

A Study on the Kinetic Family Drawings by Children with Different Family Structures

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Abstract

Family is the source of the most important interpersonal relationships in the process of personal growth. Family life, therefore, is highly influential in the development of a child's interpersonal relationships, life skills, and emotions. Through drawings, we are able to understand the interaction between a child and his/her family members, or his/her perceptions of the family. For a child, drawing serves as a bridge between the inner self and the outside world. It also reflects cognitive performance with respect to a child's living environment. The subjects of this experiment-based study are three groups of students in the junior grades (Grade 1 and Grade 2) of elementary school, with different family structures including traditional families, single-parent families, and new immigrant families. In total, there are 90 children in the three groups, with 30 children in each group. We engage in an exploration of the Kinetic Family Drawings of these three groups of children, focusing on their different family structures. In terms of the variable of "Action of and Between Figures," the group from new immigrant families exhibits a higher level of significance than the other two groups in the category of "father is outside of the room;" and the group from single-parent families has the highest level of significance among the three in the category of "other people outside of the house." With respect to the variable of "Distance between Figures, Barriers," no difference has been

identified among the drawings of the three groups of children. There is also no difference with the variable of “Styles.” Concerning the variable of “Figure Characteristics,” the group from single-parent families displays a higher level of significance than the other two groups with both “omitting the father” and “omitting the mother figure.” With the variable of “Symbols,” the group from new immigrant families has the highest significance level among the three in using symbols such as “Far Away the Sun” or “TV.” This phenomenon is highly correlated to the “father figure is in the room” and “father figure watches the TV” categories under the variable of “Action of and Between Figures.” To improve the objectivity, reliability and validity of future studies, the researcher should increase the number and diversity of the research subjects, and the researcher hopes that research results can be offered to schools or counseling organizations as helpful reference materials for relevant family therapy intervention programs.

Key Words: Traditional Families, Single-Parent Families, New Immigrant Families, Kinetic Family Drawing

Introduction

The twenty-first century is an era of increasingly rapid change. Traditional family structures have broken down, and the extended family of the past has evolved into nuclear families and small families. These social changes have been accompanied by changes in ethics and attitudes, while the change in the family structure has seen an increase in the number of two-income households, a rising divorce rate, an increase in the number of children born to unmarried mothers, and a growing number of single-parent families; there has also been a steady increase in the number of “new immigrant” families (families where one partner, usually the wife, is non-Taiwanese, typically from China or Vietnam).

The family is the most ancient and fundamental form of human social organization, and represents the basic constituent unit of the social structure. During the period between an individual's birth and their coming of age as a mature adult, the formation of his or her character and their socialization is constantly being influenced by their family life. The experience of early family life has a major impact on children's physical and emotional development, on their development of interpersonal relations skills, and on the development of their personality. With the rapid pace of social change and the transformation that has taken place in the family structure, the family is facing unprecedented challenges in terms of its functionality. The large, extended families of the agricultural society of the past have been transformed into small families, due to the impact of the rapid evolution of agricultural society into a new, industrial/commercial society. Within the family, the roles played by the parents, and their attitude towards the upbringing of their children, are closely linked to the overall family environment and to the physical and emotional growth of the family members. At the same time, the organizational structure of the family environment, and the atmosphere within which its members interact with one another, has a direct impact on children's personality and on their ability to adapt to changing life circumstances as they grow older.

There has for some years now been a significant amount of research done in Taiwan with respect to psychological analysis of children's drawings

and the use of art in psychological therapy. Many art educators, other educators and psychologists have sought to leverage children's highly imaginative creative work to explore children's feelings and emotions, their concept of the self, and their everyday interpersonal interactions and relationships. However, relatively little research has been carried out in Taiwan regarding the relationship between children's drawings and the psychological aspect. A further point is that children's drawings is often viewed as merely a form of extra-curricular activity or as the acquisition of a "skill."

Drawings can be used to learn more about children's interaction with family members and their attitudes to their family. For a child, drawing constitutes a bridge connecting the child's inner world with the outside world; it represents a psychological language of self-expression. Using this conceptual framework, children are able to transform the mental pictures that exist within their consciousness into a format that can be seen, known, and spoken about (Fan, 1996).

In recent years, many researchers adopt the theory of Kinetic Family Drawing (Burns & Kaufman, 1972) who prefer to the quantitative study and case study, but few researcher focus on the study on the representation of K-F-D by children with different family structures. Therefore, this study applies the principles of K-F-D to investigate children with different family structures. The goals of this study are: First, to understand the representation of K-F-D by children with different family structures, the differences and similar of "Action of and Between Figures," "Distance between Figures, Barriers," "Style" "Figure Characteristics," and "Symbols" in the K-F-D. Second, this is a pilot study further research on the K-F-D by a larger sample of children with different family structures. Third, Through the K-F-D to realize the child's family interpersonal relationships, provides an meaningful information for school counseling.

