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**Factors related to parenting knowledge, knowledge of child  
development, and childrearing involvement among parents**

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**The University of Arizona, 1994**

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FACTORS RELATED TO PARENTING KNOWLEDGE,  
KNOWLEDGE OF CHILD DEVELOPMENT, AND  
CHILDBREARING INVOLVEMENT AMONG PARENTS

by

Li-you Tsao

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A Thesis Submitted to the Faculty of the  
SCHOOL OF FAMILY AND CONSUMER RESOURCES

In Partial Fulfillment of the Requirements  
For the Degree of

MASTER OF ARTS  
WITH A MAJOR IN COUNSELING AND GUIDANCE

In the Graduate College

THE UNIVERSITY OF ARIZONA

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### ABSTRACT

Fifty-five fathers and 90 mothers in Taiwan were studied to test if there were any parental factors related to their parenting knowledge, knowledge of child development, and childrearing involvement. The data were collected by the Personal Information Questionnaire, Parenting Knowledge Questionnaire, Knowledge of Child Development Inventory, and Childrearing involvement Questionnaire.

The parents' educational level, parental occupation, and parenting training experience were found to be positively related to the parents' level of parenting knowledge, knowledge of child development, and childrearing involvement. Positive relationships were also indicated between the annual family income of parents and their level of parenting knowledge, knowledge of child development.

However, the parental age and the parents' childrearing experience existed negative relationships with their level of parenting knowledge and childrearing involvement in the study.

## CHAPTER 1

### INTRODUCTION

Children are the future hope for every country. Whether children are raised in a healthy or unhealthy way will influence the development of all society in the long run. The middle years of childhood provide the ground work for adolescence and adulthood. If these years are fraught with anxieties and failure, the child is likely to face adolescence with a sense of insecurity and inferiority (Cotter, Mazur, & Tooman, 1986). Maladaptive behavior may become apparent even in the elementary school.

In fact, problems caused by elementary school students are becoming more serious and pervasive. In a Weekly Reader survey of 519,000 elementary school students, 26% of fourth graders, 31% of fifth graders, and 42% of sixth graders said they had tried wine coolers (Substance Abuse Community Council of Grosse Pointe (SAC2), 1990). The Johnson Institute also reported that at least 15% of students aged 12 to 17 years have serious problems with alcohol/drugs. Another 5% of students have become chemically dependent (SAC2, 1990).

The problem of drug abuse among elementary school students has also become prevalent in Taiwan. Children aged 5 to 12 years in Taiwan have been exposed to other issues such as child crime, child violence, indulging in gambling

machines, erotic movies, and erotic magazines. Some studies about child crime indicate that the age of committing a crime has decreased in Taiwan (Huang, 1987; Yang, 1988; Chiou, 1991). The researchers of these studies also contended that the child's problems are usually rooted in the family and become worse in the adolescent stage.

Gordon (1976) maintained that the family is the first place for a child to grow and to learn. Parents are the primary teachers and make a considerable difference in the child's total development. From an ecological perspective on child development, Bronfenbrenner (1979) defined the family as the most effective and economical system for fostering and sustaining the development of the child. A substantial body of data has demonstrated powerful effects of parents as models in shaping child's behavior and child development (Gray & Klaus, 1965; Hetherington, 1967).

According to the annual statistics of the Republic of China in Taiwan area in 1990, the number of juvenile delinquent criminals in district courts was 2,468 (Accounting Department of the Executive Yuan, The, 1992). At the same time, it displayed the results of factor analysis about these juvenile criminals. The family factor, from its analysis, was a major reason in causing more juvenile criminals in Taiwan. The analysis defined the family factor in four categories- the factor of short discipline, the factor of broken family, the factor of disputing parents, and other factors. Among these family factors, most juvenile criminals



were due to the factor of short discipline. That is, the lack of good parenting for children was a precursor of the child delinquency.

In the following year, there was a similar factor analysis about juvenile students in the district correctional schools (Accounting Department of the Executive Yuan, The, 1992). It indicated the family factor was number one in causing criminals for these students. In a word, the family played a very important role in the production of the child's misbehavior in this analysis (Accounting Department of the Executive Yuan, The, 1992).

A number of American researchers also emphasized the importance of parenting in child development (Radke, 1946; Sears, Whiting, Nowlis, & Sears, 1953; Sears, 1961; Hoffman, 1960; Eron, Walder, & Leftkowitz, 1971; Feshbach, 1974; Patterson, 1982). The influence of parents on the mental health of a child was originally emphasized by Freud (1937), later marked by Sullivan (1947, 1953), and seems now to be widely accepted and generally supported by empirical research (Cox, 1966). For instance, Becker, Peterson, Hellmer, Shoemaker, and Quay (1953) investigated the aspects of parental behaviors related to behavior disorders in children. They found that in families with conduct problem children, both parents were maladjusted and tended to be arbitrary with the child. Patterson and Stouthamer-Loeber (1984), from their clinical experience, concluded that parents of antisocial boys were deficient in the practice of a number of interrelated skills: monitoring the child's whereabouts, using effective discipline for antisocial behavior, employing effective problem-solving skills, and

supporting the development of prosocial skills. A handful of studies also consistently found that parents of delinquent children had limited awareness of where their children were, whom they were with and what they were doing (Hirschi, 1969; Cortes & Gatti, 1972; Wilson, 1980).

Even though the importance of parenting to children has been stressed, some studies, on the other hand, indicate that the majority of parents lacked accurate knowledge about child growth and development (Kilman & Vukelich, 1985; Stevens, 1984). The lack of accurate knowledge about child development leads parents to set inappropriate behavior expectations for their children and even abuse or neglect their children (Steele, 1970; Hefler, 1973). Cotter et al. (1986) contended that this abuse and neglect would lead to increased child crime and violence. These abused and neglected children are likely to become a burden on social services and the criminal justice system.

The same phenomenon may be true for Taiwanese parents since Taiwan has not developed as fast as the United States in many directions. That is, Taiwanese parents may also lack the parenting knowledge and knowledge of child development.

Furthermore, Midon and Hoffman (cited in Klein, 1990), from their research, concluded that early problem identification and intervention can lead to preventing social and achievement related difficulties. If parents are able to establish positive social interaction patterns in their children, they are less likely to need remedial education, psychologists, counselors or ultimately the juvenile

justice system later (Klein, 1990). Some research in the United States has been conducted on the factors important in influencing parenting behavior for parents (de Lissovoy, 1973; Bullock, 1989; Parks & Smeriglio, 1986; Arnett, 1986). These studies indicated parents' gender, age, socioeconomic status, and training experience have some relationships with their parenting practice. Bullock's research (1989) showed that mothers are more knowledgeable of child development and satisfied with the child than fathers.

As to age, parental age is widely viewed as a proxy for parents' sensitivity to a child's maturational process and needs. Younger parents are hypothesized to be less knowledgeable, and, therefore, less sensitive than older parents (Reis, Stein, & Bennett, 1986). Cumulative evidence supports the theoretical link between adolescent parenthood and inadequate levels of knowledge and unrealistic developmental expectations for children (de Lissovoy, 1973a; Linde & Engehardt, 1979; Jarrett, 1982; Ragozin, Basham, Crinic, Greenberg, & Robinson, 1982). De Lissovoy (1973b) in an influential study, assessed the child development knowledge of high school drop-outs who were also parents. His findings indicated that adolescents' responses were highly inaccurate and skewed to unrealistic expectations of development. Teenage parents would establish inappropriate and detrimental expectations for their children.

Reis et al. (1986) indicated that knowledge of developmental milestones has been found to be correlated with parental age, with younger parents being less knowledgeable than older parents. At the same time, They also stressed

both parental age and parenting status were construed as markers for maturity of the mother. Larsen and Juhasz (1985), from their research analysis, contended that the older the parents, the more positive their attitude toward parenting, the greater their knowledge of child development.

Parks and Smeriglio (1986) maintained that socioeconomic status was an important variable in the relationship between parenting knowledge and quality of stimulation for children. There was also an extensive literature on the influence of socioeconomic differences on parenting behavior (Goslin, 1973; Whiting & Whiting, 1975).

In Arnett's (1986) direct observations of caregivers' interaction with children, parenting training was found to be related to a higher level of positive interaction and expressions of positive affect, and less punitiveness and detachment. Larsen and Juhasz (1985), from their research analysis, contended that parents who have not taken a college-level course in child development or did not have children of their own were associated with negative attitudes toward parenting. All of these findings above were done in the United States, but, whether or not these kinds of conclusions about parenting can be inferred to Taiwanese parents is still unknown.

#### Purpose of the Study

The purpose of this study, then, is to explore the range of parenting knowledge, knowledge of child development, and childrearing involvement of

Taiwanese parents. The demographic information collected will be studied against seven variables--parents' gender, age, educational level, occupation, annual family income, childrearing experience, and parenting training. This study will attempt to discover whether or not certain demographic variables have a significant relationship to the extent of parenting knowledge, knowledge of child development and childrearing involvement for Taiwanese parents. Furthermore, the study will suggest what is going on with the childrearing quality for elementary school students in Taiwan and draw some implications for counselors, educators, and social workers in developing parenting training groups or parenting related programs for parents.

### Research Hypotheses

The following research hypothesis were constructed to help clarify the purpose of this study:

1. There will be a significant relationship between parental gender and the level of parenting knowledge, knowledge of child development, and childrearing involvement.
2. There will be a positive relationship between parental age and the level of parenting knowledge, knowledge of child development, and childrearing involvement.

3. There will be a positive relationship between parents' educational level and the level of parenting knowledge, knowledge of child development, and childrearing involvement.
4. There will be a positive relationship between parental occupation and the level of parenting knowledge, knowledge of child development, and childrearing involvement.
5. There will be a positive relationship between the annual family income and the level of parenting knowledge, knowledge of child development, and childrearing involvement.
6. There will be a positive relationship between parents' experience of raising a child aged 5 to 12 years and the level of parenting knowledge, knowledge of child development, and childrearing involvement.
7. There will be a positive relationship between parenting training and the level of parenting knowledge, knowledge of child development, and childrearing involvement.
8. Female parents will score significantly higher than male parents on the PKQ (Parenting Knowledge Questionnaire), KCDI (Knowledge of Child Development Inventory) and CIQ (Childrearing Involvement Questionnaire)
9. Older parents will score significantly higher than younger parents on the PKQ, KCD, and CIQ.

10. Parents with higher educational level will score significantly higher than those with lower educational level on the PKQ, KCDI, and CIQ.
11. Parents with professional jobs will score significantly higher than those with nonprofessional jobs on the PKQ, KCDI, and CIQ.
12. Parents with high income will score significantly higher than those with low income on the PKQ, KCDI, and CIQ.
13. Parents with experience of raising children aged 5 to 12 years will score significantly higher than those with no experience on the PKQ, KCDI, and CIQ.
14. Parents with parenting training experience will score significantly higher than those with no parenting training experience on the PKQ, KCDI, and CIQ.

### Definition of Terms

The following definition of terms will be used throughout this study.

**Parenting knowledge:** Parenting knowledge is the quantity of information which is available to a person concerning the parenting practice.

**Knowledge of child development:** Knowledge of child development is the quantity of information which is available to a person concerning the growth and development of children (Walker, 1986, p. 7).

**Childrearing involvement:** Childrearing involvement is the quantity of time of raising and educating their children.

**PKQ:** PKQ is the abbreviation for the paper-pencil version of the Parenting Knowledge Questionnaire.

**KCDI:** KCDI is the abbreviation for the paper-pencil version of the Knowledge of Child Development Inventory (Walker, 1986, p. 7).

**CIQ:** CIQ is the abbreviation for the paper-pencil version of the Childrearing Involvement Questionnaire.

**Experience-Nonexperience:** Experience-Nonexperience refers to those parents who may or may not have raising experience of children aged 5 to 12.

**Training-Nontraining:** Training-Nontraining refers to those parents who may or may not have attended some type of training or courses that delivers information about parenting or child development.

**High scores:** Scores are those scores on the PKQ, KCDI, and CIQ that are above the overall mean score.

**Low scores:** Low Scores are those scores on the PKQ, KCDI, and CIQ that are from the overall mean score and below.

### Assumptions

The following assumptions have been made:

1. The subjects answered the questionnaires openly and honestly.
2. The PKQ, KCDI and CIQ measure what they are supposed to measure.
3. The subjects being used are typical of the parents in Taiwan.



### Limitations

The following limitations have been identified:

1. The first limitation is the use of self-developed instruments.
2. The second limitation is there are no controls for the types and levels of experience or training demonstrated with the samples.
3. The third limitation in the sample is small. The degree of representation of all Taiwanese parents will be restricted.

### Summary

This chapter gave a brief description about children's problems both in the United States and in Taiwan. It indicated that all children's problems have become more serious and threatening to child development and our society by presenting some annual statistics of child delinquency. In addition, this chapter has drawn relative research to explain how important the family and parents are to these child misbehavior. It also stressed the necessity to enhance the positive function of family and parents in order to provide primary prevention for child criminals.

The statement of the purpose of this study was explained in this chapter. It proposed 14 hypotheses that are later explored in depth in the study. Definitions of important terms were already defined for reference throughout all chapters. Some assumptions about this study were construed as well as limitations of this research in this chapter.

Parents effect child development in many directions (Cox, 1966). Some researchers have devoted their wisdom in this field in the United States. It is time to review how this research related to this study in the following chapter.

