3
Cooking	4	4	4
Touching	5	5	5
Holding	6	6	6
Feeding	7	7	7

Orientation Between Figures

(Score 1 if figure is facing. Example: ORDM; score 1 if dad is facing mom. ORDS; score 1 if dad is facing self, etc.)

Figure Orientation
ORDM
ORDS
ORMD
ORMS
ORSM
ORSD

Scoring Criteria for
Parent Missing

Missing	PARMSM	PARMSD	PARMSB
Mother	1		
Father		1	
Both			1

Scoring Criteria for
Relative Size of Self

Relative Size of Self			
Not Accurate Size Within the Family Constellation			1
Accurate Size Within the Family Constellation			0

Scoring Criteria for
Sadism

Sadism	SADSEL	SADMOM	SADDAD
No Sadism	0	0	0
Hitting	1	1	1
Fighting	2	2	2
Hurting	3	3	3
Kicking	4	4	4
Biting	5	5	5
Burning	6	6	6
Shooting	7	7	7
Killing	8	8	8

Scoring Criteria for Size of Feet

Roots	FEESEL	FEEMOM	FEEDAD
Feet Missing	0	0	0
Feet on Wheels (i.e. car, bike skates)	1	1	1
Feet 1/4 or less length of leg	2	2	2
Feet over 1/4 to 1/2 length of leg	3	3	3
Feet 3/4 or more length of leg	4	4	4

Scoring Criteria for Size of Figures (millimeters)

Size	SIZSEL	SIZMOM	SIZDAD
------	--------	--------	--------

Scoring Criteria for Styles

Style	Absence of style	Mildly Suggestive	Moderately Suggestive	Strongly Suggestive	Meets all Criteria
Compart	0	1	2	3	4
Edging	0	1	2	3	4
Encaps	0	1	2	3	4
Folcom	0	1	2	3	4
Linbot	0	1	2	3	4
Lintop	0	1	2	3	4
Undlif	0	1	2	3	4
Birdiv	0	1	2	3	4

Scoring Criteria for
Teeth Present

Teeth	TEESEL	TEEMOM	TEEDAD
Absent	0	0	0
Present	1	1	1

Scoring Criteria for
Tension

Tension	TENSEL	TENMOM	TENDAD
No Tension	0	0	0
Slipping	1	1	1
Hanging	2	2	2
Falling	3	3	3

Scoring Criteria for
Types of Barrier

Types of Barrier	TBARRMD	TBARRSD	TBARRSM
Barrier Inhibiting Visual Contact	4	4	4
Barrier Hindering Physical Contact	3	3	3
More than Two Persons in between	2	2	2
Two or Less Persons in between	1	1	1
No Significant Barrier in between	0	0	0

APPENDIX B
SEMANTIC DIFFERENTIAL FAMILY SCALE

文字遊戲

在這文字遊戲中，您要決定某些字對您的意義。在這小本子每頁的上方有一個字或幾個字，跟着下面有很多組的形容詞，例如：好的／壞的。請在每組的形容詞之間的線上作記號表示上方那些字對您的意義。

按這辦法做：在每一線上做×記號來形容您對每頁上方那些字所聯想到的意義。在每頁第一組形容詞線上下面的字幫助您。

下列是一個例子：

	祖父	
公平	×	不公平
	_____ : _____ : _____ : _____	
	祖父非常公平	
公平	_____ : _____ × _____ : _____	不公平
	_____ : _____ : _____ : _____	
	祖父有點公平	
公平	_____ : _____ : _____ × _____ : _____	不公平
	_____ : _____ : _____ : _____	
	祖父不是公平 也沒有不公平	
公平	_____ : _____ : _____ : _____ × _____	不公平
	_____ : _____ : _____ : _____	
	祖父有點不公平	
公平	_____ : _____ : _____ : _____ × _____	不公平
	_____ : _____ : _____ : _____	
	祖父非常不公平	