Review of the Literature

Changing Family Structure

For many years, the most common family type in Taiwan was the nuclear family comprising parents and their unmarried children. Recently, however, the rapid pace of social change has brought about a transformation of the family structure. This in turn has led to changes in family functions, in the roles played by family members, and in the way family members interact with one another. The *Tables Showing Changes in Family Structure in Taiwan R.O.C.* compiled by Taiwan's Directorate General of Budget, Accounting and Statistics (DGBAS), Executive Yuan, show that the share of all households held by nuclear families declined steadily from 59.1% in 1988 to 46.7% in 2004. The share held by the next most common family type – the extended family with three generations living under one roof – fell from 16.7% to 15.2% over the same period, while the shares held by small households consisting of parents with no children or single people living alone rose rapidly to 14.2% and 9.9%; the shares held by single-parent households and households where grandparents are living with their grandchildren (with the parents either dead or absent) also rose, to 7.7% and 1.2% respectively. As a result of the increase in the shares of all households held by single-person households, households containing parents with no children, single-parent households and households where grandparents are living with their grandchildren, the average household size in Taiwan fell from 4.1 persons in 1988 to 3.2 persons in 2004.

The last few years have seen a steady increase in single-parent households as a percentage of all households in Taiwan. According to statistics compiled by DGBAS, the number of single-parent households in Taiwan rose from 347,295 households in 2000 to 562,306 households in 2010. from 548,302 households in 2005 to 702,348 households in 2007. We can therefore assume that there has been a commensurate increase in the number of children and adolescents living in single-parent families. Another major characteristic of society today is the high prevalence of divorce. From a child's point of view, the breakup of the parents' marriage is a source of hurt and a very painful experience; this unpleasant experience can cause the child to feel insecure and unwanted, and can affect the development of the child's personality and its ability to cope with life in the future.

In the early 1980s, Filipino “mail-order brides” were already starting to appear in some rural communities in Taiwan that had experienced severe out-migration (making it difficult for local men to find Taiwanese wives). However, it was not until the 1990s that the government began to compile formal statistics regarding the number of Southeast Asian women marrying Taiwanese men. According to the marriage registration data presented in the 2006 edition of the Ministry of the Interior *Statistical Yearbook*, the shares of all marriages where one partner was from mainland China or another country had been rising steadily until 2003, by which point such marriages accounted for 31.86% of all new marriages. As of January 31, 2005, the share of all new marriages held by marriages to persons from mainland China or another country had fallen off dramatically, to 16.77%. However, this statistic hides the fact that there are still serious social problems relating to the home life and upbringing, schooling and social adaptation of the children born into these “new immigrant” families.

With the trend towards a wider variety of family types, the dramatic increase in the number of new immigrant children over the past two decades has helped to mitigate the aging of the population in Taiwan caused by the trend towards smaller families. At the same time, however, the emergence of this large number of new immigrant children has created serious educational problems, and raises concerns about the future quality of Taiwan’s labor force (Weng and Hung, 2004). When new immigrant brides arrive in Taiwan, they are faced with problems relating to the language barrier and culture shock. Then, once they have children, there are a whole slew of new challenges with respect to lifestyle, attitude towards childrearing, and learning methods. There are long-standing problems relating to the home life, school life and adjustment to school of children from new immigrant families, as well as their ability to develop interpersonal relations skills and their social adaptation. New immigrant families have to cope with the preconceptions and prejudices that society holds about them, while at the same time often experiencing low incomes and long working hours. While there has been a considerable amount of research done on issues relating to Taiwan’s new immigrants, there are very few examples in the literature of studies that use the drawings created by children in new immigrant families, single-parent

families and traditional families to examine children's attitudes towards the family and the forms taken by interaction between family members. Given the way that the education a child receives in the home and the education it receives at school influence one another, and the fact that, for children, drawing is a kind of language, examination of children's drawings constitutes a very "natural" way of studying children's perception of the interaction between family members and their own concept of self within the family.

Study of a child drawing and psychology

A large number of art educators, other educators and psychologists have sought to leverage children's imaginative creative work to explore children's feelings and emotions, their concept of the self, and their everyday interpersonal interactions and relationships (Lu, 2000 and 2005; Fan, 1996, 2001 and 2004). The earliest in-depth study of the psychological significance of children's drawings was undertaken by Corrado Ricci (1887). In the twentieth century, the study of children's drawings was influenced by the Freudian school of psychoanalysis. For example, Freud (1938) used the concept of mental image to explore the subconscious meaning of patients' dreams. Subsequently, Jung (1964, 1965) used the mandala concept to encourage patients to use drawing as a way of expressing their inner feelings. Both Freud and Jung stress on the theory of symbolization of unconsciousness; their views exerted a powerful influence on many art educators and psychologists with an interest in child psychological development, child psychoanalysis and children's drawing; they began to explore the relationship between children's drawing and individual psychology, which in turn led to the use of children's drawings of people as a tool for psychoanalysis and psychological testing.

Following the rise of experimental psychology towards the end of the 19th century, in the early years of the twentieth century some psychologists, art educators and other educators in Europe and North America began to explore the relationship between children's psychological development, child psychoanalysis and children's drawings, as a result of which children's drawings gradually came to be used as a tool for projective testing. Examples of this trend include Burns and Kaufman's (1972) research of

Kinetic-Family Drawing (K-F-D), Burns (1987) Kinetic House-Tree-Person, Knoff and Prout (1985) study of Kinetic School Drawings, Buck (1948) House-Tree-Person-Test, and Naglieri, McNeish and Bards (1991) Draw-A-Person Test.