## CHAPTER 2

### LITERATURE REVIEW

Parenthood is a major social role for which society requires no training and no credentials (White House Conference, 1970, cited in Education Commission of the States, 1975). In fact, parenting is a task that requires special skills and knowledge (Morris, London, & Glick, 1976). Parenting abilities are easily assumed to develop naturally as a result of family membership. However, the nuclear family of today offers new parents few experiences with their children or opportunities for observing the parent role.

Only in the mid-1970s has the general public realized openly that natural parenthood does not assure that birth parents have inherent parenting skills and knowledge (Gordon, 1970, cited in Shoemaker, 1983; Morris et al., 1976). Even though some parents may be born with parenting ability, this ability might be hampered by many internal or external factors during the childrearing processes (Jeary, 1990).

According to Jeary's study, many factors will affect the parenting practice of parents. The influential factors include number of children, marital status, psychological characteristics of the parents including mental health, education, childrearing attitudes and beliefs, coping skills, and stressful life events. In another study, Cox (1966) categorized factors related to parents' parenting

practice into three dimensions (Family Background, Parent-Child Interaction, and the Child's Characteristics). There have been some further research reported in each field (Vukelich & Kilman, 1985; Larsen & Juhasz, 1985) .

Since many researchers have found that the quality and the quantity of knowledge about child development appear to be some of the determining features of the level of appropriate parenting and care giving (Braga & Braga, 1975; Gullo, Bersani, & Conlin, 1987; Levenson, Hale, Hollier, & Tirado, 1978), the exploring of the relationships which are thought to be possible sources of this wide range of knowledge for parents is clearly needed. Therefore, this study was designed to investigate the level of parenting knowledge, knowledge of child development, childrearing involvement Taiwanese parents have, and the possible sources related to their parenting knowledge, knowledge of child development, and childrearing involvement.

The literature reviewed in this chapter includes the studies that focus on (1) the association of family background and child development, (2) the association of parental characteristics and child development, (3) the association of parental characteristics and parental knowledge and parenting practice, and (4) the parenting education.

#### The Family Background Affects the Child's Personality and Social Development

The influence of parents on the mental health of a child was originally stressed by Freud (1937), later emphasized by Sullivan (1947, 1953), and seems now to be widely accepted and generally supported by empirical research.

Before the 1970s, there were a great number of studies focusing on the relationship of family background factors and child development. And the relationships of family background and child development have been verified by many studies (Myers, 1985, Steadman, 1976, Cox, 1966). Cox (1966) concluded that the empirical research concerning the family background and the child's personality, and the social acceptance of the child by peers had been vastly explored. The remarkably consistent results indicated that the social level of family has been related to the child's characteristics and social acceptance.

For example, Cox (1966) conducted research on 100 families to measure the effects of a network of family factors upon the child's personality development and social acceptance. He found that family background factors were associated with children's personality development and social acceptance by peers. Furthermore, the results of his study indicated that families with higher scores on the social level measure, which was composed of the economic level of the family, father's educational level and mother's educational level, produced and raised children who were at a marked advantage over those whose families scored low on the social level measure. High social level was associated with: (1) a low level of family tension, (2) loving rather than rejecting parents, (3) casual rather than punishing or demanding mothers, (4) consistency of interparental childrearing practices, (5) high IQ of the child, (6) the development of a positive self-concept in the child, (7) the absence of health problems of the child, (8) socially effective behavior of the child, (9) a positive level of superego

strength in the child, and (10) favorable peer relations. The posteriori review of the association of family background in his study further indicated that the three factors used to construct the social level scale (Economic Level of the Family, Father's Educational Level, and Mother's Educational Level) had a relatively large number of significant relationships with the child's development. Economic level appeared to be the most influential factor. These data suggested that Father's Educational Level is at least as important as Mother's Educational Level in its influence on the network of relations with the child's personality development and social acceptance by peers. That is, the socioeconomic status of parents influences both the child's personality and social development. The family environment into which a child is born and how he/she is reared also has a major impact on what the child will become. Steadman (1976) contended that the family environment (parental language style, attitudes toward achievement, and parental involvement and concern for the child) had a significant impact on the child's development.

Among the most powerful influences on the development of a child are the child's parents, because parents transmit their values and knowledge as well as their genes to their children (Myers, 1985). The instruction and examples set by parents are critical in shaping the behavior and attitudes of their children. Simultaneously, the parental attitudes and childrearing practices also have significant influence on the personality and social development of the child (Cox, 1966).

In theoretical formulations, Cox indicated that the child's self-concept was significantly associated with the child's perception of each parent as loving. Parental disagreement with respect to childrearing practices was significantly associated with the child's self-concept. The association of this variable with the dimension of Causal-Demanding also supported the theoretical position. Demanding and punishing parental practices were associated with a low self-concept of the child. The fact that a major portion of the predicted variance of self-concept was associated with the childrearing practices in his study is viewed as strong evidence that parental attitudes and childrearing practices play a significant role in a child's personality development.

#### The Family Background Affects the Child's Cognitive Development

The child's IQ is highly correlated with social economic level, father's education level, and mother's educational level (Cox, 1966). Cox conducted research on parents and children. He found that the variance in the child's IQ indicated that 66% of the predicted variance was uniquely related to family background (social level and family tension), 29% was uniquely related to the four measures of childrearing, and 5% of the predicted variance was shared commonly with other measures. From his research, he indicated that intelligent parents tend to have intelligent children and tend to employ enlightened practices in rearing their children.

On the other hand, Shipman (1973) and Haskins, Finkelstein, and Stedman (1978) reported the discovery that economically disadvantaged children are at risk not only for delays in intellectual development but also for maladaptive social development.

#### The Family Background Affects the Child's Physical Development

Cox (1966) found that the association of child's health problem with parental Loving-Rejecting were highly significant. He also suggested that psychosomatic disorders may be associated with parental rejecting. The multiple correlational analysis of Cox's study indicated that 21.6% of the variance of health problems was predicted by the parental socioeconomic status and educational level; 36% was predicted by the four parental childrearing attitudes and practice (Loving-Rejecting, Casual-Demanding, Protectiveness, Parental Consistency). The 6 variables predicted 40.2% of the total variance of child's health problem.

In addition, Cox (1966) also found that low economic level and low parental education were contributing factors of poor physical health of children.

#### Parental Knowledge of Child Development and Parenting Practice Affect the Child's Personality Development

Myers (1985) indicated that the lack of knowledge of child development would cause the parents to have unrealistic expectations for children. Good



normative data on parental knowledge of child development are necessary if prevention and intervention of developmental problems are to be considered. Information about parental preconceptions of age appropriate child behaviors is useful because parents need some knowledge of child development if they are to correctly recognize developmental problems and intervene. If parents have unrealistic expectations about their children, they might not recognize when a child is so delayed developmentally that help is needed (Myers, 1985). Children's self-developing concept can vary along a positive and negative self-evaluative continuum. For example, if the parent thinks the child is "slow" or "below average" even though the child is perfectly normal, the child's self-esteem may be negatively affected. Feelings of self-worth are important in the development of the child and have been thought to affect children in many ways (Jersild, 1952; Rosenberg, 1972). Concurrently, a self-fulfilling prophesy may occur in which the child fulfills the parents' prophesy that he/she is inadequate (Myers, 1985).

Benedek (1970) further suggested that parenthood as a psychological experience activates a developmental process in which the parents' emotional investment in the child facilitates intrapsychic growth. In an individual who is unencumbered by serious emotional conflict or pathology, it may be assumed that this growth process occurs in the adolescent as well as the adult. If there is a discrepancy between parental expectation and child performance, it is possible that the parents will blame themselves which in turn may lead to

increased stress on the parents. If parents do not have a firm notion of what to expect from children they may perceive problems that do not exist and acquire unreal low opinions of their abilities as parents. Unreal low opinions of their abilities as parents may have a negative impact upon the development of appropriate behavior in their children (Myers, 1985).

Cox (1966) indicated that parental attitudes and childrearing practices have been related to the child's personality, behavior patterns, and adjustment. While the research in this area seems relatively consistent, he found that parental loving or rejecting influenced the child's personality development and social acceptance. And the personality traits were the principal determinant of peer acceptance or rejection.

In a longitudinal study (Peck & Havighurst, 1960), 34 children, ages 10 to 17 years, were tested, interviewed, and rated by peers. One of the central objectives of the investigation was the relationship between familial patterns and the child's developing personality, especially his moral character or conscience development. On the basis of the accumulated information, each subject was evaluated on a variety of personality and moral standard variables (ego strength, superego strength, spontaneity, friendliness, hostility-guilt, and moral stability). In addition, the families were rated for four kinds of practices: consistency, democracy, mutual trust, and severity. The major findings suggested that: Ego strength was associated with consistent and trusting parents, friendliness and spontaneity were related to democratic and trusting parental attitudes, and

hostility and guilt were associated with autocratic and entrusting parental attitudes.

As to the exploration of ego development of children, Cox (1966) also found that parental disagreement concerning childrearing practices influences the child's personality development in a wide area, particularly that of ego development.

There is an empirical as well as a theoretical linkage among parental attitudes and child self-concept. Medinnus and Curtis (1965) implied that maternal acceptance of her child and child self-concept are related. In research with disadvantaged populations, Tocco and Bridges (cited in Newman & Ramey, 1979) reported positive correlations between each of two measures of maternal self-concept and a measure of child self-concept. When Medinnus (1965) administered measures of self-acceptance, adjustment and the Roe-Siegelman Parent-Child Relations Questionnaire to 44 college students, he found that adolescents (mean age 18 years) with favorable scores on measures of self-acceptance and adjustment were likely to perceive their parents as loving but not as neglectful or rejecting.

#### Parental Knowledge of Child Development and Parenting Practice Affect the Child's Cognitive Development

It is possible that unrealistic expectations by parents may also influence the intellectual development of their children. Hunt and Paraskevopoulos (1980) found that mothers who were poor at predicting the ability of their children had

children who performed poorly on an intelligence test. One implication of the study is that mothers who have incorrect knowledge about their child's development may not be as good at providing experiences to foster the child's development.

Synder, Eyres, and Barnard (1979) asked pregnant women about their expectations of their children's development. Mothers who expected their children to develop at a slower rate were later found to have children who had lower Bayley mental and psychomotor scores at 1 and 2 years of age. The mothers also provided less stimulating home environments as measured by an inventory of home stimulation (HOME scores).

A study by Engel and Keane (1975) illustrated the influence maternal attitudes may have on a child's intelligence. In their study, a group of 44 black males were followed from birth to 66 months, with assessment of intellectual development at 14, 18, 22, and 66 months. Mothers were rated for "psychological mindedness," the extent to which one perceives others to have psychological, as well as physical, needs. The mothers' psychological mindedness when the boys were 14 months was found to predict the boys' intellectual development, as measured by the Bayley Mental Scale, at 22 months ( $r = .46, p < .001$ ) and at 66 months, as measured by the WPPSI ( $r = .48, p < .05$ ). These findings suggest that intervention aimed at raising a mother's psychological mindedness may in turn positively influence her child's intelligence.

Parental Knowledge of Child Development and Parenting  
Practice Affect the Child's Social Development

Epstein (1980) has reported that childrearing practice and knowledge of child development have been found to promote healthy emotional and social development for children. Cox (1966) found that a major portion of the variance of Social Acceptance (68%) was predicted by the measures at three levels (1) Family Background (2) Parent Childrearing Practices, and (3) Characteristics of the Child.

Bullock (1989) conducted a study with 42 pairs of parents and their children, aged 49 to 64 months. She found that there are positive relationships between parents' knowledge and mothers' degree of satisfaction and children's acceptance ratings and positive nominations. The findings suggest important links between parents' knowledge and social competence in children's peer relations.

Perry, Jensen, and Adams (1985) also found that children identified as rejected or isolated had parents who reported such aspects as low self-confidence, little preference for children, little use of praise, and lack of discipline. Hetherington, Cox, and Cox (1979) suggested that improvement or deterioration in the parent-child relationship may influence the child's sociometric status.

Bullock (1989) also found that a relationship between those parents most knowledgeable about child development norms and children who were

well accepted by and popular with their peers. Sears, Maccoby, and Levin (1957) examined associations between the personality of the mother and the mother's report of the child's behavior. Their findings supported the hypothesis that children of warm mothers mature more rapidly in their social behavior than those of cold mothers. Mothers who punish dependency to get rid of it had more dependent children than mothers who did not punish. Mothers who punished aggressive behavior severely had more aggressive children than mothers who punished lightly. Harsh physical punishment was associated with high childhood aggressiveness. They also found that permissiveness toward aggression tended to encourage the continuance of aggressive behavior.

Sears (1961) followed up a sample of 76 boys and 84 girls from the previous studies, discussed above, by administering five self-report scales of aggression (antisocial, prosocial, projected, self-aggression, and aggressive anxiety). The finding indicated that antisocial aggression is positively related to high permissiveness and low punishment of parents. The findings regarding permissiveness were consistent with those relative to aggression in the home at age 5 (maternal report). However, at age 5 years, high punishment was related to aggression, while at age 12 years, a negative relationship was found between punishment and aggression. Sears concluded that at the earlier period punishment incited aggression, while at age 12 the negative correlations are interpreted as the inhibitory influence of punishment. Prosocial aggression and aggression anxiety were related to high permissiveness and high punishment.

Self-aggression in boys was most evident in those who had been severely controlled in their early years.

McCord, McCord, and Howard (1963) also indicated high drive and a deviant model of fathers produced aggressive-antisocial male children ( $p < .001$ ); moderate drive, a deviant model, and high controls produced aggressive-antisocial male children ( $p < .001$ ); moderate drive and low controls, produced aggressive-socialized male children ( $p < .001$ ); and low drive and high controls, produced nonaggressive male children ( $p < .001$ ).