記得在每條線上只作一個×記號。

請特別注意：

(1) 將×記號放在每一空間的中間，不要放在兩空間之間。

正確的	錯誤的	
_____ : _____ × _____	_____ × _____ : _____	

(2) 請做完每一頁，不要漏掉任何一行。

(3) 絕對不可在一條線上放超過一個×記號。

儘快做，但不要匆忙，您不須要用太多時間去想每一題，只須寫下您想到的頭一個想法。

爸爸與我

	非常		有點		兩者皆不是		有點		非常
快樂的 _____ :									不快樂的 _____
有益的 _____ :									有害的 _____
黑暗的 _____ :									光明的 _____
被動的 _____ :									主動的 _____
壞的 _____ :									好的 _____
暖的 _____ :									冷的 _____
仁慈的 _____ :									不仁慈的 _____
拒絕的 _____ :									接受的 _____
友善的 _____ :									不友善的 _____
重要的 _____ :									不重要的 _____
不鼓勵的 _____ :									鼓勵的 _____
酸的 _____ :									甜的 _____
易親近的 _____ :									不易親近的 _____
沒意思的 _____ :									有意思的 _____

媽媽與我

	非常		有點		兩者皆不是		有點		非常
快樂的 _____	:	_____	:	_____	:	_____	:	_____	不快樂的 _____
有益的 _____	:	_____	:	_____	:	_____	:	_____	有害的 _____
黑暗的 _____	:	_____	:	_____	:	_____	:	_____	光明的 _____
被動的 _____	:	_____	:	_____	:	_____	:	_____	主動的 _____
壞的 _____	:	_____	:	_____	:	_____	:	_____	好的 _____
暖的 _____	:	_____	:	_____	:	_____	:	_____	冷的 _____
仁慈的 _____	:	_____	:	_____	:	_____	:	_____	不仁慈的 _____
拒絕的 _____	:	_____	:	_____	:	_____	:	_____	接受的 _____
友善的 _____	:	_____	:	_____	:	_____	:	_____	不友善的 _____
重要的 _____	:	_____	:	_____	:	_____	:	_____	不重要的 _____
不鼓勵的 _____	:	_____	:	_____	:	_____	:	_____	鼓勵的 _____
酸的 _____	:	_____	:	_____	:	_____	:	_____	甜的 _____
易親近的 _____	:	_____	:	_____	:	_____	:	_____	不易親近的 _____
沒意思的 _____	:	_____	:	_____	:	_____	:	_____	有意思的 _____

我

非常 有點 兩者皆不是 有點 非常

快樂的 _____ : _____ : _____ : _____ : _____ 不快樂的
 有益的 _____ : _____ : _____ : _____ : _____ 有害的
 黑暗的 _____ : _____ : _____ : _____ : _____ 光明的
 被動的 _____ : _____ : _____ : _____ : _____ 主動的
 壞的 _____ : _____ : _____ : _____ : _____ 好的
 暖的 _____ : _____ : _____ : _____ : _____ 冷的
 仁慈的 _____ : _____ : _____ : _____ : _____ 不仁慈的
 拒絕的 _____ : _____ : _____ : _____ : _____ 接受的
 友善的 _____ : _____ : _____ : _____ : _____ 不友善的
 重要的 _____ : _____ : _____ : _____ : _____ 不重要的
 不鼓勵的 _____ : _____ : _____ : _____ : _____ 鼓勵的
 酸的 _____ : _____ : _____ : _____ : _____ 甜的
 易親近的 _____ : _____ : _____ : _____ : _____ 不易親近的
 沒意思的 _____ : _____ : _____ : _____ : _____ 有意思的

我們全家

非常 有點 兩者皆不是 有點 非常

快樂的 _____ : _____ : _____ : _____ : _____ 不快樂的

有益的 _____ : _____ : _____ : _____ : _____ 有害的

黑暗的 _____ : _____ : _____ : _____ : _____ 光明的

被動的 _____ : _____ : _____ : _____ : _____ 主動的

壞的 _____ : _____ : _____ : _____ : _____ 好的

暖的 _____ : _____ : _____ : _____ : _____ 冷的

仁慈的 _____ : _____ : _____ : _____ : _____ 不仁慈的

拒絕的 _____ : _____ : _____ : _____ : _____ 接受的

友善的 _____ : _____ : _____ : _____ : _____ 不友善的

重要的 _____ : _____ : _____ : _____ : _____ 不重要的

不鼓勵的 _____ : _____ : _____ : _____ : _____ 鼓勵的

酸的 _____ : _____ : _____ : _____ : _____ 甜的

易親近的 _____ : _____ : _____ : _____ : _____ 不易親近的

沒意思的 _____ : _____ : _____ : _____ : _____ 有意思的

WORD GAME

In this word game, you will rate some words according to what the words mean to you. On the top of each page in this booklet is a word or a phrase for you to rate. On the rest of the page, you will find some pairs of adjectives like good/bad. Check the space between the adjectives that best tell what the words you are rating mean to you.