DiLeo (1973) has discussed children's art with emphasis on development and deviant characteristics and the use of drawings as an aid in diagnostic tool. In addition, Koppitz (1968) has focused on a systematic evaluation of multiple aspects of human figure drawings of children age five to twelve. It was only really in the late twentieth century that importance came to be attached to the wealth of meaning that children's drawings embody. Children's drawings began to be seen by some psychologists as providing clues for the understanding of child psychology; these psychologists began to explore the similarities in style and orientation that could be observed in drawings produced by children in each age group, and what could be learned from these regarding how children's drawing develops, and the psychological processes involved. Children's drawings was no longer viewed in terms of simple visual perception; it was recognized as embodying a complex array of psychological meaning.

Bender (1937) and Despert (1938) have pioneered in the psychological interpretation of the art of emotional problem children. Anatsi and Foley (1940) made an early enthusiastic survey of the literature concerning artistic behavior in the abnormal and of spontaneous drawings by children in different cultures. Kuthe (1962, 1964) had published three articles on social schema that he explored the way people organize social stimuli. He used a felt-covered board upon which subjects were asked to place the "cut-outs" picture of men, women, children, animals, and objects. Kuthe concluded: "When people are allowed to place of objects cut from felt on a field, their responses are organized. There is a very strong social schema –people belong together. Human figures were grouped together to greater degree than were non human figures." (from Burns, 1982, p.64)

Weinstein (1976), using Kuthe's Felt-Figure Technique, designed a study to test her hypothesis that emotionally disturbed children different from normal children in the manner in which they organized social stimuli. Her results in indicated the emotionally disturbed children departed from the

typical schemata in they tended to separate or isolate human figures (especially woman/child) in the experiment. The normal children would usually group the figures together, forming a close unit.

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The theory of Kinetic Family Drawing (K-F-D)

Burns and Kaufman (1970, 1972) used the Kinetic Family Drawing (K-F-D) method to guide children in depicting every member of their family engaged in some form of activity. By examining the dynamic relationship between the people depicted in the children's -drawings, they were able to develop an understanding of the psychological interaction between children and other members of the family within the home (Fan, 2006). Burns and Kaufman felt that by getting children to portray individual family members engaged in various activities, from a psychopathological viewpoint, it would be possible to obtain a large quantity of valid content that could help to give a better understanding of the children. The K-F-D method constitutes a type of reflective testing tool; the children's works can be used to gain insight into the interaction between individual family members, and into the development of the child's sense of self within the family.

The K-F-D self represents an expression of the self as formed in family life, i.e., the nuclear self (Fan, 2006). The K-F-D method reflects the individuals' inner self; it constitutes an extremely detailed representation of the childhood self. Analysis of K-F-D drawings focuses on the portrayal of interaction between the individual child and other family members, taking the drawing as a reflection of the inner self. By observing, and interviewing the children about, the characteristics of the human figures portrayed in their drawings, the interaction between family members, the symbols used, the spatial layout of the pictures, and the omission of particular members of the family from the drawings, the K-F-D drawings can be used to gain a better understanding of the child's sense of self within the family and of the psychological interaction between family members (Fan, 2006).

In sense, the Kinetic-Family-Drawing (K-F-D) provides a tool for measuring family dynamic, including the development of the self within various family matrices. K-F-Ds have a special language telling us a great deal about family interactions, if we speak the language. Most of us are

visually illiterate, however, and miss the valuable, rich, documented sources of personal and interpersonal information that are caught and fixed in K-F-Ds.) (the K-F-D how he perceives himself in his family setting.

Burns and Kaufman believed that kinetic elements as style, actions, relationships. There is five basic elements as following ; it is essentially a guide for analyzing a drawing; (Feder, 1986 p. 73 , Fan, 2006 , 14-15) :

- (1) Style. Does the subject compartmentalize? Edge the drawings? Underline individual figures?
- (2) Symbols. What traditional Freudian symbolism is present?
- (3) Action. What are individual family members doing? What actions can be identified between family members?
- (4) Physical characteristics. For each individual, what characteristics are apparent in terms of art extensions? Elevation? Which figures are in front, in back, hanging? For which members have body parts been omitted? What erasures are apparent? Which family members have been omitted entirely?
- (5) K-F-D grid. How are family members placed? What is their relative height? What are the distances between family members?

Burns (1982) collected a large number of self-portraits by test subjects produced within the Kinetic family matrix, to explore how individuals viewed themselves within the family group, and how they viewed themselves when outside the family group. Burns (1982) points that “the self grows by the internalizing the feelings and values of the parental figures”. If the parental feeling and values internalized are positive and growth-producing, thus the child may develop a healthy, positive self image. Contrarily, if the parental feelings and values are negative and destructive, the child may develop an unhealthy negative self-image (p. 99)”.

Burns & Kaufman (1972) used the principles of psychoanalysis to examine children’s kinetic drawings of family members. While recognizing the large number of test variables applicable to the K-F-D method, the objective of this research by Burns & Kaufman was to study the psychological significance of children’s kinetic drawings of their family members, a method which they felt could help those interested in children’s drawings to “read” them like a book.

With regard to the treatment of family drawings as children's projective drawings, Appel (1931) and Wolff (1942) were the first to suggest that examining children's drawings of family members could enhance observational ability with respect to children's personality. Subsequently, Hulse (1951, 1952) produced studies on family drawings, proposing that getting children to draw members of their family could help to clarify children's perception of family relationships and of their place within the family.