All measures of aggression in the Kagan and Moss study (1962) consisted of interviewers' ratings based on judgments and observations. They found maternal practices during the first 6 years were not consistently related to peer-directed aggression. Protectiveness before age 3 years predicted conformity to adult authority during age 6 to 14 for boys and for girls implying that maternal protection provides the conditions for socialization of rebellious tendencies. Maternal restrictiveness was the most consistent correlate of aggressive behavior in adult men and women. Maternal hostility was the best correlate of aggression toward peers during childhood.

Some additional findings reported by Kagan and Moss (1962, p. 225) include: "Protection of sons was the major predictor of nonmasculine sex-role interests in boys." Hostility toward girls before age 3 years predicted low social anxiety as adults. Restrictiveness for sons during age 10 to 14 years was associated with adult social anxiety. Compulsivity in childhood was positively

associated with maternal protectiveness for both boys and girls before age 3 years.

Parenting Practice Affects the Child's  
Behavior and Mental Health

Myers (1985) maintained that the child's parents have the most powerful influence on the development of a child. Parents transmit their values and knowledge as well as their genes to their children. The instruction and examples set by parents are critical in shaping the behavior and attitudes of their children.

Becker et al. (1953) investigated the aspects of parental behaviors related to behavior disorders in children. Their findings, based upon separate analysis for fathers and for mothers, indicated that conduct problems in the child coincided with Roff's (1949) Parent-child harmony factor. The study results indicated that in families with conduct problem children, both parents were maladjusted, gave vent to uncontrolled emotions, and tended to be arbitrary with the child. In addition, the mother of a problem child tended to be tense, dictatorial, and thwarting whereas the father tended not to enforce regulations.

Schaefer (1965), from his research on 85 boys labeled as normal and 81 institutionalized boys labeled as delinquents, indicated that the delinquents described both parents as higher on Extreme Autonomy and Lax Discipline, and mothers as being more positive and loving but fathers as less positive and less loving than did the normal group. The delinquents described extremely different



patterns of behavior for mothers than for fathers while normals reported very similar behavior for mothers and for fathers.

In addition, Patterson (1982) indicated that coercive family processes have an important role in the development and /or maintenance of conduct problems. He suggested that parents of children with conduct problems are more punitive than parents of normal children and also that coercive interchanges are more prolonged, more likely to involve other family members, and less likely to lead to resolution. This behavior may be interpreted by children as their parents being affectionless and as showing unwarranted levels of control.

For narcotic addicts, "broken homes" (parental separation or divorce) are reported as an aetiological factor (Stimson, 1973), and "disruptive events" in childhood, such as family violence, hospitalization, and other separations, are also common (Rousaville, Weissman, Wieber, et al., 1982). In one review of the literature on parenting patterns of narcotic addicts, mothers are described as "indulgent and over-protective", and fathers as "weak and ineffectual" (Ben-Yehuda & Schindell, 1981). In the case of alcoholics, early research also drew attention to their unstable family environments (McCord & McCord, 1960; Robins, 1966). A present prospective study found that low warmth and poor cohesion in the family predicted alcoholism in blue-collar workers (Vaillant, 1980).

In order to know the relation of specific parenting qualities to alcoholism and narcotic addiction, Bernardi, Jones, and Tennant (1989) conducted a study of 40 alcoholics and 70 narcotic addicts and 127 healthy control subjects. They used the Parenting Bonding Instrument (PBI) (developed by Parker, Tupling, & Brown, 1978) to measure parenting qualities and yields two broad dimensions, "care" and "protection", for both mothers and fathers. The construct of care involves, at one extreme, affection, warmth and empathy, and at the other, coldness, indifference, and rejection. The construct of protection involves parental control, overprotection, intrusion, and infantilisation at one extreme, and promotion of independence and autonomy at the other. Alcoholics and heroin addicts were compared with a normal control group. The results indicated that maternal and paternal overprotection were reported more commonly by narcotic addicts. Maternal overprotection alone was implicated in alcoholics. Narcotic addicts seem to have more disturbed parenting than alcoholics, especially paternal parenting.

According to studies compiled by the National Association for Children of Alcoholics, one of the findings was that children of alcoholism often adapt to the chaos and inconsistency of an alcoholic home by developing behaviors which result in low self-esteem, depression, isolation, guilt, and difficulty maintaining satisfying relationships. These and other problems often persist throughout adulthood (cited in Substance Abuse Community Council of Grosse Pointe, 1990).

Sroufe and Egeland (1989) conducted a longitudinal investigation focusing on the etiology of psychiatric and behavioral disorders in a sample of 190 children at risk for developmental problems. Data collection began during pregnancy and included assessments of: (1) parental personality, intelligence, and parenting attitudes; (2) parent-child interaction and relationship quality; (3) child temperament and cognitive and emotional development; and (4) life stress, marital harmony, and social support. Assessments were frequent and comprehensive in infancy and early childhood, with regular follow-up assessments during the elementary school years. Assessments included interviews with children, teachers, and parents, a review of school records, and direct observation of children. At the end of the study, the researchers concluded that different predictors more strongly predict different disorders of children. For example, the child's aggression was predicted by avoidant attachment, harsh parental treatment and stressful life circumstance. Depression was better predicted by a history of losses and early absence of positive affect, while hyperactivity was better predicted by overstimulating care. Flat affect in a problem-solving assessment at age two predicted later depression (Sroufe & Egeland, 1989).

Mark (1953), from a study on 100 mothers of male schizophrenics and 100 mothers of male nonschizophrenics, found that mothers of schizophrenics tended to be very restrictive in control of the child. Regarding warmth of the mother-child relationship, the mothers of schizophrenics tended to be either excessively devoted or coolly detached.

Heilbron and McKinley (1962) studied 58 female college students with incipient psychopathology and 52 female college students of control normal group. The results indicated: The incipient psychopathological subjects perceived their mothers as more authoritarian and controlling than normal subjects. They also perceived mothers as more hostile, rejecting, seclusive, higher on "Breaking the Will," inconsiderate of husband, more accelerative of development, more irritable, and more often rejecting her role as homemaker.

Meeks (1979) saw oppositionality as the youngster's response to an extremely restrictive and demanding parental environment, while Laviertes (1985) believed that pathological oppositional behavior could be produced or aggravated by parents who overreact to the child's need for autonomy with an authoritative or intrusive attitude. There is a large body of research (e.g., Robins, 1966; Rutter & Giller, 1983; Kay & Kay, 1986) that suggests that children with conduct problems are likely to come from disorganized backgrounds in which both love and discipline are lacking. The DSM-III-R also lists parental rejection, inconsistent management with harsh discipline, and early institutional living among factors predisposing to the development of conduct disorder.

In order to test whether there is any support for the differences in parenting by comparing perceptions of parental behavior by normal adolescents and by young people meeting DSM-III-R criteria for Oppositional Disorder and Conduct Disorder, Rey and Plapp (1990) administered The Parental Bonding Instrument to 111 CD and OD patients and 763 normal students aged between

12 to 16 years. They found that adolescents with Conduct Disorder or Oppositional Disorder perceived their parents as more protective and less caring.

That is, normal adolescents allocate their parents to the optimal parenting style twice as often as the oppositional and conduct disordered adolescents, while those with OD or CD tend to allocate theirs to the affectionless control parenting style.

Most of the reported research using the Parental Bonding Instrument also has found differences between clinical groups and normal controls. The common finding is that adult psychiatric samples usually perceive their parents as having been less caring and more overprotective than normals (Parker, Fairley, Greenwood, Jurd, & Silove, 1982; Parker, 1983a, -b; Goldney, 1985).

#### Parenting Practice Affects the Child's Academic and Career Achievement

When the U.S. Department of Education (cited in Amundson, 1989) recently analyzed research on student success or failure in school, it noted "The family is critical to success in school." That holds true regardless of family income or parents' level of education. Bloom (1985; cited in Amundson, 1989), in his study--Developing Talent in Young People, maintained that home environment was critical in helping high-performing individuals achieve excellence. He stressed that parent involvement is very important to the child's development. The families with high-performing members shared a number of characteristics: (1) They were hardworking, (2) they believed in doing one's best-whatever the

task, (3) they believed that everyone, including children, should use time productively and should set goals, and (4) they emphasized self-discipline. Furthermore, Bloom (1985)(cited in Amundson, 1989) found that these individuals reached the high levels of accomplishment less because of their talent and more because of their hard work and the encouragement they received from family and teachers. In fact, Bloom concluded, "If the talented individuals we studied had been reared in a very different home environment, it is not likely that they would have reached the same level of talent development as they did" (p. 15).

The fact that the family makes significant contributions to the attainment of youth education and occupation goals was supported by Schiamberg and Chin (1983). The family has much impact not only on the school achievement of the child, but also on the future career achievement of the child. Schiamberg's and Chin's longitudinal study from 1969 to 1983 was on the educational and occupational life plans and achievement of youth in rural low-income areas in six southeastern states. One of the study results they found is that the higher the mother's educational level, the greater the congruence between the girl's occupational aspirations and her attainment. In addition to the previous finding, the longitudinal data from 1969 to 1979 were analyzed using a causal/path model and occupational attainment. They found that the total effect of either family background or child characteristics on occupational attainment exceeded the total effect of youth educational attainment. While the total effect of family influence

on the occupational attainment process of youth (family background and the influence of significant others in the family) exceeded that of both youth characteristics and educational attainment. The total effect of the family was second only to that of achievement motivation in predicting occupational attainment. The influence of the family on youth educational attainment was also found to be significant in their analysis. The strongest direct predictor for educational attainment was achievement motivation in the post-high schools, followed by child characteristics, family background, and parent (significant other) influences, in that order. However, when the total effects were calculated--both direct and indirect--family background was found to have the strongest influence on youth educational attainment. (Total effect is Beta = .36. compared to Beta = .33 for achievement motivation). By using a path model analysis, Schiamberg and Chin emphasized, it is possible to fully appreciate the total influence or effects (direct or indirect) of the family on these important outcomes of the study.

#### Parental Knowledge of Child Development Affects the Parenting Practice

Parenting is a task that requires special skills and knowledge (Morris et al., 1976). Bolton (1983) also indicated that knowledge of child development and parenting skills are essential. He does say that with increased knowledge of how a child develops, parents tend to be aided in developing fewer aberrant behaviors.

In addition, children at each stage of development have specific developmental needs, and the parenting role demands change with the development of their children (Duvall, 1971). Myers (1985) maintained that good normative data on knowledge of child development for parents are necessary, especially if prevention of, and intervention in developmental problems of children is to be considered. Knowledge of child development appears to help parents understand how children develop and what factors enhance or interfere with their development (Braga & Braga, 1975; Gullo, Bersani, & Conklin, 1987; Levenson et al., 1978).

Research by Larsen and Juhasz (1985) indicated that the subjects' negative attitudes toward parenting were associated with lack of knowledge of child development, while subjects' positive attitudes toward parenting were associated with knowledge of child development. Myers (1985) and de Lissovoy (1973a) also indicated that the lack of knowledge of child development would cause the parents to have unrealistic expectations for children. And the unrealistic expectations of child development caused the parents to experience severe frustrations as parents.

Newberger (1980) further found that parents who viewed their children as complex, changing individuals and valued the importance of a balanced, reciprocal relationship were less likely to abuse or neglect their children. Abusive parents have been found to believe that children should serve the wants and needs of the parents, and be able to perform adult behaviors (e.g.,



Galdston, 1965; Smith & Hanson, 1975; Spinetta & Rigler, 1972). When children cannot live up to the parents' expectations, parents may become disappointed and abuse the children. In studying the attitudes toward punishment and maternal expectations of the child, Elmer (1977) found that knowledge about child development was lacking in the entire sample of abusive mothers. Abusive parents often have unrealistic estimates of what the young child is able to understand (Bavolek, Kline, McLaughlin, Pullicover, 1978; Hefler, 1973; Justice & Justice, 1976; Steele, 1970). Hefler (1973) and Steele (1970) also indicated the abusive parent often lacks the functional concept that children are individuals with age appropriate needs and behaviors. These abusive parents are usually described as having unrealistically high expectations of their children (Galdston, 1965; Smith & Hanson, 1975; Spinetta & Rigler, 1972). These abusive parents' unrealistic expectations of their children may be due to their rather limited knowledge about children's development norms (Belsky, 1980).

Braga and Braga (1975) also suggested that parents who knew the norms of child development were at an advantage in that it enabled them to depend on their own judgment on issues regarding children and not solely rely on others' assessments and opinions. Epstein (1980) found that a teenage mother's ability to accurately recognize an infant's needs and abilities was significantly related to the way she verbally and physically interacted with her children. Thus, those teenagers who scored highest on the knowledge scale and showed a sensitivity to appropriate vs. inappropriate mother-infant interaction and stimulated their

children the most. The reverse was also true: those who scored lowest displayed little verbal interaction with their infants. Thus, lack of knowledge of child development has been identified as a factor contributing to difficulty in teenage parenting. Furthermore, Carbonell (1987), from his study, concluded that lack of child development knowledge led parents to (1) form inappropriate expectations, (2) misinterpret typical stage-related behavior, (3) experience a less healthy parent-child relationship, and (4) experience more anxiety, (Carbonell, 1987).