Do it this way: Put an X in the space that describes what the words on the top of the page mean to you. The words under each space will help you decide how to rate the word at the top of the page.

Here are some examples:

Teacher

fair X : _____ : _____ : _____ : _____ unfair
 very fair

fair _____ : X : _____ : _____ : _____ unfair
 somewhat fair

fair _____ : _____ : X : _____ : _____ unfair
 neither fair
 nor unfair

fair _____ : _____ : _____ : X : _____ unfair
 somewhat unfair

fair _____ : _____ : _____ : _____ : X unfair
 very unfair

Remember to put just one X on each line.

IMPORTANT:

- (1) Place your check-marks in the middle of spaces, not on the edges:

This not this
_____ : X : _____ : _____ : _____

- (2) Be sure you finish every page, don't skip any line.
- (3) Never put more than one check-mark on a line.

Do it as fast as you can without hurrying. It is not important to think a long time about each one. The first meaning that you think of is the one to put down.

FATHER AND ME

	Very	_____	_____	_____	_____	_____	very	
happy	_____	:	_____	:	_____	:	_____	unhappy
helpful	_____	:	_____	:	_____	:	_____	harmful
dark	_____	:	_____	:	_____	:	_____	light
passive	_____	:	_____	:	_____	:	_____	active
bad	_____	:	_____	:	_____	:	_____	good
warm	_____	:	_____	:	_____	:	_____	cold
kind	_____	:	_____	:	_____	:	_____	unkind
rejecting	_____	:	_____	:	_____	:	_____	accepting
friendly	_____	:	_____	:	_____	:	_____	unfriendly
important	_____	:	_____	:	_____	:	_____	unimportant
discouraging	_____	:	_____	:	_____	:	_____	encouraging
sour	_____	:	_____	:	_____	:	_____	sweet
sociable	_____	:	_____	:	_____	:	_____	unsociable
meaningful	_____	:	_____	:	_____	:	_____	meaningless

MOTHER AND ME

	Very	_____	somewhat	_____	neither	_____	somewhat	_____	very	
happy	_____	:	_____	:	_____	:	_____	:	_____	unhappy
helpful	_____	:	_____	:	_____	:	_____	:	_____	harmful
dark	_____	:	_____	:	_____	:	_____	:	_____	light
passive	_____	:	_____	:	_____	:	_____	:	_____	active
bad	_____	:	_____	:	_____	:	_____	:	_____	good
warm	_____	:	_____	:	_____	:	_____	:	_____	cold
kind	_____	:	_____	:	_____	:	_____	:	_____	unkind
rejecting	_____	:	_____	:	_____	:	_____	:	_____	accepting
friendly	_____	:	_____	:	_____	:	_____	:	_____	unfriendly
important	_____	:	_____	:	_____	:	_____	:	_____	unimportant
discouraging	_____	:	_____	:	_____	:	_____	:	_____	encouraging
sour	_____	:	_____	:	_____	:	_____	:	_____	sweet
sociable	_____	:	_____	:	_____	:	_____	:	_____	unsociable
meaningful	_____	:	_____	:	_____	:	_____	:	_____	meaningless