The earliest reports found in the literature on family drawings are those by Hulse who described a Draw-A Family Test. Later, Burns and Kaufman described a method of simply asking children to draw the members of their families including themselves doing something. It was found that the addition of action to the drawings produced more meaningful and revealing data to the self within the family matrix. Burns and Kaufman (1970, 1972) suggested that the addition of a more dynamic element to passive description of family members could help to show how a family operates, while also facilitating the expression of children's latent motivations, needs and emotions.

Family relationships are among the most fundamental of human relationships; the family thus has a major impact on children's development of interpersonal relations skills, socialization and emotional growth. When considering how children can express their attitudes towards interpersonal relations, taking the family as a theme for drawing represents a reasonable starting point (Wu, 2004). Other factors that may influence the expression and content of children's K-F-D drawings include their parents' marital relations, personalities, work, and relationship with their children, the child's emotional interaction with his or her brothers and sisters, and in some cases the upbringing and attitudes of other members of the child's extended family.

Overview of related literatures of Kinetic Family Drawing (K-F-D)

Domestic research

Studies undertaken in Taiwan with regard to Kinetic Family Drawing (K-F-D) include a 1996 publication by Fan Chiung- Fang which applies the theories of Burns and Kaufman (1972) to Taiwan in an exploratory study. Fan's book *Art Therapy: the Introduction of Kinetic Family Drawing* – which

was followed in 1998 by a further work by Fan, *Experimental Analysis of Kinetic Family Drawing: Exploring Cognitive Expression in their K-F-D Drawings* – encouraged a large number of other researchers in Taiwan to undertake work in this field. Examples include *Elementary School Children's Kinetic Family Drawings and their Family Relationships* by Chang Mei-chu (1997), and a study by Chuo Wen-chun and Ch'en Yao-hui (1999) which used K-F-D drawings produced by a group of 154 five- and six-year old children to explore whether or not these drawings reflected the children's relationship with their parents and the children's social behavior.

The 1999 study by Wu Hui-ling of *The Relationship between Elementary School Children's Kinetic Family Drawings, Landscape Drawings and Life Adaptation*, which used a sample of 714 fourth-, fifth- and sixth-grade students in three elementary schools in Tainan City and Chiayi County to explore the relationship between the students' life adaptation and their K-F-D and landscape drawings, before going on to analyze the disparities between the drawings products by children who demonstrated successful adaptation and those who did not.

Lu Shu-Ling (2004) selected a group of 12 fourth-grade elementary school students with behavioral problems as her research subjects. Lu's analysis of the children's K-F-D drawings and narrative descriptions showed that objective graphical indicators are needed in order to correctly evaluate the atmosphere in a given household, and that narrative descriptions can help to clarify the significance of graphical indicators. She also found that different non-adaption indicators are needed for different categories of K-F-D drawings. Huang Ya-hui (2005) studied a group of 14 first- to fourth-grade elementary school students whose mothers were all new immigrants, using K-F-D drawings and kinetic house-tree-person drawings (K-H-T-P drawings) to try to understand the children's sense of self. Huang found that the relationship between the new immigrant women's family subculture and the children's expression of self in their drawings derived from the emotional interaction between family members, the extent to which the new immigrant women had been exposed to art education as children, and the way in which the children's expression of self in their drawings, and the content of these

drawings, was influenced by the new immigrant mothers transmission of her own culture to the children.

Hung Jui-er and Cheng Wen-hua (2006) employed the House-Tree-Person Test and K-F-D drawings to explore five case studies of the interaction between junior-high school students and their step-parents. The results obtained in this study showed that the relationship between the children and their step-parents was generally unsatisfactory, with the children displaying a low-level of acceptance towards their foreign step-mothers; projected drawings were shown to be most effective at reflecting the children's concepts of avoidance and satellite deviation

Hsieh Chia-jeng (2007) explored the family interaction relationships perceived by a five-year-old child. The child was found to have a good relationship with the step-mother; the relationship with half-siblings was found to constitute "socially-beneficial sibling interaction". However, the child's perceptual reaction to its family environment displayed feelings of insecurity.

Ch'iu Min-li, Huang Ch'uang-hua and Ch'en Yao-hui (2008) examined K-F-D drawings produced by 16 elementary-school-age children of foreign spouses, using five indicators – behavior of human figures, style, symbols, physical characteristics of human figures, and composition – to evaluate the drawings. Their research results, based on the analysis of the K-F-D drawings and the special characteristics of the family relationships, showed that the children experienced a sense of alienation from their families, and limited interaction with half-siblings. There was little indication that the children experienced the home as a happy, enriching environment.

Tseng Ya-wei (2009) presented case studies of seven children who were being brought up by their grandparents, in which she collected a total of 28 K-F-D drawings. Tseng found a connection between the first person to appear in each child's drawings and the distance between human figures, on the one hand, and the degree of closeness or distance in the child's relationships with family members. The obstacles represented in the drawings were considered to represent the child's expression of feelings of withdrawal or a need to protect oneself. The themes chosen and the content of the drawings were found to shed light on the interaction within the family;

through the K-F-D drawings, the children were able to express their feelings of insecurity and desire for family warmth.