At the same time, knowledge of children's developmental milestones has been suggested to be of prime importance for appropriate child rearing. Without a thorough understanding of children's developmental norms, parents might not establish appropriate expectations for their children, and thus increase the potential for the detrimental effects of inappropriate expectations (Field, Widmayer, Stringer, & Ignatoff, 1980). Armed with the knowledge of how children grow, parents are presumed to be better prepared to establish healthy relationships with their children (Shaner, Peterson, & Roscoe, 1985).

It seems reasonable to assume that parents' knowledge of child development reflects how they may interact with their children (de Lissoyoy, 1973a). Research by Stevens (1984) suggested that more knowledgeable parents score higher on a parent skill measure. He noted relationships among parents' knowledge base about child development and the ability to provide positive learning environments and interaction ways to facilitate the child's growth. The outcomes

suggested that greater knowledge of child development is related to parents' positive parenting skills, interactions, and feelings toward children.

Although it seems that adults' knowledge of and appropriate expectations for the child's competencies greatly facilitate parenting (Gullo et al., 1987), yet, the lack of parental knowledge of child development is still prevalent in many countries. A study focusing on unmarried female university students, ages 17 to 23 years, found that knowledge of normal development was both over- and underestimated regardless of the age of the student or year in school (Shaner et al., 1985). An early study in the United States by Ackerley (1935) sought to determine the needs of parents of elementary-school children also found that the responses of parents to the questions relating to child development showed either a lack of knowledge or inability to apply generalizations pertaining to child development.

Many parents appear to have a wide range of inaccurate or low-level information about developmental milestones in young children. Cotter et al. (1986) found that some parents are unaware of the basic needs of their children and do not know what to expect from them. A survey administered by Clark-Stewart (1978) also displayed that the majority of parents felt unprepared and inadequate. They needed to seek and request information on children's overall development in order to facilitate parenting.

Parent Gender Affects Parental Knowledge of  
Child Development and Parenting Practice

Walker (1986) administered the Knowledge of Child Development Questionnaire to 387 adolescent students to explore the relationship of adolescents' knowledge of child development to age, sex, ethnicity, experience, and training. Of this number, 248 of the subjects completed the instrument. The age of the students ranged from 14 to 20 years. The majority of the students were between 15 and 18 years of age. He found that gender is the second highest of predictors correlated with the KCD (Knowledge of Child Development), and since the related Beta weight of 0.23389 represents 5% of the accounted for variance in the scores on the KCD, gender appears to be important as a variable in the correlation data.

In order to find if males and females demonstrate equivalent knowledge of child development, Myers (1985) conducted a study of parent subjects. She found a  $t$  test between mothers' and fathers' total Knowledge of Child Development scores showed that mothers performed significantly better than fathers on the Knowledge of Child Development Test. Simultaneously, mothers reported reading significantly more child development related books than fathers, and mothers reported spending significantly more time talking and/or playing with the child during the week. Kliman and Vukelich (1985) and Showers and Johnson (1985) also found that males are less knowledgeable of developmental norms than females. Bullock (1989) conducted a study with 42 pairs of parents and

their children to test if there was a relationship of parental knowledge and children's sociometric status. She also found a significant difference on parental knowledge measure. These differences indicated that mothers are more knowledgeable of developmental norms than fathers.

### The Relationship of Parents' Age to Parental Knowledge of Child Development and Parenting Practice

There were variances among the results of the studies that were conducted to explore the association between the parent's age and parental knowledge of child development and parenting skills. Several studies have pointed out differences in the amount of child development information possessed by different age groups (Larsen & Juhasz, 1985; Walters, 1975; Bolton & Laner, 1981; Bolton, Laner, & Kane, 1980; Kinard & Klerman, 1980). For instance, Larsen and Juhasz (1985) found that the older the subject (434 adolescents from junior college, a university, and junior high school), the greater his/her knowledge of child development and the more positive his/her attitude toward parenting. Roosa (1983), studied never-pregnant teens, teens pregnant for the first time, and mothers who began childbearing after age 20. He also found that the adult mothers scored slightly, but significantly, higher than the teenagers (pregnant and nonpregnant) on the child development test. Several other researchers have also gone a step further and tested adolescent mothers in comparison with adult mothers. However, no significant differences were noted between the age groups either in knowledge of normative infant

development or in the extent to which the mothers provided their infants with developmentally appropriate stimulation in their studies (Stevens, 1980; Sweat, 1982; Yong, 1981). The result of Roosa and Vaughn's study (1983a) also indicated that teens and adults scored basically the same on a test of child development. To explore the relationship of adolescents' knowledge of child development to age, sex, ethnicity, experience, and training, Walker (1986) administered the Knowledge of Child Development Questionnaire to 387 adolescent students. Of this number, 248 of the subjects completed the instrument. The finding of this study regarding the variable of age was that the relationship between age and the Knowledge of Child Development was .14. This coefficient indicated little to no relationship between the two variables. That is, there was no significant difference between the scores on the KCD of younger adolescents and the scores on the KCD of older adolescents. Since there have been social concerns rising from the prevalence of teenage pregnancy in the last decades, a few researchers have studied the child development knowledge of adolescents (de Lissoy, 1973a, 1975; Epstein, 1978; Jarrett, 1982; Williams, 1974). The adolescents in their studies responded to questionnaires related to child development stages and levels. They found the adolescents did not do very well on the child development questions (Bauch, 1985). Several of those researchers reported that the teens sometimes expected "too much, too soon" from young children and that these high expectations frustrated the child (de Lissoy, 1973b, 1975; Jarrett, 1982). Some of the other researchers found the

opposite. They discovered that teens often expected "too little, too late" and were not attuned to providing enough stimulation for their offspring (Epstein, 1978). Behavior Associates (1978) also discovered that most adolescents have an extremely low level of knowledge about child care, human sexuality, family life, and infant development. One of the areas which presented the most difficulty for the teenagers was developmental landmarks of children. The staff of Behavior Associates indicated that, although most people do not commit to memory the ages when developmental landmarks typically occur, some general knowledge about when an infant or child is likely to be able to perform certain behaviors is important. Parents, otherwise, will have unrealistic expectations of their children and, consequently, be frustrated when their child is incapable of completing a specific task.

As to the exploration of parenting practices, the relationship between the parent age and the parenting style has been studied. Epstein (1980), for example, found that a no-talking style of interaction was significantly more likely to be associated with the younger vs. the older adolescents in her sample. The parents were in the stages of late adolescence and early adulthood-times in which a greater incidence of physically and emotionally at-risk parents are reported (Walters, 1975; Bolton & Laner, 1981; Bolton et al., 1980; Kinard & Klerman, 1980). Oates, Davis, Ryan, Stewart, along with West and West (cited

in Simkins, 1984) and Elmer (1977) also found that the younger the parents, the higher the risk of child abuse.

Parent Educational Level Affects Parental Knowledge of  
Child Development and Parenting Practice

Several studies have pointed out variance in the amount of child development information possessed by different groups (Vukelich & Kilman, 1985; Larsen & Juhasz, 1985). Vukelich and Kilman (1985) compared a mature mother group who had a mean age of 28 and had college or technical school education with a teenage mother group who were single aged 14- to 18-year-old high school students. Two research assistants interviewed subjects in the home from 45 minutes to 2 hours in order to obtain demographic data and information on sources used to obtain information on child development. A Parent Expectation Scale (PES) measured how appropriate expectations were regarding physical, intellectual, and social-emotional development during the first three years. A total of 31 correct responses was possible. Mature mothers received a mean correct PES score of 18.34, standard deviation of 2.75. Teen mothers received a mean score of 11.93, standard deviation of 4.43. Thus, the researchers concluded that maternal education level positively correlates with knowledge of child development.

About the same year, Larsen and Juhasz (1985) studied 434 adolescents from junior college, a university, and junior high schools, and found that subjects who have not taken a college-level course in child development or did not have



children of their own, were associated with negative attitudes toward parenting, and a limited knowledge of child development.

The investigation of the relationship of parental education level to parenting practice had been done by some researchers. In an extensive longitudinal study, Kagan and Moss (1962) found mother's educational level was significantly correlated with ratings of maternal behavior for variables defined as restrictiveness, hostility, and acceleration.

#### Parental Socioeconomic Status Affects Parental Knowledge of Child Development and Parenting Practice

The variable of annual family income was usually combined with parent educational level or occupations as an index of Socioeconomic Status. There were very few studies indicating the effect upon parental knowledge of child development/parenting practice only from the variance of family income. However, Stevens (1984) found that family income was positively related to both the Knowledge of Environmental Influence on Development Scale (KEIQ) and the Home Observation Measurement of the Environment (HOME) scores for the subjects.

Gottfried (1983) (1984) and Horowitz (1990) found that socioeconomic status is related to parenting. The similar finding by Sears et al. (1957) indicated that as many as five demographic factors—social class, education, mother's age, ethnicity, and family size—have some influence on the mother's choice of childrearing methods. They further found that working class mothers

were rated significantly higher than middle-class mothers on the following variables: severity of toilet training, punishment for aggression toward parents, restrictions on care of house and furniture, pressure for neatness and orderliness, strictness about bedtime, father's demands for instant obedience, importance of the child's doing well in school, use of ridicule, use of physical punishment, and showing some rejection of the child. On the other hand, middle class mothers were rated significantly higher than working class mothers on the following scales: age child completes bowel training, permissiveness for dependency, sex permissiveness, permissiveness for aggression toward parents, expecting child to go to college, mother's warmth to the child, mother "delighted" over pregnancy, and mother's esteem for father.

In addition, middle-class mothers interact more with their children than do lower-class mothers (Zunich, 1961). The parents of the higher socioeconomic level are likely to be the more loving parents to their children than those of the lower socioeconomic status (Roe & Siegelman, 1963). These findings are consistent with those reported by Sears et al. (1957).

Gutelius (1970) and de Lissovoy (1973a) also found their lower class adolescent mothers to express attitudes which were punitive and intolerant of their children's expressions of aggression. Investigators who have worked with similar socioeconomic populations have found a greater use of harsh, rigid and authoritarian parental techniques in lower class than in middle class parents (Wortis, Bardack & Cutler, 1963; Sears et al., 1957). At the same time, these

parents in lower socioeconomic circumstances often considered feeding, clothing and providing shelter for their children to be their primary childrearing responsibility. It was not considered inappropriate by them, for children to drop out of school to earn money and help with their keep after age 16 (Eshleman, 1981, cited in Shoemaker, 1983).

#### The Relationship of Childrearing Experience to Parental Knowledge of Child Development and Parenting Practice

The literature focused on the relationship of childrearing experience to parental knowledge of children or parenting practice was scarce. The effect of childrearing experience upon the parental knowledge or parenting practice was seldom emphasized by professionals or researchers. However, Landy, Montgomery, Schubert, Cleland and Clark (1983) found that experience was beneficial to parental knowledge increase. The data further indicated that the mothers who had been baby sitters and/or had experiences of child caring demonstrated higher scores on interaction scale with children.

The notion that the parenting experience may alter knowledge of child development was also reported by Stevens (1984). He found that black grandmothers were significantly more knowledgeable about early infant normative development than their teenage daughters who were raising a child. He also explained that these results may be due to the more childrearing experiences the grandmothers had than their daughters.

On the contrary, Myers (1985), from her research on 233 parents, found that there was no significant difference between experienced and inexperienced mothers' Knowledge of Child Development Test scores.

Walker (1986) administered the Knowledge of Child Development Questionnaire to 387 adolescent students to explore the relationship of adolescents' knowledge of child development to age, sex, ethnicity, experience, and training. He indicated that experience with young children correlated with the scores on the KCD with a coefficient of .17. It leaves little evidence of a significant statistical relationship between experience and the KCD. That is, the experienced mother did not appear to know more about child development and parenting practice than the teenagers without experience in his samples.

#### Parenting Training Affects the Parental Knowledge and Parenting Practice

Parenting is a task that requires special skills and knowledge. These skills are not inborn but must be learned (Morris et al., 1976). The Education Commission of the States (1975) stressed that a variety of programs need to be available to help prospective parents to better understand the developmental needs of the young child and the complexity and significance of their roles as parents. Since then, a number of education programs have been established on the assumption that the knowledge of developmental norms may help in the raising of offspring more effectively (Essman, 1977; Field, Widmayer, Greenberg, & Stroller, 1982). Throughout the literature, there are anecdotal accounts and

theoretical perspectives outlining the effect of parent education and support on certain aspects of child development and the improvement of parenting skills. At the same time, several studies have been conducted to examine such programs for effectiveness (Crumidy & Jacobziner, 1966; de Lissovoy, 1973a; Walters, 1975).

For example, the FEED (Facilitating Environment Encouraging Development) program was one of these programs developed in last decades. FEED was designed for junior high and middle school students (age 11-14 years), because the drop-out rate of teenager pregnancy during junior high and middle schools has been increasing at that period of time. This curriculum makes use of other curriculum guides such as *Exploring Childhood* in addition to multimedia teaching materials. The curriculum emphasizes principles of child growth and development and parenting skills that facilitate development. Data suggest that the FEED program has a pronounced impact on the students' attitudes and knowledge concerning normal and handicapped children's development (Anastasiow, Everett, O'Shaughnessy, Eggleston, & Eklund, 1978).

For the effectiveness of parenting training upon the child's development, a finding of Klein's study (1990) indicates that children of first-time parents who participated in a parent education and support program exhibited increased levels of cognitive competency about the child. This finding is congruent with many other findings in the literature. For instance, results from the Brookline Early Education Project (BEEP) and the Parents as Teachers (PAT) also sup-

port findings of increased child developmental competencies for families that participate in a parent education program (White, 1981).