ME

	Very	_____	somewhat	_____	neither	_____	somewhat	_____	very	
happy	_____	:	_____	:	_____	:	_____	:	_____	unhappy
helpful	_____	:	_____	:	_____	:	_____	:	_____	harmful
dark	_____	:	_____	:	_____	:	_____	:	_____	light
passive	_____	:	_____	:	_____	:	_____	:	_____	active
bad	_____	:	_____	:	_____	:	_____	:	_____	good
warm	_____	:	_____	:	_____	:	_____	:	_____	cold
kind	_____	:	_____	:	_____	:	_____	:	_____	unkind
rejecting	_____	:	_____	:	_____	:	_____	:	_____	accepting
friendly	_____	:	_____	:	_____	:	_____	:	_____	unfriendly
important	_____	:	_____	:	_____	:	_____	:	_____	unimportant
discouraging	_____	:	_____	:	_____	:	_____	:	_____	encouraging
sour	_____	:	_____	:	_____	:	_____	:	_____	sweet
sociable	_____	:	_____	:	_____	:	_____	:	_____	unsociable
meaningful	_____	:	_____	:	_____	:	_____	:	_____	meaningless

MY WHOLE FAMILY

	Very	somewhat	neither	somewhat	very	
happy	_____	_____	_____	_____	_____	unhappy
helpful	_____	_____	_____	_____	_____	harmful
dark	_____	_____	_____	_____	_____	light
passive	_____	_____	_____	_____	_____	active
bad	_____	_____	_____	_____	_____	good
warm	_____	_____	_____	_____	_____	cold
kind	_____	_____	_____	_____	_____	unkind
rejecting	_____	_____	_____	_____	_____	accepting
friendly	_____	_____	_____	_____	_____	unfriendly
important	_____	_____	_____	_____	_____	unimportant
discouraging	_____	_____	_____	_____	_____	encouraging
sour	_____	_____	_____	_____	_____	sweet
sociable	_____	_____	_____	_____	_____	unsociable
meaningful	_____	_____	_____	_____	_____	meaningless

APPENDIX C
POINT-MULTISERIAL CORRELATIONS FOR
THE SEMANTIC DIFFERENTIAL
FAMILY SCALE

TABLE 24

POINT-MULTISERIAL CORRELATIONS OF THE
SEMANTIC DIFFERENTIAL FAMILY SCALE
PILOT STUDY

Item\Concept	Father and Me	Mother and Me	Father	Mother	My Whole Me Family	
Happy\Unhappy	.6291	.5124	.3535	.5061	.4052	.5788
Terrible\Wonderful	.7619	.7337	.7356	.7039	.8086	.8284
Clean\Dirty	.7135	.6900	.8144	.7495	.7602	.8092
Helpful\Harmful	.7355	.6523	.7949	.6967	.7340	.7974
Dark\Light	.8065	.7196	.7164	.6965	.7623	.7665
Smooth\Rough	.6404	.7555	.6681	.6396	.6565	.7281
Slow\Fast	.1961	.2532	.3033	.2005	.0776	.4733
Passive\Active	.7572	.7711	.7665	.7545	.6489	.7214
Little\Big	.7112	.6287	.7372	.5080	.2958	.8192
Good\Bad	.7997	.8293	.8405	.8939	.7630	.8696
Warm\Cold	.7345	.8122	.7918	.8003	.7342	.7568
Weak\Strong	.6763	.6719	.7621	.3449	.2531	.6611
Kind\Unkind	.7909	.7696	.8259	.7846	.7906	.8616
Rejecting\Accepting	.7839	.8081	.7834	.8038	.7626	.7914
Friendly\Unfriendly	.7453	.7906	.8149	.7705	.7817	.7204
Important\Unimportant	.7461	.8279	.7329	.8758	.7122	.8590
Discouraging\Encouraging	.7916	.8173	.8203	.7812	.7983	.9019
Tense\Relax	.2657	.2571	.3865	.2865	.3333	.3021
Boring\Interesting	.6547	.5371	.5132	.4942	.4831	.6112
Sweet\Sour	.8092	.7660	.5719	.7808	.6929	.7100
Ugly\Beautiful	.6937	.8370	.8443	.8776	.8470	.7997
Sociable\Unsociable	.6928	.7975	.6860	.7789	.8259	.8300
Meaningful\Meaningless	.7807	.7529	.6985	.8092	.8555	.8307
Full\Empty	.7419	.7507	.7851	.8728	.8055	.6647
Heavy\Light	.5443	.5107	.4985	.5319	.5489	.6277