Overseas Research

Koppitz (1968) suggested that children's drawings of human figures portrayed the interaction between family members and how this interaction developed over time; the drawings reflected those aspects of children's lives that had particular meaning for them, and their attitudes to these aspects. Johnston (1975) demonstrated K-F-D differences in children from intact versus divorced family. Heineman (1975) demonstrated that the validity of a K-F-D style, especially the style of compartmentalization, in the K-F-Ds of siblings of severely emotionally disturbed children. However, these studies only really relate to short-term psychological phenomena relating to children's interaction with family members, not to permanent psychological states. Children's K-F-D drawings can also be expected to change as the composition of the family changes.

Rabinowitz (1991) studied the relationship of acceptance-rejection and K-F-Ds. He also found sex differences in that peer accepted girls drew themselves closer to others as compared to boys' drawings. Rabinowitz (1992) also examined the height of parental figures in relation to peer acceptance or rejection with 55 boys and 61 girls in the fifth grade. He pointed out that the family has greater significance for acceptance girls drew taller parental figures than boys' drawings. It was no significance differences between peer accepted and rejected boys with respect to the size of parental figures. In sense, accepted girls drew significantly taller mothers than rejected girls did; otherwise, it was no differences with father figures. Rabinowitz (1992) concluded that it was important to note peer acceptance/ rejection when evaluating the size of parental figures in the K-F-D.

Marijcke, and Veltman, and Browne (2001) found that using Favorite Kind of Day Drawings (FKD) and K-F-D drawing techniques are not suitable as classroom screening tools for the identification of the children suffering maltreatment. In addition, they pointed out that the K-F-D Inventory may be applied for some clinical use; and it is guaranteed with a lot of children. However, the use of the FKD is discouraged, until many larger researches

results find the reasons to support the claim that identify physically maltreated children. Using the projective drawing techniques must be very cautious, especially for an identification tool for the child who is emotional problem, even child abuse (Joiner, Schmidt & Barnett, 1996; Tomas & Gray, 1992; Thomas & Jolley, 1998).

Anderson (2004) stressed that a child's age, gender, and birth-order position in the family have an effect on the perception of the family and how it is portrayed in the K-F-D. Sibling rivalry appears to be more prevalent when the first- and second-born children are of the same gender. Usually, what children say about their family is different from how they draw their family.

Relevant Cross-cultural Research

Over the past two decades or so, a variety of measurement tools have been developed in Europe and North America that facilitate the application of K-F-D drawings to different cultures; as a result, cross-cultural comparison of family structure and social interaction has been attracting a great deal of interest. Examples of cross-cultural research of this type include the study by Nuttall, Chieh and Nuttall (1988), which took American children living in Beijing as the study subjects; the results obtained in this study showed that K-F-D drawings could be used to reflect differences in cultural values and cultural rules. Chuah (1992) compared Chinese-American households with white American households, confirming the importance of culture, and also confirming that K-F-D drawings could reflect the process of integration of different cultures.

Cho (1987) examined K-F-D drawings produced by Taiwanese children aged 10 to 14, and found that the children depicted their mothers as the largest figures in the picture, with the father being the second largest figure and themselves being the smallest; the furthest distance between figures was that between the father and the child. These results suggest that Taiwanese children normally feel much closer to their mothers than to their fathers, and that they view the mother as being the core element in the household. Fukada (1990) studied the K-F-D drawings of Japanese elementary school children in the first, second and fifth grades. The results

obtained in this study showed that Japanese children expanded considerably more time on drawing the father, and that the father was also depicted as being much bigger than the mother, suggesting that Japanese children their father as having much greater importance than the mother. Examination of studies undertaken in these two different countries within the Asia region demonstrates that cultural differences between countries are reflected in K-F-D drawings, which shows the differing ways the children in different countries view their parents.

Chartouni (1992) showed that K-F-D testing can be an effective tool for examining cultural differences between families with differing lifestyles. The range of issues relating to family structure and social interaction within different cultures is an extremely broad one. K-F-D drawings have been widely used in research in the cultural field; the drawings can be employed to evaluate interaction within the family, and are considered to constitute a reliable testing tool (Fan, 2004).

There are a number of points that can be made regarding this review of the domestic and overseas literature in this field. Firstly, a high percentage of the studies that have been undertaken in Taiwan in relation to K-F-D drawings have been either case studies or qualitative research, by comparison with the situation in other countries where extensive use is made of quantitative, statistical methods. Secondly, research on K-F-D drawings in Taiwan has often not conformed to the principles of Burns and Kaufman, who emphasize the importance of using K-F-D drawings in combination with other graphical methods; there has also been relatively little research done in Taiwan with respect to the objective advocated in Brook (1996) of using K-F-D drawings to gain a better understanding of the individual's concept of self and the development of the individual's interpersonal relations. Thirdly, there has been a pronounced lack of quantitative cross-cultural K-F-D drawing research in Taiwan. Church and Katigbak (1988) suggested that the application of evaluation tools and research methods developed in the West to other cultures may not be able to present an accurate depiction of phenomena existing in those cultures. There would thus appear to be a clear need for verification of the effectiveness of using K-F-D drawings for

quantitative exploration of the impact of different family structures on children living in those families.