Collecting data from more than 300 students in each of two test groups by using The Parenthood Questionnaire (Behavior Associates, 1978), Mokros (1981) and her colleagues discovered that Education for Parenthood did make a difference in terms of increasing knowledge about child development, building confidence in the ability to interact with children, promoting skills in dealing with child rearing problems, and facilitating reality testing concerning the options of parenthood and child care careers.

Magid, Gross, and Shuman (1979) also evaluated a program offering child development and guidance in a monthly curriculum directed towards pregnant teens. The evaluation of the program from January through December 1977 yielded positive results. Only 10% found the program to be no help, one half liked the program and wished sessions were held more frequently, and a third wished the program would be offered as a regular class. Subjects of this study stated they felt more sensitive to the needs of young children, understood reasons for certain infant behaviors, and had received guidelines for promoting age appropriate play.

In order to understand the effectiveness of parenting training courses, Brown (1981) studied two samples of parents—one group had been trained in child development courses, the other one had no training. He found the parents in the trained group scored better than the others on knowledge of child

development and seemed to have slightly better attitudes concerning children's self-esteem building.

On a national basis, teenagers in the Education for Parenthood program also showed statistically significant gains on child development knowledge as contrasted to the comparison group. Although the gains were small, the .01 level of significance indicated that the probability that the differences resulted from chance was minimal. The resulting appearance, therefore, indicated that the program of training in child development information did raise the level of knowledge among the adolescents (Behavior Associates, 1978).

Richett and Towns (1979) also examined the effects of an education for parenthood program (EPP) on the childrearing attitudes of eighth grade students. A variation of the Authoritarian Family Ideology (AFI) Scale was used as the pre- and posttest measure of childrearing attitudes. Results indicated that participation in the EPP changed the Experimentals' childrearing attitudes in the direction of greater sensitivity to the child's age appropriate behavior, increased tolerance of a child's misbehavior and sexual curiosity, and greater respect for a child's individuality.

In 1984, Roosa and Vaughn predicted that teenage mothers who had attended a teenage parent program would perform better on a variety of measures of parenting knowledge and practices than teenage mothers who do not have this experience. They tested the mothers' knowledge levels for the major points of a child's physical and social development, focusing primarily upon

developmental milestones. Their results proved successful. The mothers who attended the program scored significantly higher on most of the scales than the control group.

In order to understand whether parents' total Knowledge of Child Development score would be correlated with various family variables, Myers (1985) studied 233 parents with young children. She found parents' total Knowledge of Child Development score was significantly correlated with the hours the entire family spends together in pleasant activities ( $r = .127$ ,  $p < .05$ ) and the number of child development related courses taken by the parent ( $r = .109$ ,  $p < .05$ ).

Furthermore, Shoemaker (1983) contended that access to parenting education is especially important to those young families who no longer have their extended families close at hand to provide such information or who recognize that their extended family is fostering neglectful or abusive behavior toward children.

Croake and Glover (1977) and other researchers (Crimmins, Bradlyn, Lawrence, & Kelly, 1984; Eyberg & Johnson, 1974; Forehand & King, 1977) reported that parent education helped to improve parental attitudes and perceptions towards the child in question. Mothers receiving a special program of guidance through the first three years of the child's life (dealing with such



subjects as toilet training, shyness, children's curiosity) reported fewer behavioral problems of children (Gutelius, Kirsch, McDonald, Brooks, & McErlean, 1977).

### Parenting Education in the United States

In recent years the professionals concerned with child development and mental health have come to recognize that the key point of intervention for children is through the parenting system (Abidin, 1980). Therefore, there are schools and several institutes devoted to the service of parenting education--the Alan Guttmacher Institute and the Ypsilanti-Carnegie Infant Education Project (Epstein & Weikart, 1980).

In the earlier years, DeRosis (1970) already suggested that parent-education courses were greatly needed in the school systems. This viewpoint has been repeated by Getz and Gunn (1988) who believe that with the demise of the extended family as a predominate family structure there are fewer intergenerational guidelines and supports for parenting. In recent years, community programs for families have also been created, developed, and organized. One type of program that is becoming very popular is the offering of classes in parenting skills. Although some programs to prepare adolescents for their roles as parents may be sponsored by civic organizations, many programs seem to fall naturally into the regular school program (The Education Commission of the States, 1975).

In 1974, the Family Service Association of America (FSAA) adopted a recommendation to make family life education a coequal program element. And the education for parenthood is often called "family life education" (FLE) (Thierman, 1983). Family life education is generally offered through family service agencies, but also through schools, churches, and other youth and adult organizations. It is basically an educational service. This service is "targeted at people who are self-directing and enter voluntarily even though they may or may not be experiencing pain of conflict" (Kahn & Kamerman, 1980, p. 146) (cited in Thierman, 1983).

In order to introduce students at junior high and middle schools to parenthood responsibilities, a child development course was opened in some junior high and middle schools (Sugar, 1984). Anastasiow (1983) also agreed to make adolescents at the junior high level knowledgeable about infant and child development and to provide them an opportunity to experience to some degree the responsibilities of child care.

The programs designed for adolescents primarily are aimed at prevention in the United States. They seek to expose adolescents to the full array of children's developmental needs and to the responsibilities of parenthood before they become parents (Sugar, 1984). Anastasiow (1983) found junior high students to be at an ideal age for parenthood information programs. Junior high students are capable of understanding the risk of early childbearing and the responsibilities of early child care. Therefore, schools should provide more

realistic views of the responsibilities of parenthood and parenting-related courses with these students.

Myers (1985) also indicated that parenting classes in the high schools might be useful in preparing students for possible parenthood or just for future interaction with children. The nonparent students, like parents in parenting classes, could be exposed to a variety of children in many contexts. Hopefully, this would help students understand the behavior of typical children better, as well as any children they might rear in the future. In addition, a program before the students become parents might make young people aware of the responsibilities of parenting.

It appears that many parent education programs are specifically geared to the special needs of the adolescent parent (Levenson et al., 1978; MacLachlan & Cole, 1978, cited in Richett & Towns, 1980). This is a critical target group when one considers the dramatic increase in teenage pregnancy in the states (Coalition for Children and Youth, 1978; Stickle & Ma, 1975, cited in Richett & Towns, 1980). Two notable examples designed for youth are the Exploring Childhood curricula developed by the Education Development Center at Newton, Massachusetts, and the Facilitative Environments Encouraging Development (FEED) Program (Anastasiow, 1977, cited in Richett & Towns, 1980).

Perhaps the most widely adopted program in secondary schools is Education for Parenthood (Morris, 1977) which was developed as a cooperative

effort of the Administration for Children, Youth and Families, of the U. S. Office of Education, and the National Institute of Mental Health. The program is designed to provide classroom instruction in child development and practicum experience with young children. The curriculum was designed to present a course in child development that would include the social, medical, and emotional needs of children, the family's role in socialization, the important factors in prenatal care and early infancy, and child care career possibilities. The program was used in over 5,000 schools. One of the strengths of the program is the well-designed Exploring Childhood curriculum.

Other examples of community parent education programs include Systematic Training for Effective Parenting (STEP), Communication and Parenting Skills (CAPS), and Parent Effectiveness Training (PET). Turner (cited in Thierman, 1983) indicated that the goals of most of these programs include reducing parent-child conflict, fostering positive communication and relationships, and facilitating responsible maturation. Additionally, Abidin (1980) and Sugar (1984) also maintained that the parent education programs must consist of structured discussions characterized by intellectual analysis of children's development and a consideration of the basic principles of the growth and development of young children, the role of parents in mediating between the child and experiences of life.

In Fairbanks, Alaska, for instance, a similar type of program is offered by a growing number of public school social agencies and some private

organizations in the city. The program in Fairbanks is called "Parenting Skills Groups" (PSG), or, simply, "parenting classes."

Another useful parenting program was the 21st Century project that provides programming not just for families with children birth to age 3, but extends the population served through age 12. Specifically, the 21st Century project is a comprehensive program based in the schools that includes six basic areas of child care coordination: the PAT (Parents As Teachers) project; full time day care for preschoolers age 3-5; before and after school care for school age children through grade 6; a network linkage service on topics such as day care, home providers, seminars; an information/referral service that is set up in each school with a phone line to answer questions related to special education needs, medical needs, welfare needs, etc.; and a commitment to the creation of a strong parent-school partnership to meet the needs of the growing child (Zigler, cited in Carbonell, 1986).

### Summary

Parents are not born with the parent ability. The knowledge about child development and parenting skills need to be learned. The family background and parent-child interactions are regarded as the influential factors on the child's growth and development. The parenting knowledge and knowledge of child development that the parents have directly or indirectly affect their parenting practice. In the long-term, the quantity and quality of parental

knowledge about child development will influence the child development in many ways.

In the following chapter, the discussion focuses on the research methodology employed in this study.

## CHAPTER 3

### METHODOLOGY

This study investigated the relationship of parents' characteristics and their parenting knowledge, knowledge of child development, and childrearing involvement. In order to explain the methodology employed in the study, this chapter discussed subjects, research instruments, pilot study, research design, procedures, data analysis, and summary.

#### Subjects

The subjects in this study consisted of 90 mothers and 55 fathers who lived in Taiwan at the time of conducting this research. The subjects were accessed by previous acquaintance or by the friends' introduction. The subjects were recruited from different age, socioeconomic status, educational level, occupation and residential areas in Taiwan. Some of them lived in urban areas, the others lived in rural areas of Taiwan.

First, the invitation letters requesting volunteers were mailed to the recommended parents. The invitation letter introduced the purpose of this study (Appendix A). These parents were told that participation took approximately 30 minutes and that participation was totally voluntary and confidential.

The protection of subjects was ensured vis-a-vis the Human Subjects Guideline of the University of Arizona (Appendix B).

Interested parents then sent the consent form that was attached to the invitation letter back to the researcher. If the subjects agreed to participate, a set of questionnaires for the study was mailed to them immediately. The subjects would complete four questionnaires at their homes. After they completed, they then returned the questionnaires to the researcher in a pre-addressed stamped envelope.

### Instrumentation

Instrumentation for this study included the Personal Information Questionnaire, Parenting Knowledge Questionnaire (PKQ), Knowledge of Child Development Inventory (KCDI), and Childrearing Involvement Questionnaire (CIQ).

#### **Personal Information Questionnaire**

The personal information collected on each subject was as follows: gender, age, educational level, occupation, annual family income, childrearing experience, and parenting training where subjects learned about children. The responses to this questionnaire (Appendix C) are consistent with the social and cultural orientations of the subjects making the responses.



### **Parenting Knowledge Questionnaire**

In order to determine the subjects' level of parenting knowledge, the researcher developed the Parenting Knowledge Questionnaire (PKQ) (Appendix D) on the basis of a related parenting textbook, which consists of current information about the child development during the elementary school years (Humphrey & Humphrey, 1989). Items on the PKQ include children's nurturing and educating. The selection of items was consistent with the social and cultural considerations for Taiwanese parents.

When the researcher had written all items in this questionnaire, the items were submitted to three judges who were considered to be experts about this concept. This review process took 15 items away from the original questionnaire and resulted in the revision of the remaining 10 items. The PKQ was then translated into Chinese under the supervision of a Chinese professor at the University of Arizona. The Chinese version of PKQ was then reviewed by a panel of Taiwanese parents to determine subject understanding and readability. The instrument has a reading level of eighth grade for Taiwanese population.

The PKQ is a 5-choice rating scale ranging from strongly disagree to strongly agree. Items were phrased both positively and negatively and were assembled in random order in order to avoid set responding. The score of a positive statement represents 1 to 5 for strongly disagree to strongly agree. On the other hand, the score of a negative statement represents 5 to 1 for strongly

disagree to strongly agree in the statistical analysis. The score one can obtain on the PKQ ranges from a minimum of 10 to a maximum of 50. The higher the score, the more parenting knowledge the subjects have.

### **Knowledge of Child Development Inventory**

In order to determine the subjects' level of knowledge regarding child development, the researcher developed the Knowledge of Child Development Inventory (KCDI) (Appendix E) on the basis of a related child development textbook (Humphrey & Humphrey, 1989) and inventories which were already designed by other researchers (Larsen & Juhasz, 1986). The format and designing procedure was adopted from those of the Knowledge of Child Development Inventory (KCDI) (Larsen & Juhasz, 1986).

The instrument for this study measures the accuracy of knowledge about the development of normal children age from 5 to 12. It covers four aspects of development: social, cognitive, physical, and emotional development.

Initially, an item pool of over 56 questions was generated, consisting of approximately 14 questions for each basic area of development: social, cognitive, physical, and emotional. From the original item pool, 24 of these items were selected. Six items were taken from each of the four basic areas as representations of appropriate landmarks in child development ages 5 to 12.

The content validity of KCDI was obtained through an analysis of the instrument. Three experts in child development were requested to focus on

item's form and on completeness of question coverage. The 24-item concepts were then developed into multiple-choice test items.

The KCDI was also translated into a Chinese version under the supervision of a Chinese professor. The Chinese version of KCDI has a reading level within the range of the Taiwanese sample populations by conferring with Taiwanese teachers and Taiwanese parents. The subjects would be assessed by the Chinese version of KCDI. A test-retest reliability of the Chinese KCDI across a 2-week interval of .63 was achieved by a pilot study.

The inventory is a multiple choice measure with 24 questions. Each question has four possible answers, only one of which is correct. The target responses were defined by a panel of child development experts. They were asked to select the most accurate responses. The panel-chosen responses are considered in the final analysis. Choosing a correct answer for the subjects would attain a point in the statistical analysis. The highest score would be 24. The higher scores would mean a larger amount of knowledge about child development.