TABLE 25

POINT-MULTISERIAL CORRELATIONS OF THE
SEMANTIC DIFFERENTIAL FAMILY SCALE
MAIN STUDY

Item\Concept	Father and Me	Mother and Me	Me	My Whole Family
Happy\Unhappy	.5889	.6028	.4973	.5636
Helpful\Harmful	.4877	.5762	.5906	.5932
Dark\Light	.5953	.6886	.6556	.6791
Passive\Active	.5814	.5687	.6021	.5988
Bad\Good	.6686	.6978	.7085	.7556
Warm\Cold	.6242	.5858	.6590	.6183
Kind\Unkind	.6565	.6592	.6465	.6758
Rejecting\Accepting	.6432	.6738	.6815	.6639
Friendly\Unfriendly	.5943	.6167	.5484	.6450
Important\Unimportant	.5545	.6204	.5944	.6088
Discouraging\Encouraging	.6188	.6640	.6573	.7093
Sour\Sweet	.6679	.7310	.6594	.6801
Sociable\Unsociable	.6010	.6231	.5881	.6747
Meaningful\Meaningless	.6584	.7262	.6126	.7483

APPENDIX D
PERCENTILE RANK OF KFD VARIABLES

TABLE 26

PERCENTILE RANK OF KFD VARIABLES I

Variable	Raw Score								
	0	1	2	3	4	5	6	7	8
ACTDAD	1.47	33.43	6.13	32.60	57.84	73.53	89.09	91.42	96.45
ACTMOM	1.23	2.70	4.78	11.52		55.39	95.34	97.06	98.90
ACTSEL	.74	1.59	3.06	11.89	39.46	66.54	77.33	90.56	
COMDAD	1.47	45.96	89.46	91.67	95.59	99.75			
COMMOM	1.23	45.22	88.85	90.56	94.98	99.14	99.80		
COMSEL	.86	44.61	87.75	88.73	94.61	99.88			
COOPDA	36.76	79.66	88.73	95.34	99.51				
COOPMO *	13.11	27.70	60.78	95.22	99.02				
COOPSE	37.25	78.80	86.76	94.49	99.26				
MASDAD	47.79	96.94	98.53	99.14	99.63	99.88			
MASMOM	49.39				99.16		99.88		
MASSEL	47.43	95.34	97.43	99.39	99.88				
NARDAD	49.63			99.39	99.63	99.88			
NARMOM	49.02	98.16	98.41	99.26					
NARSEL	49.88			99.88					
NURDAD	43.87	88.48	93.87	98.65	99.39				
NURMOM *	15.69	31.62	48.16	66.67	83.95	99.39	99.88		
NURSEL	44.24		93.26	98.41	99.14		99.75		
SADDAD	44.73	94.36		99.51	99.88				
SADMOM	47.55	96.94			99.26				99.88
SADSEL	37.99	86.64	97.79	98.41	98.90		99.39	99.63	99.88
TENDAD	47.55	96.69	99.02	99.88					
TENMOM	47.67	96.45	98.77						
TENSEL	46.45	95.10	98.53	99.88					
ARMADAD *	2.70	9.80	20.83	52.82	88.11	98.90	99.88		
ARMOM *	2.21	4.66	11.40	46.69	86.03	98.16	99.88		
ARMSEL *	1.84	4.53	10.78	45.47	86.52	99.14			
BODDAD	.61	1.59	2.57	6.00	14.09	59.68			
BODMOM	.74	1.84	2.70	8.58	19.49	62.50			
BODSEL	.12	.49	1.59	7.11	16.79	60.91			
EYEDAD **	6.25	23.90	67.65						
EYEMON	6.00	24.75	68.75						
EYESEL	4.04	21.69	67.65						
FACDAD **	5.88	12.99	22.79	65.69					
FACMOM	5.76	12.25	22.55	66.05					
FACSEL	3.68	7.97	17.40	63.11					
FACEXD **		12.75	44.00	79.41	98.16				
FACEXM **		16.30	50.86	81.50	96.57	99.63			
FACEXS **		15.20	47.06	77.94	95.47	99.39			
FEEDAD *	7.71	15.56	40.69	82.72	99.88				
FEEMOM *	10.42		45.22	84.80					
FEESSEL *	8.82	17.77	40.32	81.13	99.75				
NOSIB	1.10	15.32	48.16	80.39	96.08	99.63			