The validity and reliability researches of Kinetic Family Drawing

Many scholars have investigated the interrater reliability of K-F-D since 1970. As Mcphee, Wegner (1976) study interratter reliability of the K-F-D. There is 102 emotionally disturbed and 162 normal children as subjects, to study the K-F-D style representation. Five judges were trained to score K-F-Ds. Reliability scores ranged from .65 to 1.00 with a median reliability of .87. These cores were in response to compartmentalization lining at the bottom, and lining at the top drawing style. Mcphee and egner (1976) found that the K-F-D was not a valid instrument to distinguish between normal children and poorly adjusted children.

Another study that investigated interrater reliability was completed by Coummings (1980). Two male and two female examiners were trained to score K-F-Ds using three objective scoring methods, one of which was used by Mcphee and Wegner (1976). Behavior, disordered, learning disabled, and public school. High inerscorer reliabilities resulted. Five week later, they retest the children but found that test-retest reliability of the KDFs were inconsistent. Eventually, the K-F-D could not distinguish between emotionally disurbed children nd well adjusted children. Therefore, K-F-D is not a permanent measure of personality traits or characteristic; it is only a temporary measurement (Brook, 1996).

Realizing the lack of an objecting scoring system in the K-F-D manual, Mostkoff and Lazarus (1983) developed their own system. Fifty elementary school children (25 boys and 25 girls), selected to receive services in reading and math, participated in the study. Using two raters, interrater reliability ranged from .86 to 1.00, with an average reliability of .97. The following revealed significant test- retest reliability: self in picture, omission of body parts (self and others), arm extensions, rotated figures, elevated figures, evasions, barriers, and drawings on the back of the page. The study shows that it is possible for an objective scoring system to be developed with high interjudge reliability” Mostkoff and Lazarus(1983, p.20). In agreement with Cummings (1980), the authors asserted that the K-F-D was sensitive to a

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child mood change. Using the K-F-D may be sensitive to transition in children's personality and emotion states; it may be different interpretation of the K-F-D. It is necessary to apply the K-F-D with careful and objective explanation.

Although there were many scholars have developed different scoring systems and variables for the KDF. With training, interrater reliability has been established. However, test-retest reliability evidence was weak. The K-F-D cannot distinguish between emotionally disturbed children and well adjusted children. In addition, cultural differences and sex differences were found for the K-F-D (Brook, 1996). It is necessary to consider that the reliability and validity for the K-F-D have to be established in Taiwan, eventually, the cultural differences effects the presentation of the K-F-D drawing.

Research Methodology

Research Subjects

The subjects of this experiment-based study are three groups of students in the junior grades (Grade 1 and Grade 2) of elementary school, with different family structures including traditional families, single-parent families, and new immigrant families. In total, there are 90 children in the three groups, with 30 children in each group. In the single-parent families, the children were mostly living with a divorced father or mother, while in the new immigrant families the mothers were women of various nationalities who had married Taiwanese citizens. The original population comprised 115 children, but the 15 children who produced drawings of stick figures or cartoon characters were excluded from the sample, leaving an effective sample size of 90. The question of whether individual children had taken art classes was not taken into account.

Procedure

- (1) To accept children parents' consent
- (2) To find a quiet room for the child in school. The drawings are obtained individually. No time limit is given. The drawings are obtained individually.

The purpose is to understand child development: self concept and interpersonal relationships.

- (3) Materials: A sheet of plain white 8 1/2 inch paper is placed on the table directly in front of the participated child. Two No.2 pencils and one eraser will be offered.
- (4) The instructions as follows: "He/she is asked to Draw a picture of everyone in your family, including you, DOING something. Try to draw A whole people, not cartoons, or stick people, Remember, make everyone DOING something –some kind of action (Burns, &Kaufman, 1972, p.5)." If the child says, " I can't " he is encouraged periodically and left in the room until completes the K-F-D.
- (5) When the child completed the K-F-D, immediately, he/she will be asked "Who is the figure in the drawing?" "What is this person doing?" "What is the meaning for the symbols or content?" The inquiry process will take no more than 5 minutes.

Data analysis

This study refers to an interpretative manual of K-F-D (Burns & Kaufman, 1972); as well to apply Knoff's (1983) study "Kinetic Drawing System for Family and School Scoring Booklet", in addition, Burns(1982)"Self-growth in families" and Anderson's (2004) "A Comparison of Kinetic Family Drawing of Firstborn and Secondborn Sibling" are important references. Considering to the cultural differences, this study adopts Fan's (2009) pilot study of Kinetic Family Drawing for the basis of data analysis to have more objective scores. The score items for the K-F-D are: Action of and between Figures; Distance between Figures, Barriers; Styles; Figure Characteristics; Symbols.

(1) Scoring: The standard score bases on above 5 score items whether represent on the child's K-F-D or not. For the drawing a 0(not appear) or 1(appear) was be assigned, yielding a score for each child's drawing that range 0 or 1, indicating the ability to represent one of 5 items in drawing, indicating the ability to represent on each content of 5 score items.

(2) The way of data analysis

1. To apply one-way ANOVA.

2. Applying one-way ANOVA investigates the contents of all participated children's, as "Action of and Between Figures", "Distance between Figures, Barriers", "Styles", "Figure Characteristics", "Symbols".