### **Childrearing Involvement Questionnaire**

The Childrearing Involvement Questionnaire (CIQ) (Appendix F) consists of 10 items which were developed from the following two constructs: nurturing children and educating children. The childrearing involvement was defined as behaviors referring to direct parent involvement with the child or matters

concerning the child age from 5 to 12. The items on the CIQ were based on the related childrearing textbook (Humphrey & Humphrey, 1989) and the Parent Involvement Questionnaire (Boyle & Rutger, 1988). The instrument was utilized to obtain a measure of the extent to which the subjects involved in the childrearing practice.

Ten items on the CIQ were selected from an item pool including the Taiwanese social and cultural considerations. The item pool was also submitted to three Taiwanese parents with at least one child in the elementary school for the selection of focused items. Based on oral feedback concerning ambiguous, confusing, or cultural deviated items, the instrument was modified to its present form.

When the English version of the CIQ was completed, it was then translated into a Chinese version under the supervision of the Chinese professor at the University of Arizona. The Chinese CIQ would be employed to investigate the subjects.

The CIQ has 10 Likert-type questions on which subjects choose from the responses: never, seldom, often, very often, and always. Scores on these individual items range from 1-5 with 5 indicating the most involvement in the childrearing. The score one can obtain on the CIQ ranges from a minimum of 10 to a maximum of 50.

### Pilot Study

A pilot study was conducted with one Taiwanese parent and seven Chinese parents who were not the subjects in this study. These parents had at least one child in the elementary school at the time of being recruited in the pilot study. The purpose of the pilot study was to obtain the test-retest reliability across a 2-week interval of the Knowledge of Child Development Inventory (KCDI).

The researcher first invited the eight parents to meet together at a local church in Tucson of Arizona on January 6, 1994. The Chinese version of the KCDI was distributed to each participant. It took approximately 10 minutes for them to complete this inventory. The second test was held on January 20, 1994, 2 weeks later.

The mean of the first test for these parents was 19.5. The range of the first scores was 21-18. The standard deviation among them was .93. The mean of the second scores on the KCDI was 19.88. The range of the second scores was from 22 to 18. The standard deviation of the second scores was 1.36. The test-retest reliability of the Chinese KCDI of .63 indicates that the KCDI has adequate reliability. The consistency and stability of the subjects' responses on the KCDI can be assumed.

### Research Design

The purpose of this research was to test the status of whether one of the parents' demographic variables related to scores on the PKQ, KCDI, and CIQ. Since this study seeks to find the relationships between the subjects' attributes and their parenting knowledge, knowledge of child development, and childrearing involvement, the use of a correlational design to quantify the relationships between the variables made it appropriate for this study (Lobiondo-Wood, Haber, 1990).

### Procedures

Potential subjects were first contacted by an invitation letter from the researcher. The invitation letter explained the nature and the purpose of this study and requested the recipients' participation in the research. Once they agreed to participate, they would use a consent form attached to the invitation letter to inform the researcher. Upon the researcher receiving the consent form, questionnaires were mailed to the voluntary subjects along with a cover letter (Appendix G), explaining confidentiality and voluntary participation, an instruction guide (Appendix H), and a pre-addressed stamped envelope for the return of the completed questionnaires.

In order to help the researcher be certain that the returned questionnaires did not get separated, a 3-number digit was put on the top right of each page of the questionnaires. The purpose of this number was also explained to

the subjects with the instruction guide sheet that there was no way to identify the individual subject with these numbers. Thereby, assuring that each subject was provided anonymous participation in this research.

### Data Analysis

Frequency distribution and measures of central tendency were initially used to analyze the demographic data and identify the subjects, to analyze the attained scores on the PKQ, KCDI, and CIQ of the different groups categorized by the demographic variables, and to analyze how the subjects responded to the PKQ, KCDI, and CIQ being investigated.

The inferential statistical procedures utilized in this study were Pearson's Product Moment Coefficient and  $t$  test. Since the research investigated seven of the parents' personal variables (gender, age, educational level, occupation, family annual income, childrearing experience, and parenting training), the Pearson's Product Moment Coefficient was used for analyzing the data to determine significant statistical relationships between the predictor variables on the parents' demographic items and the dependent variable scores on the PKQ, KCDI, and CIQ.

The  $t$  test was employed to determine if there were differences of scoring on the PKQ, KCDI, and CIQ between the two different groups of female parents vs. male parents, older parents vs. younger parents, parents with higher educational level vs. parents with lower educational level, parents with profes-

sional job vs. parents with nonprofessional job, parents with high income vs. parents with low income, parents with experience of raising a child age from 5 to 12 years vs. parents without experience, and parents with parenting training vs. parents without training.

### Summary

The sample for this study was comprised of 55 Taiwanese fathers and 90 Taiwanese mothers living in Taiwan. These parent subjects had at least one child at the time of participating in the research.

The Personal Information Questionnaire was designed to obtain the subjects' personal variables. In order to understand the subjects' level of parenting knowledge, the PKQ was developed by the researcher. The KCDI also developed by the researcher measures the amount of child development information which a subject maintains at the time of assessment.

The degree of childrearing involvement for the subjects was measured by the CIQ developed by the researcher. These questionnaires were mailed to the subjects and returned in a postage-paid envelope.

A correlational design was used in this study. Collected data were analyzed using descriptive statistics, Pearson's Product Moment Coefficient, and  $t$  test.

The following chapter reports all the findings from the research and compares them to the original hypotheses and known research.



## CHAPTER 4

### RESULTS

This chapter presents the results of this study designed to explore what possible factors of the wide range of parenting knowledge, knowledge of child development, and childrearing involvement. The purpose of the study was focused on determining if parental demographic variables represent as the effective characteristics in the level of parental knowledge and the degree of childrearing involvement.

The specific objects of this study addressed the following:

1. Is there a significant relationship between parents' gender and the level of parenting knowledge, knowledge of child development, and childrearing involvement.
2. Is there a positive relationship between parental age and the level of parenting knowledge, knowledge of child development, and childrearing involvement.
3. Is there a positive relationship between parental educational level and the level of parenting knowledge, knowledge of child development, and childrearing involvement.

4. Is there a positive relationship between parental occupation and the level of parenting knowledge, knowledge of child development, and childrearing involvement.
5. Is there a positive relationship between the annual family income and the level of parenting knowledge, knowledge of child development, and childrearing involvement.
6. Is there a positive relationship between the childrearing experience with children aged 5 to 12 years and the level of parenting knowledge, knowledge of child development, and childrearing involvement.
7. Is there a positive relationship between parenting training and the level of parenting knowledge, knowledge of child development, and childrearing involvement.
8. Do female parents score significantly higher than male parents on the PKQ (Parenting Knowledge Questionnaire), KCDI (Knowledge of Child Development Inventory) and CIQ (Childrearing Involvement Questionnaire).
9. Do older parents score significantly higher than younger parents on the PKQ, KCDI, and CIQ.
10. Do parents with higher educational level score significantly higher than those with lower educational level on the PKQ, KCDI, and CIQ.
11. Do parents with professional jobs score significantly higher than those with nonprofessional jobs on the PKQ, KCDI, and CIQ.

12. Do parents with higher income score significantly higher than those with lower income on the PKQ, KCDI, and CIQ.
13. Do parents with experience of raising children aged 5 to 12 years score significantly higher than those with no experience on the PKQ, KCDI, and CIQ.
14. Do parents with parenting training experience score significantly higher than those with no parenting training experience on the PKQ, KCDI, and CIQ.

This chapter analyzes the data obtained from 145 Taiwanese parents. The parents' demographics were gathered from a Personal Information Questionnaire. PKQ, KCDI, and CIQ were completed by subjects along with the Personal Information Questionnaire. The completed PKQ, KCDI, and CIQ were then scored and these scores used as a basis for statistic analysis.

### Demographic Analysis

Table 1 indicates the number and percentage by gender of the subjects. Thirty-eight percent of the subjects were males and 62% were females. The female subjects in the study were more than male subjects.

Table 2 provides the statistical results and distribution of ages of the subjects. The ages range from 19 to 47 years, with the most common age being 28. Both the mean age and the median age were 36, with a standard deviation

Table 1. Number and percentage of subjects by gender

Gender	<u>N</u>	%
Male	55	38
Female	90	62

Table 2. Measures of central tendency and number, percentage of subjects by age

Measures of Central Tendency	Age (yr)	Age Group	<u>N</u>	%
Mean	36	Younger Parents	70	48
Mode	28			
Median	36			
Maximum	47			
Minimum	19	Older Parents	74	51
Range	28			
<u>SD</u>	5.09	Did not answer	1	1

of 5.09. In order to make the comparison of scores on PKQ, KCDI, and CIQ by age, subjects were then grouped into two subgroups (the younger parents and the older parents) in Table 2 and the following tables with the dividing point of the mean age of the subjects. The younger-age group was defined as the age of subjects below the mean age of the total subjects. The older-age group was defined as the age of the subjects equal to or above the mean age of the total subjects. The younger group consisted of 70 parents, while the older group included 74 parents. A subject did not answer this question.

The distribution of educational level of subjects was shown in Table 3. Eight percent of subjects had completed elementary school, while 17% had completed junior high school. The largest part of subjects were with the educational

Table 3. Number and percentage of subjects by educational level

Educational Level	<u>N</u>	%
Elementary School	11	8
Junior High	25	17
Senior High	63	43
Five-year Junior College	15	11
Two-year Junior College	9	6
Three-year Junior College	2	1
Bachelor's Degree	20	14
Master's Degree	0	0
Ph.D.	0	0

level of senior high having 43% in comparison to other levels. The percentage of subjects graduating from 5-year junior college was 11%. There were 6% of subjects graduating from 2-year junior college, while there was only 1% graduating from 3-year junior college. Fourteen percent of subjects had a bachelor's degree as their highest education. No subjects were with master's degree or Ph.D. Since the mean level of education fell between the level of senior high and 5-year junior college for the total subjects, the subjects were divided into two subgroups in the following method. The lower education group consisted of subjects with elementary, junior, and senior high levels. The higher education group included the subjects with 5-year junior college, 2-year junior college, 3-year junior college or bachelor degree levels.

Table 4 provides the distribution of occupations of subjects. This table shows the number and percentage of subjects in each occupation. Fourteen percent of subjects had professional jobs. Three percent had intermediate jobs as being the least part of the subjects compared to other occupations, while 7% had jobs of skilled nonmanual. The percentage of subjects with manual skilled jobs was 9. The second large part of subjects had partly skilled jobs as being 29%. There was 7% subjects having unskilled jobs. The largest part of subjects of 30% were housekeepers, whose employment was the task of housemaking. About 1% of the total subjects did not specify their occupations. Concurrently, subjects were also divided into two subgroups (professional and nonprofessional) as in the correlation and comparison analysis by occupation. Throughout this

Table 4. Number and percentage of subjects by occupation

Occupation	<u>N</u>	%
Professional	20	14
Intermediate	5	3
Skilled nonmanual	11	7
Skilled manual	13	9
Partly skilled	42	29
Unskilled	10	7
Housekeeper	43	30
Did not answer	1	1

study, the term "Professional Occupation" is used to refer to the group that encompasses professional jobs, intermediate jobs, skilled jobs (nonmanual), and skilled jobs (manual). And the term "Nonprofessional Occupation" is used to refer to the group that encompasses partly skilled jobs, nonskilled jobs, and housekeeping.

The distribution of annual family income of subjects is shown in Table 5. Three out of 145 subjects did not answer this question about family income. The missing data accounted for 2% of the total subjects. In general, there was about an even distribution throughout the income levels. Twelve percent of the

Table 5. Number and percentage of subjects by annual family income

Annual Family Income*	N	%
Below NT\$ 200,000	18	12
NT\$ 200,000-NT\$ 399,999	23	16
NT\$ 400,000-NT\$ 599,999	24	17
NT\$ 600,000-NT\$ 699,999	19	13
NT\$ 700,000-NT\$ 799,999	18	12
NT\$ 800,000-NT\$ 899,999	13	9
NT\$ 900,000-NT\$ 999,999	8	6
NT\$ 1,000,000 above	19	13
Did not answer	3	2

\* 26 NT\$=1 US\$

subjects had an annual family income below NT\$ 200,000 (approximately US \$7,700). Sixteen percent had NT\$ 200,000-399,999, while the percentage of subjects with an annual family income of NT\$ 400,000-599,999 was 17. Thirteen percent subjects had NT\$ 600,000-699,999. The percentage of subjects with an income of NT\$ 700,000-799,999 was 12. Nine percent subjects had NT\$ 800,000-899,999 of annual family income. Six percent subjects had an annual family income of NT\$ 900,000-999,999. There were 13% with an annual family income above NT\$1,000,000.



Table 6 depicts the distribution of subjects by childrearing experience with children aged 5 to 12 years. The subjects without children aged 5 years or over consisted of 29%, while there was 71% subjects with children aged 5 years or over, who had childrearing experience with children aged 5 to 12. The subjects were then divided into two subgroups. The experience group was defined as the subjects having their own children aged 5 to 12 or over, while the non-experience group included subjects without having their own children aged 5 to 12 or over.