TABLE 26—Continued

Variable	Raw Score								
	0	1	2	3	4	5	6	7	8
PARMSM	49.01	99.02							
PARMSD	49.26	99.26							
PARMSB	99.02	99.51							
SX		25.00	75.00						
TEEDAD	49.63	99.63							
TEEMOM	49.51	99.51							
TEESEL	49.26	99.26							
ASCDAD *	.49	1.47	6.37	19.12	38.48	66.91	92.16		
ASCMOM *	.61	2.08	7.23	21.45	41.30	68.01	92.40		
ASCSEL *		.61	7.23	27.21	51.84	77.82	96.57		
BARRMD *	25.98	65.93	86.76	95.59	98.77				
BARRSD *	14.71	46.32	74.26	90.56	97.30	99.26	99.88		
BARRSM *	20.22	55.27	77.57	91.05	98.16	99.51	99.88		
DIRDAD	.74	6.37	19.61	53.92	89.95				
DIRMOM	.74	6.13	19.49	55.27	91.18				
DIRSEL		3.80	17.89	57.11	93.01				
ORDM	40.44	90.32	99.88						
ORDS	42.40	92.40							
ORMD	43.14	93.01	99.88						
ORMS	42.40	92.28	99.88						
ORSM	42.77	92.65	99.88						
ORSD	44.12	94.00	99.88						
COMPART	45.47	91.42	93.01	94.61	97.55				
EDGING	49.75	99.75							
ENCAPS	34.68	78.80	89.95	92.65	96.81				
POLCOM	49.75		99.63		99.88				
LINBOT	49.75		99.63		99.88				
LINTOP	49.63	99.39	99.63		99.88				
UNDLIF	49.88		99.88						
BIRDIV	49.88		99.88						
LILIF	1.96	12.50	33.70	67.89	94.73				
RSIZSEL**	36.76	86.76							
TBARRMD*	25.61	57.48	68.50	78.43	91.79				
TBARRSD**	15.20	42.03	62.01	75.00	89.83				
TBARRSM**	21.08	51.10	67.77	81.25	93.50				

* Variables with meaningful percentile rank, but not significantly correlated with the SD variables

** Variables with meaningful percentile rank and significantly correlated with the SD variables

TABLE 27

PERCENTILE RANK OF KFD VARIABLES II

Variable	Raw Score															
	30	40	50	60	70	80	90	100	110	130	150	170	190	210	240	280
SIZDAD *	6.25	9.68	15.93	25.49	37.01	48.65	61.15	72.79	81.28	94.00	98.29	99.00				
SIZMQM "	4.04	8.46	15.07	21.81	30.64	41.79	55.15	65.81	75.37	89.46	95.47	89.77	99.63			
SIZSEL *	3.68	8.21	18.63	31.62	41.91	57.97	70.59	81.25	87.75	95.71	99.14					
DISTMD **	3.06	5.76	11.15	20.71	28.80	37.75	45.71	53.43	61.15	72.92	80.51	86.89	90.69	95.22	98.28	99.88
DISTSD *	1.35	3.43	6.50	9.44	13.73	19.24	25.37	33.21	40.81	56.74	69.36	78.55	86.27	90.93	98.77	
DISTSM *	1.35	2.81	6.00	10.62	16.54	23.28	31.74	40.81	46.45	61.40	69.85	77.57	85.42	91.67	95.34	

* Variables with meaningful percentile rank, but not significantly correlated with the SD variables