Results

Refer to the participated children's basic information, as well as the presentation of drawing of "Action of and Between Figures, Distance between Figures, Barriers, Figure Characteristics, Symbols". The results of each item as follow:

Table 1. The analysis of "Action of and Between Figures"

Action of and Between Figures Variables	Models of family	M	SD	F	post hoc comparison
The action between self figure and sister(s) figure(s)	Traditional families(x1)	0.10	0.305	3.480*	x2>x3
	New immigrant families(x2)	0.20	0.407		
	Single-parent families(x3)	0.00	0.000		
The action between mother and self figure's siblings	Traditional families(x1)	0.00	0.000	3.222*	
	New immigrant families(x2)	0.10	0.305		
	Single-parent families(x3)	0.00	0.000		
Self figure no action to others figure	Traditional families(x1)	0.13	0.346	6.334**	x2>x1 x3>x1
	New immigrant families(x2)	0.50	0.509		
	Single-parent families(x3)	0.50	0.509		
No any action among figures	Traditional families(x1)	0.77	0.430	15.550***	x1>x2 x3>x2
	New immigrant families(x2)	0.33	0.479		
	Single-parent families(x3)	0.90	0.305		

Father figure in inside room	Traditional families(x1)	0.63	0.490	12.920***	x3>x1
	New immigrant families(x2)	0.80	0.407		x2>x3
	Single-parent families(x3)	0.23	0.430		
Father figure engaged in watching TV	Traditional families(x1)	0.07	0.254	4.778*	x2>x3
	New immigrant families(x2)	0.27	0.450		
	Single-parent families(x3)	0.03	0.183		
Father figure engaged in sporting	Traditional families(x1)	0.20	0.407	5.197**	x1>x2 x1>x3
	New immigrant families(x2)	0.03	0.183		
	Single-parent families(x3)	0.00	0.000		
Self figure in inside room	Traditional families(x1)	0.87	0.346	5.476**	x1>x3 x2>x3
	New immigrant families(x2)	0.87	0.346		
	Single-parent families(x3)	0.57	0.504		
Sister(s) figure or other figures	Traditional families(x1)	0.07	0.254	3.654*	x2>x3
	New immigrant families(x2)	0.23	0.430		
	Single-parent families(x3)	0.03	0.183		
Other figures in Outside room (such as grandparents uncles or aunts)	Traditional families(x1)	0.00	0.000	7.931** *	x3>x1 x3>x2
	New immigrant families(x2)	0.07	0.254		
	Single-parent families(x3)	0.30	0.466		
Other figures' action	Traditional families(x1)	0.20	0.407	5.342**	x2>x1 x2>x3
	New immigrant families(x2)	0.50	0.509		
	Single-parent families(x3)	0.17	0.17		

*p<.05 **p<.01 ***p<.001

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As can be seen from table1 three groups children with different family structures, their K-F-D of the item of “Action of and Between Figures,” the variables of “No any action among figures,” “Father figure in inside room,” “Other figures in outside room” had more significant. Using Scheffe post hoc comparison, it found that more significant in children of new immigrant families represented the variable of “Father figure in inside room” “the action of father figure” than other two groups.

Table2 The table of cross analysis of “Distance between Figures, Barriers”

Distance Between Figures, Barriers Variables	Models of family				x ²
	Traditional families(x1)	New immigrant families(x2)	Single-parent families(x3)	Total	
close to self figure					17.742 (.023)
Father	13	9	4	26	
mother	10	5	10	25	
sibling	5	12	7	24	
others	1	4	5	10	
far away from self figure					17.895 (.022)
Father	10	8	6	24	
mother	11	11	13	35	
sibling	5	3	1	9	
others	4	8	4	16	

It can be seen that of the item of “Distance between Figures,” it could be found that children in traditional families drew self figure closed to father figure; children in new immigrant families drew self closed to sibling, children in single-parent families drew self closed to mother figure. In addition, mother figure is drawn far away from self figure among three groups.

Table 3 The analysis of “Figure Characteristics”

Figure Characteristics Variables	Models of family	M	SD	F	Post hoc comparison
Transparencies (visible internal organs)	Traditional families(x1)	0.00	0.000	3.222*	
	New immigrant families(x2)	0.10	0.305		
	Single-parent families(x3)	0.00	0.000		
Omission of mother figure's hand(s)	Traditional families(x1)	0.00	0.000	3.222*	
	New immigrant families(x2)	0.00	0.000		
	Single-parent families(x3)	0.10	0.305		
Omission of father figure	Traditional families(x1)	0.00	0.000	19.333* **	x3>x1 x3>x2
	New immigrant families(x2)	0.00	0.000		
	Single-parent families(x3)	0.40	0.498		
Omission of mother figure	Traditional families(x1)	0.00	0.000	4.462*	x3>x1 x3>x2
	New immigrant families(x2)	0.00	0.000		
	Single-parent families(x3)	0.13	0.346		
Omission of self figure	Traditional families(x1)	0.00	0.000	3.222*	
	New immigrant families(x2)	0.00	0.000		
	Single-parent families(x3)	0.10	0.305		

*p<.05 **p<.01 ***p<.001

As can be seen table 3 the three groups three groups children with different family structures, their K-F-D of the item of “Figure Characteristics,” the variables of “Omission of father figure”; had more significant. Using

Scheffe post hoc comparison, the Single-parent families had more significant than other two groups.