Table 6. Number and percentage of subjects by childrearing experience with children aged 5 to 12 or over

Childrearing Experience	<u>N</u>	%
Having no children aged 5 to 12 or over	42	29
Having children aged 5 to 12 or over	103	71

Table 7 shows the distribution of subjects by parenting training experience. The total subjects in this analysis were 145. But, 3 out of 145 subjects did not reply to the question about parenting training experience. The missing data accounted for about 2% of the total subjects. There was 56% of the

Table 7. Number and percentage of subjects by parenting training experience

Parenting Training	<u>N</u>	%
Never attended a class or workshop	81	56
Attended classes in school	36	25
Attended workshops	25	17
Did not answer	3	2

subjects who never attended classes about child development or parenting education, and 25% had taken a class of child development or parenting education when they were in school. Seventeen percent subjects have attended a short course or workshop about child development or parenting education. In order to do a comparison analysis by training in the study, then, the subjects were divided into two subgroups regarding if subjects had taken classes or workshops about child development or parenting education in the following tables. The subjects having taken a class of child development or parenting education and those having attended a short course/workshop were combined in the same group of subjects with parenting training compared to others never attending classes or workshops as the group of subjects without parenting training.

### Hypothesis Testing Results

#### **Hypothesis 1**

Correlation statistics were performed to test if there is a significant relationship between parental gender and the level of parenting knowledge, knowledge of child development, childrearing involvement. The results are presented graphically in Table 8. The correlation coefficients of parental gender and the scores on PKQ, KCDI, and CIQ are .154, .160, and .154, respectively. These correlation coefficients did not approach significance at the level of .01. The insignificant relationship between the parental gender and the level of parenting knowledge, knowledge of child development, and childrearing involvement proved the first hypothesis to be null; hence, the parental gender not being a significant indicator of the level of parenting knowledge, knowledge of child development, and childrearing involvement.

#### **Hypothesis 2**

Table 8 is a correlation matrix consisting of parental demographics, PKQ, KCDI, and CIQ. It also showed the correlation coefficients of parental age and the scores on the PKQ, KCDI, and CIQ. These coefficients were -.194, -.020, and -.221, respectively. Only the coefficient of age and CIQ of -.221 approached significant relationship at  $p < .01$ . Thus, in response to the Hypothesis 2, it was rejected. There were no positive relationships existing between parental age and the scores of PKQ, KCDI, and CIQ. But, on the other hand,

Table 8. Correlation matrix of demographic variables and PKQ, KCDI, and CIQ

	Gender	Age	Education	Occupation	Income	Experience	Training	PKQ	KCDI	CIQ
Gender	1.000									
Age	-.296**	1.000								
Education	.008	.010	1.000							
Occupation	-.032	.040	.578**	1.000						
Income	.166	-.100	.401**	.402**	1.000					
Experience	-.097	-.069	.211*	.071	-.038	1.000				
Training	.157	-.189	.409**	.192	.189	.157	1.000			
PKQ	.154	-.194	.354**	.376**	.436**	-.236*	.187	1.000		
KCDI	.160	-.020	.180	.338**	.351**	-.010	.179	.610**	1.000	
CIQ	.154	-.221*	.194	-.176	.136	-.179	.212*	.415**	.384**	1.000

Note: \*  $p < .01$ ; \*\*  $p < .001$

the results indicated there was a significantly negative relationship of age and scores of CIQ. The significantly negative relationship between parental age and the level of childrearing involvement indicated that the younger the parents, the higher degree of childrearing involvement they had.

### **Hypothesis 3**

The correlation coefficients of parent educational level to the scores on PKQ, KCDI, and CIQ were .354, .180, and .194, respectively, which are also shown in Table 8. Only the coefficient of parental education level and PKQ approached significance ( $p < .001$ ). Although there was no significant relationship between parental education level and KCDI and CIQ at the significant level of .01, the positive coefficients indicated the positive relationship between educational level and the KCDI and CIQ scores. In response to Hypothesis 3, the educational level of parents appeared positively related to the PKQ, KCDI, and CIQ scores. Thus, the third research hypothesis was not rejected. There were positive relationships between parents' education level and the degree of parenting knowledge, knowledge of child development, and childrearing involvement.

### **Hypothesis 4**

Table 8 also indicated the correlation coefficients of parents' occupation to the PKQ and KCDI were .376 and .338 that approached significance at  $p < .001$ , while the coefficient of parents' occupation and CIQ scores was -.176 that

failed to reach significance at the level of .01. These statistical values supported that there were strong relationships between parents' occupation and the scores on PKQ and KCDI. The strong relationships construed that the more professional jobs, the higher level of parenting knowledge and knowledge of child development the parents had. The occupation was shown to significantly relate to parents' level of parenting knowledge, knowledge of child development. But, it is not true in predicting the degree of childrearing involvement as a negative relationship existed between occupation and the scores of CIQ.

#### **Hypothesis 5**

A strong correlation result existed between the annual family income and the scores of PKQ and KCDI, but CIQ, which is displayed in Table 8. These correlation coefficients of the income and the PKQ, KCDI, and CIQ were .436, .351, and .136, respectively. The previous two coefficients except the last one reached significance at  $p < .001$  level. There were strong relationships between the annual family income and the level of parenting knowledge and knowledge of child development. As the family income increased, the level of parenting knowledge and knowledge of child development also increased. Since the coefficient of the income and the CIQ scores failed to approach significance at the level of .01, there was no significant relationship of the family income and the degree of childrearing involvement.

**Hypothesis 6**

In order to understand if the childrearing experience with children aged 5 to 12 years related to the level of parenting knowledge, knowledge of child development, and childrearing involvement, the coefficients were obtained from the correlation analysis. The correlation coefficients of childrearing experience with children ages 5 to 12 and the scores of PKQ, KCDI, and CIQ were -.236, .010, and -.179, respectively, as shown in Table 8. Only the coefficient of -.236 between the experience and the level of parenting knowledge approached significance ( $p < .01$ ). This negative relationship between two variables indicated that the more childrearing experience the subjects possessed, the less parenting knowledge they had. In addition, a low but negative relationship of experience and CIQ also supported this finding that the times of raising children ages 5 to 12 years of their own did not increase the subjects' parenting knowledge, knowledge of child development, and childrearing involvement. Hence, in response to the sixth hypothesis, Hypothesis 6 was rejected.

**Hypothesis 7**

The same process of correlation computation was performed to parenting training and the scores on PKQ, KCDI, and CIQ. Table 8 indicates these coefficients of .187, .179, and .212 respectively. The coefficient of .212 between parenting training and CIQ scores was significant ( $p < .01$ ). There was a positive and significant relationship of parenting training and the degree of

childrearing involvement. Even though the correlation coefficients of parenting training and PKQ and KCDI scores did not reach significance at the significant level of .01, yet these two positive coefficients of near-approaching significance might be able to support the positive relationship of parenting training and the level of parenting knowledge, knowledge of child development, and childrearing involvement. Thus, Hypothesis 7 was not rejected.

### **Hypothesis 8**

For Hypothesis 8, a  $t$  test of difference was used to compare the two groups of parental gender [(1) the male parents, (2) the female parents] to the PKQ, KCDI, and CIQ scores. The  $t$ -test values obtained (-1.73; -1.74; -1.87) on PKQ, KCDI, and CIQ, respectively, proved to be not significant at .05 level. Hence, the Hypothesis 8 was rejected. Parental gender appeared not to be significantly related to the overall performance on the PKQ, KCDI, and CIQ. The male parents and female parents showed no significant difference on the mean scores of PKQ, KCDI, and CIQ. A comparison of gender and the PKQ, KCDI, and CIQ score means is shown in Table 9. The standard deviations for study variables are also displayed in this table.

### **Hypothesis 9**

A  $t$  test was employed to test if there is any difference on the scores of PKQ, KCDI, and CIQ for younger parents and older parents. The  $t$  value of these two age groups related to PKQ was 2.21 with a significant level of .029,



Table 9. Comparison of mean scores of the PKQ, KCDI, and CIQ by gender

Questionnaire	Gender	
	Male	Female
<u>PKQ</u>		
<u>N</u>	55	90
<u>M</u>	39.58	41.09
<u>SD</u>	4.72	5.33
<u>t</u>		-1.73
<u>p</u>		.087
<u>KCDI</u>		
<u>N</u>	55	90
<u>M</u>	17.67	18.89
<u>SD</u>	4.35	3.90
<u>t</u>		-1.74
<u>p</u>		.084
<u>CIQ</u>		
<u>N</u>	55	90
<u>M</u>	36.78	38.58
<u>SD</u>	5.66	5.50
<u>t</u>		-1.87
<u>p</u>		.063

Note: \*  $p < .05$ ; \*\*  $p < .01$

while the  $t$  value on KCDI was .22 that failed to approach significance at the level of .05. The  $t$  value of these two age groups on CIQ was 2.73 with a significant level of .007. The mean scores, standard deviation, and  $t$ -test results are shown in Table 10 . The results demonstrated that younger parents scored significantly higher than the older parents both on PKQ and CIQ ( $p < .05$ ). The younger parents had significantly higher scores on the PKQ and CIQ. But the difference on KCDI between younger parents and older parents did not approach significance.

#### **Hypothesis 10**

The same procedure of statistical comparison was conducted to subjects with lower education level and those with higher education level. All  $t$ -test results on PKQ, KCDI, and CIQ between these two groups approached significance at the significant level of .05. Especially, the  $t$  value related to PKQ further approached significance at the significant level of .01. The  $t$  value on PKQ between these two education groups was -4.65 with a significant level of .0001, while the  $t$  value on KCDI was -1.99 with a significant level of .049. There was a  $t$  value of -2.40 with a significant level of .018 on CIQ between the lower education group and the higher education group. These results indicated the parents with higher education scored significantly higher than the parents with lower education. Table 11 depicts the mean scores, standard deviation, and  $t$  values related to PKQ, KCDI, and CIQ.

Table 10. Comparison of mean scores of the PKQ, KCDI, and CIQ by age group

Questionnaire	Age	
	Younger Group	Older Group
<u>PKQ</u>		
<u>N</u>	70	74
<u>M</u>	41.51	39.65
<u>SD</u>	6.06	3.90
<u>t</u>		2.21
<u>p</u>		.029*
<u>KCDI</u>		
<u>N</u>	70	74
<u>M</u>	18.51	18.36
<u>SD</u>	4.40	3.86
<u>t</u>		.22
<u>p</u>		.829
<u>CIQ</u>		
<u>N</u>	68	73
<u>M</u>	39.24	36.71
<u>SD</u>	5.76	5.24
<u>t</u>		2.73
<u>p</u>		.007**

Note: \*  $p < .05$ ; \*\*  $p < .01$

Table 11. Comparison of mean scores of the PKQ, KCDI, and CIQ by education

Questionnaire	Education	
	Lower Education	Higher Education
<u>PKQ</u>		
<u>N</u>	99	46
<u>M</u>	39.25	43.24
<u>SD</u>	4.81	4.79
<u>t</u>		-4.65
<u>p</u>		.0001**
<u>KCDI</u>		
<u>N</u>	99	46
<u>M</u>	17.97	19.41
<u>SD</u>	3.87	4.48
<u>t</u>		-1.99
<u>p</u>		.049*
<u>CIQ</u>		
<u>N</u>	96	46
<u>M</u>	37.13	39.50
<u>SD</u>	5.77	4.95
<u>t</u>		-2.40
<u>p</u>		.018*

Note: \*  $p < .05$ ; \*\*  $p < .01$

**Hypothesis 11**

A  $t$  test was employed to examine the difference of scores on PKQ, KCDI, and CIQ, which were related to occupation. The results are shown in Table 12. Three  $t$  values approached significance at significant level of .05. The  $t$  value of parents with nonprofessional jobs and parents with professional jobs on PKQ was -4.80 with a significant level of .0001, while the  $t$  value of these two groups on KCDI was -4.19 with a significant level of .0001. The  $t$  value between these two groups on CIQ was -2.23 with a significant level of .027. That is, parents with professional jobs had significant higher mean scores on PKQ, KCDI, and CIQ than those with nonprofessional jobs. Thus, Hypothesis 11 was not rejected.

**Hypothesis 12**

Results were obtained from a  $t$ -test analysis by the variable of annual family income. Two groups (lower income parents, higher income parents) were compared. Table 13 displays the mean scores, standard deviations, and  $t$  values. The  $t$  value of lower income parents and higher income parents on the PKQ was -5.96 with a significant level of .0001, while the  $t$  value related to KCDI between these two groups was -4.43 with a significant level of .0001. It appeared that parents with higher income scored pretty significantly higher on PKQ, KCDI than those with lower income. Table 13 also indicates the  $t$  value of lower income parents and higher income parents on CIQ as being -1.84 with

Table 12. Comparison of mean scores of the PKQ, KCDI, and CIQ by occupation

Questionnaire	Occupation	
	Nonprofessional	Professional
<u>PKQ</u>		
<u>N</u>	95	49
<u>M</u>	39.16	43.20
<u>SD</u>	5.08	4.19
<u>t</u>		-4.80
<u>p</u>		.0001**
<u>KCDI</u>		
<u>N</u>	95	49
<u>M</u>	17.43	20.31
<u>SD</u>	4.26	3.07
<u>t</u>		-4.19
<u>p</u>		.0001**
<u>CIQ</u>		
<u>N</u>	92	49
<u>M</u>	37.18	39.37
<u>SD</u>	6.04	4.38
<u>t</u>		-2.23
<u>p</u>		.027*

Note: \*  $p < .05$ ; \*\*  $p < .01$

Table 13. Comparison of mean scores of the PKQ, KCDI, and CIQ by income

Questionnaire	Income	
	Lower Income	Higher Income
<u>PKQ</u>		
<u>N</u>	84	58
<u>M</u>	38.69	43.38
<u>SD</u>	4.53	4.73
<u>t</u>		-5.96
<u>p</u>		.0001**
<u>KCDI</u>		
<u>N</u>	84	58
<u>M</u>	17.21	20.14
<u>SD</u>	4.25	3.23
<u>t</u>		-4.43
<u>p</u>		.0001**
<u>CIQ</u>		
<u>N</u>	83	57
<u>M</u>	37.11	38.88
<u>SD</u>	5.53	5.64
<u>t</u>		-1.84
<u>p</u>		.067

Note: \*  $p < .0$

an approaching significant level of .067. The  $t$  value of -1.84 failed to reach significance at the level of .05, but the mean score the higher income parents obtained on CIQ was still higher than lower income parents. The results supported Hypothesis 12.