** Variables with meaningful percentile rank and significantly correlated with the SD variables

APPENDIX E
DEMOGRAPHIC QUESTIONNAIRE

家庭資料

第一部份：請將正確答案填寫在每題後面的線上。

(1)你實足年齡幾歲？_____

(2)你有幾位兄弟？_____

(3)你有幾位姊妹？_____

(4)你家中共有幾人？_____

第二部份：請在對的答案前面的線上做(√)記號。

(1)你的性別：

_____ (1)男

_____ (2)女

(2)有誰住在您家中？

_____ (1)爸爸

_____ (2)媽媽

_____ (3)兄弟

_____ (4)姊妹

_____ (5)祖父

_____ (6)祖母

_____ (7)其他(請註明是誰?) _____

(3)你爸爸的工作是什麼？

_____ (1)教員

_____ (2)農人

_____ (3)工人

_____ (4)辦公室文員

_____ (5)政府公務人員

_____ (6)商人

_____ (7)醫護人員

_____ (8)傳教士

_____ (9)其他(請註明) _____

(4)你媽媽的工作是什麼？

_____ (1)教員

_____ (2)農人

_____ (3)工人

_____ (4)辦公室文員

_____ (5)政府公務人員

_____ (6)商人

_____ (7)醫護人員

_____ (8)家庭主婦

_____ (9)其他(請註明) _____

FAMILY INFORMATION

SECTION A: Write the correct answer on the blank for each item.

1. What is your actual age? ____
2. How many brothers do you have? ____
3. How many sisters do you have? ____
4. How many members of your family live in your house? ____

SECTION B: Place a check mark [] in the blank before the correct response for each item.

1. Your sex:

____ (1) Boy ____ (2) Girl

2. Who lives in your house?

____ (1) Father
 ____ (2) Mother
 ____ (3) Brothers
 ____ (4) Sisters
 ____ (5) Grandfather
 ____ (6) Grandmother
 ____ (7) Other (Please state who) _____

3. What does your father do?

____ (1) Teacher
 ____ (2) Farmer
 ____ (3) Manual Worker
 ____ (4) Office Worker
 ____ (5) Government Worker
 ____ (6) Businessman
 ____ (7) Medical Worker
 ____ (8) Minister
 ____ (9) Other (Please state what) _____

4. What does your mother do?

____ (1) Teacher
 ____ (2) Farmer
 ____ (3) Manual Worker
 ____ (4) Office Worker
 ____ (5) Government Worker
 ____ (6) Businesswoman
 ____ (7) Medical Worker
 ____ (8) Housewife
 ____ (9) Other (Please state what) _____

APPENDIX F
CORRESPONDENCE

April 9, 1986

To Whom It May Concern:

Mei Mei Cho, on leave from her educational position in Taiwan, is completing her doctoral studies at Andrews University. She has proposed a dissertation research topic which could make a significant contribution toward understanding children and families in Taiwan: The validation of the Kinetic Family Drawing in Taiwan. The research design has been approved by her doctoral committee, of which I am chairperson. Mrs. Cho is an outstanding student, highly competent in research skills as well as classroom teaching.

In order to complete this research study, Mrs. Cho needs to work with fourth to sixth grade children in selected elementary schools in Taiwan. We would be most appreciative if you could help her make the appropriate contacts to facilitate this study.

Thank you for your kindness.

Sincerely yours,

Donna J. Habenicht, Ed.D.
Associate Professor of
Educational and Counseling Psychology

DJH/ms

Andrews University Berrien Springs, Michigan 49104 U.S.A. (616) 471-7771

受文者：

台北市教育局
台南市政府教育局
台南縣政府教育局
花蓮縣政府教育局

日期：

中華民國七十五年四月五日

附件：

教授書函及問卷調查表

敬啟者：

本人乃美國安德烈大學 (ANDREWS UNIVERSITY) 之研究生，兩年來從台灣來美深造，目前正準備收集博士論文之資料。本人之論文題目為：「動態家庭圖畫測量台灣兒童之家庭觀念，目的在尋求兒童之動態家庭觀念與父母親之關係。」

本論文研究對象乃台灣省國民小學四至六年級之學童。經抽樣結果，研究對象為台南縣、台南市、高雄縣、高雄市的國民小學。凡參與之學童須填寫一份「動態家庭圖畫」及一份「家庭圖畫」，並附上說明書。所需時間約一小時。研究之用途為學術研究，絕不公開。本人計劃將於五月下旬返台並前往各校收集資料，煩請核推便本人之研究工作得以進行，將感不盡。

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主 旨：現就甘肅靈武州安場鄉大學堂學生車生榮華女士所收學博士論文資料，編又類自爲一物，呈
送 呈 報 備 案 以 便 查 閱 此 致 貴 局 查 照 此 致 貴 局 查 照 此 致 貴 局 查 照

說：

- 二、車生女士於五月下旬返台則往牛寮收集胡德首骨。

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