Table 4 The analysis of “ Symbols”

Symbols Variables	Models of family	M	SD	F	Post hoc comparison
Self figure leaning toward the sun	Traditional families(x1)	0.00	0.000	30222*	x2>x1 x2>x3
	New immigrant families(x2)	0.00	0.000		
	Single-parent families(x3)	0.10	0.305		
Self figure drew far away from the sun	Traditional families(x1)	0.00	0.000	5.197**	x2>x1 x2>x3
	New immigrant families(x2)	0.20	0.407		
	Single-parent families(x3)	0.03	0.183		
Television	Traditional families(x1)	0.20	0.407	5.800**	x2>x1
	New immigrant families(x2)	0.60	0.498		
	Single-parent families(x3)	0.33	0.479		
Toyes	Traditional families(x1)	0.33	0.479	3.239*	
	New immigrant families(x2)	0.10	0.305		
	Single-parent families(x3)	0.13	0.346		

*p<.05 **p<.01 ***p<.001

As can be seen table 3 the three groups three groups children with different family structures, their K-F-D of the item of “Symbols.” The variables of “Self figure far away from the sun” and “Television” had a significant. Using Scheffe post hoc comparison, the variables of “Self figure far away from the sun” and “Television” of new immigrant families had more significant than other two groups.

Conclusion and Discussion

- A. The item of “Action of and Between Figures “ of Kinetic Family Drawings by children with different family structures, the 11 variables as following” “The action between self figure and sister(s) figure(s),” “The action between mother and self figure’s siblings,” “Self figure no action to others,” “No any action among figures,” “Father figure in inside room,” “Father figure engaged in watching TV,” “Father figure engaged in sporting,” “Self figure in inside room,” “Sister(s) figure or other figures,” “Other figures in outside room (such as grand-parents uncles or aunts),” “Other figures’ action,” were significantly different. According to the analysis of table 1, it demonstrated that the “Action of and Between Figures” for the three groups' had different representation.
- B. No significant disparities were observed between the drawings produced by children from the three different types of family background with respect to the appearance of “Barriers” under Distance between Figures and Barriers. However, when the Chi-Square Test was used to examine the distance between figures, cross-tabulation analysis with respect to “Figure closest to self” and “Figure farthest from self” revealed that, for traditional families, the “Figure closest to self” was most likely to be the father; this may reflect the fact that in most families the father is usually busy with work and is rarely at home during the week, so that the child is using the drawing to express their wish to have the father spend more time with them. In the case of new immigrant families, the “Figure closest to self” was most likely to be a sibling, while in single-parent families it was most likely to be the mother. For all three groups, the “Figure farthest from self” was most likely to be the mother. In single-parent families, the mother was most likely to be the “Figure closest from self,” but she was also likely to be the “Figure farthest from self.” Of the effective sample of 30 children living in single-parent families, 22 children (73%) were living with their mothers most of the time.
- C. As regards the Styles used in the K-F-D drawings of children in different types of family, no significant disparity was seen between the three groups. The children may have been confused about the instructions given, which

told them to draw every member of the family (including the child) doing the activities that they are most commonly engaged in, and to avoid drawing cartoon characters or stick figures. The children may have thought that they were expected to draw a typical family scene, rather than showing each member of the family doing what they do most often. As a result, there was no significant difference between the styles used.

- D. With regard to Figure Characteristics, there were significant disparities between the three groups with respect to “Transparencies,” “Omission of mother figure’s hands,” “Omission of father figure,” “Omission of mother figure,” and “Omission of self figure.” Children from single-parent families were significantly more likely than children in other groups to omit the father figure or omit the mother figure (of the 30 children, 22 were living with the mother).
- E. Regarding Symbols, significant disparities were observed between the three groups with respect to “Self figure leaning toward the sun,” “Self figure drawing away from the sun,” “Television” and “Toys.” For children in new immigrant families, “Self figure drawing away from the sun” and “Television” were the most commonly used symbols; there may be a relationship here with the prevalence for this group of “Father figure inside the room” and “Father figure watching TV” under Action of and Between Figures. These results may also reflect children’s confusion about the instructions; many of the children assumed that they were supposed to draw a typical scene in the home, and the most common activity within the home for most families is watching TV.

The present study took the form of experimental research. Future research in this area by the present author will use a larger number of research subjects, drawn from a wider range of backgrounds, with the aim of making the research results more objective and more reliable, so that they can serve as a useful reference for the provision of therapeutic assistance to families by schools or other institutions.

Suggestions

- A. Given that Kinetic Family Drawings (K-F-D) constitute a form of projective tool, when examining the results obtained for children from different

cultural backgrounds, caution must be exercised with respect to the meaning of particular symbols as commonly described in K-F-D manuals.

- B. Where research touches on issues, such as whether a child belongs to a single-parent family, that relate to individual privacy, care must be taken not to upset the more sensitive children.
- C. The study subjects used in the present study could have been more clearly defined. For example, a single parent family could be a family where the parents are divorced and the father has moved out, where the parents are divorced and the mother has moved out, or where either the father or mother has died. Additionally, in the present study the single parent family category did not include any new immigrant single parent families. Comparison could also be undertaken of the possible variation between new immigrant families based on the original nationality of the foreign spouse (who may be from Southeast Asia, China, Europe or North America).
- D. The present study relied solely on integrated, quantified analysis of children's K-F-D drawings. A more thorough exploration of the K-F-D drawings of children living in families with different family structure and of the psychological phenomena reflected in their drawings would need to be supported by objective projection testing, and by the collection of more comprehensive data about the family relationships of the children participating in the study.

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