### **Hypothesis 13**

A  $t$  test was also performed to test for differences on scores of PKQ, KCDI, and CIQ related to experience. The two groups, parents without child-rearing experience of children ages 5 to 12 years and parents with childrearing experience of children ages 5 to 12, differed significantly on the measure of PKQ and CIQ, while differed insignificantly on KCDI. The  $t$  values on the PKQ, KCDI, and CIQ between these two groups were 3.09 with a significant level of .002, .09 with a significant level of .928, and 2.22 with a significant level of .028, respectively. It manifested that the  $t$  value between these two groups on PKQ was significant ( $p < .01$ ), and the  $t$  value on CIQ was significant too ( $p < .05$ ). At the same time, these values construed that the parents without childrearing experience with children ages 5 to 12 scored significantly higher on PKQ and CIQ than those with experience. Parents without childrearing experience also scored higher on KCDI than those with experience, but the difference failed to reach significance at the level of .05. Results of these analyses are found in Table 14.



Table 14. Comparison of mean scores of the PKQ, KCDI, and CIQ by childrearing experience

Questionnaire	Experience	
	Nonexperience	Experience
<u>PKQ</u>		
<u>N</u>	42	103
<u>M</u>	42.52	39.70
<u>SD</u>	5.61	4.72
<u>t</u>		3.09
<u>p</u>		.002**
<u>KCDI</u>		
<u>N</u>	42	103
<u>M</u>	18.48	18.41
<u>SD</u>	5.18	3.61
<u>t</u>		.09
<u>p</u>		.928
<u>CIQ</u>		
<u>N</u>	41	101
<u>M</u>	39.51	37.24
<u>SD</u>	5.51	5.54
<u>t</u>		2.22
<u>p</u>		.028*

Note: \*  $p < .05$ ; \*\*  $p < .01$

**Hypothesis 14**

A  $t$  test was conducted to test if there is a significant difference on the scores of PKQ, KCDI, and CIQ between parents without parenting training and those with parenting training. The results are presented in Table 15. It indicated that all three  $t$  values on PKQ, KCDI, and CIQ approached significance ( $p < .05$ ). The  $t$  value of the parents without parenting training and parents with parenting training on PKQ was -2.41 with a significant level of .017. Another  $t$  value of these two groups on KCDI was -2.07 with a significant level of .041. The  $t$  value on CIQ was -2.36 with a significant level of .02. In response to Hypothesis 14, there appeared parents with parenting training scored significantly higher than those without parenting training on the PKQ, KCDI, and CIQ. Hence, Hypothesis 14 was not rejected.

**Summary**

Results supported 8 out of the 14 hypotheses about the factors related to the parenting knowledge, knowledge of child development, and childrearing involvement for Taiwanese parents identified at the beginning of this chapter:

1. There was a significant relationship between the parents' educational level and their level of parenting knowledge ( $p < .01$ ).
2. A strong relationship existed between parents' occupation and their level of parenting knowledge, knowledge of child development ( $p < .001$ ).

Table 15. Comparison of mean scores of the PKQ, KCDI, and CIQ by parenting training

Questionnaire	Parenting Training	
	Nontraining	Training
<u>PKQ</u>		
<u>N</u>	82	61
<u>M</u>	39.67	41.74
<u>SD</u>	4.46	5.81
<u>t</u>		-2.41
<u>p</u>		.017*
<u>KCDI</u>		
<u>N</u>	82	61
<u>M</u>	17.82	19.25
<u>SD</u>	3.87	4.37
<u>t</u>		-2.07
<u>p</u>		.041*
<u>CIQ</u>		
<u>N</u>	80	60
<u>M</u>	37.00	39.23
<u>SD</u>	5.37	5.75
<u>t</u>		-2.36
<u>p</u>		.02*

Note: \*  $p < .05$

When the occupation became more professional, the level of parenting knowledge, knowledge of child development increased.

3. A strong relationship of significance was indicated between parents' income and their level of parenting knowledge, knowledge of child development ( $p < .001$ ). As the parents' income increased, the level of parenting knowledge, knowledge of child development also increased.
4. There was a significant and positive relationship between the parenting training and the level of childrearing involvement ( $p < .01$ ). The parenting training was a significant factor affecting the level of childrearing involvement for parents.
5. Parents with higher education level scored significantly higher than those with lower education level on the PKQ, KCDI, and CIQ ( $p < .05$ ).
6. Parents with professional jobs scored significantly higher than those with nonprofessional jobs on the PKQ, KCDI, and CIQ ( $p < .05$ ).
7. Parents with higher income scored significantly higher than those with lower income on the PKQ and KCDI ( $p < .01$ ).
8. Parents with parenting training scored significantly higher than those without parenting training on the PKQ, KCDI, and CIQ ( $p < .05$ ).

The following chapter includes a summary of this study and the findings, conclusions drawn from the results and recommendations for further research

and study of parenting knowledge, knowledge of child development, and  
childrearing involvement.

## CHAPTER 5

### CONCLUSIONS, DISCUSSION, RECOMMENDATIONS, AND IMPLICATIONS

#### Conclusions

Problems caused by elementary school students are becoming more serious and pervasive both in the United States and in Taiwan. The increasing rate of child crime, child violence and the prevalence of children's problems have become more threatening to the child's development and the society's.

This issue about children has received some attention from educators, counselors, mental health practitioners, and sociologists. They have devoted their wisdom in this field, and concluded that there was a strong association between parents and their children's development. Parents play an important role and make a considerable difference in the child's total development. In order to prevent and solve the child's problem, they suggested the basic way is through parents. They stressed that early problem identification and intervention for children can lead to preventing more and more child related problems.

In fact, the quality of childrearing differs in each family. Many parental characteristics have been proved to affect their knowledge of child development and parenting practice. The purpose of the study was an attempt to identify what factors related to the level of parenting knowledge, knowledge of child

development, and childrearing involvement among Taiwanese parents, and to use ideas to design useful parenting education programs for different parents.

The subjects consisted of 55 fathers and 90 mothers. All subjects lived in Taiwan at the time of conducting this study. They were recruited from different socioeconomic status and residential areas, with an average age of 36 years.

The instrument used to measure the level of parenting knowledge was the Parenting Knowledge Questionnaire (PKQ). Knowledge of Child Development Inventory (KCDI) was developed to measure the level of knowledge of child development. Childrearing Involvement Questionnaire (CIQ) was designed to measure the degree of childrearing involvement. The PKQ and CIQ each consisted of 10 Likert-type statements. The KCDI consisted of 24 multiple choice questions. Each question has four possible answers. The returned PKQ, KCDI, and CIQ were then scored and used as a basis for correlation and comparison analysis. Demographic information was collected from the Personal Information Questionnaire. The following demographics were then recorded: gender, age, educational level, occupation, annual family income, childrearing experience, and parenting training for the data analysis.

The demographic information was analyzed according to a raw distribution of frequency and percentage and other measures of central tendency. The correlation computations were done finding the relationships between the demographics and the scores on the PKQ, KCDI, and CIQ. Seven  $t$  tests were

computed to compare the parents' demographics and the level of parenting knowledge, knowledge of child development, and childrearing involvement.

Findings confirmed 8 out of the 14 hypotheses. There was a strong positive relationship ( $p < .001$ ) between subjects' educational level and their level of parenting knowledge. As a subject's educational level increased the level of parenting knowledge also went up. Several significantly positive relationships ( $p < .001$ ) existed between subjects' occupation and the level of parenting knowledge and knowledge of child development. When the more professional jobs existed level of parenting knowledge and knowledge of child development increased. The possible influence of educational level and occupation (respectively) on these scores is evident from the correlation matrix (Table 8). The strong positive relationships of significance ( $p < .001$ ) were shown between the annual family income and the level of parenting knowledge and knowledge of child development. As the income increased so did the level of parenting knowledge and knowledge of child development. A positive relationship of significance existed between the parenting training and the degree of childrearing involvement. This increase on the level of childrearing involvement seems to relate to the more parenting training experience.

In addition, there were several significant findings which showed the opposite results to the hypotheses. A negative relationship of significance ( $p < .01$ ) was shown between subjects' age and the degree of childrearing involvement. The hypothesis was that there was a positive relationship between



parental age and the level of parenting knowledge, knowledge of child development, and childrearing involvement. Age in this study not only appears to approach significance as a predictor of the degree of childrearing involvement ( $p < .01$ ) but also appears to negatively relate to the scores in proportion to age increase. There was also a negative relationship between subjects' experience with children aged 5 to 12 and their level of parenting knowledge. The research hypothesis was that there was a positive relationship between childrearing experience and the level of parenting knowledge, knowledge of child development, and childrearing involvement. The more childrearing experience in this study seems to predict the less parenting knowledge for subjects.

No relationship was shown between parents' gender and the level of parenting knowledge, knowledge of child development, and childrearing involvement. This result was contrary to the hypothesis that there existed a significant relationship between parental gender and the level of parenting knowledge, knowledge of child development, and childrearing involvement.

The  $t$ -test results also indicated the following findings that supported the hypotheses with the exception of younger parents oppositely scoring significantly higher than older parents on the measures of PKQ and CIQ:

1. parents with higher educational level scored significantly higher than those with lower educational level on the PKQ, KCDI, and CIQ,
2. parents with professional jobs scored significantly higher than those with nonprofessional jobs on the PKQ, KCDI, and CIQ,

3. parents with higher income scored significantly higher than those with lower income on the PKQ and KCDI,
4. parents with parenting training scored significantly higher than those without parenting training on the PKQ, KCDI, and CIQ.

Conclusively, the parents most likely to score low on the PKQ, KCDI, and CIQ were older male parents with nonprofessional job and with no parenting training. The parents most likely to score high on the PKQ, KCDI, and CIQ were younger female parents with professional jobs and with parenting training. These conclusions were drawn from the correlation matrix (Table 8).

### Discussion

A further look at each of the hypothesis and the results will be discussed in this section. In order to deliberate these findings, the question of how certain demographic variables influence the scores on the PKQ, KCDI, and CIQ was also addressed.

In examining the relationship between parents' demographics and the level of parenting knowledge, knowledge of child development, and childrearing involvement, it can be concluded that several results of this study are generally consistent with the hypotheses of this study and prior research. But, some results showed the opposite findings to the hypotheses and antecedent research.

A lack of relationship existed between parent's gender and the level of parenting knowledge, knowledge of child development, and childrearing

involvement, hence, the hypothesis that there is a significant relationship between parental gender and the level of parenting knowledge, knowledge of child development, and childrearing involvement was rejected. This result was not consistent with the former finding that females had more parenting knowledge, knowledge of child development, and childrearing involvement than males.

The parents in this study, unlike those in Myers' (1985), Klíman and Vukelich's (1985), Showers and Johnson's (1985) studies, indicated males are less knowledgeable of child development than females. Male and female subjects did not show significant difference on the level of parenting knowledge, knowledge of child development, and childrearing involvement in the study. However, female parents still had a slightly higher mean scores on the PKQ, KCDI, and CIQ than male parents (Table 9).

In addition, more female parents than male parents were found in the study from the distribution of subjects by gender (Table 1). This may show that female parents were more willing to participate in this study. This kind of phenomenon was compatible with the Taiwanese tradition that a large part of care giving for children seems to fall into female parents rather than male parents. The task of childrearing might require mothers to learn more about parental knowledge, knowledge of child development than fathers.

The relationships between parental age and the PKQ, KCDI, CIQ scores were all negative. Especially, the relationship of subjects' age and their level of childrearing involvement approached significance ( $p < .01$ ). The result showing

that as the subjects' age went up the level of childrearing involvement decreased is contrary to the Larsen and Juhasz's finding that the older subject, the greater his/her knowledge of child development and the more positive his/her attitude toward parenting. But the insignificant relationships of age and the PKQ, KCDI scores supported the Walker's (1986) finding. Walker (1986) administered the Knowledge of Child Development Questionnaire to 387 adolescent students. He found that there was no relationship between age and the KCD scores. There was no significant difference between the scores on the KCD of younger adolescents and the scores on the KCD of older adolescents.

The negative relationship of significance ( $p < .01$ ) between subject's age and the level of childrearing involvement may be believed to be true because the parenting education programs were not available for parents until recently in Taiwan. Many parenting training courses were not open when older parents were in school. The lack of parenting education and child development courses may suppress the influence of parental age upon the parenting knowledge, knowledge of child development, and childrearing involvement. The influence of training upon the age relating to the PKQ, KCDI, and CIQ scores can be seen from the negative relationship of age and training (Table 8). The correlation coefficient between parental age and parenting training was  $-.189$ . It indicated that younger parents tended to attend more parenting training classes than older parents. Younger parents might learn some knowledge and skills about parenting and child development from the parenting education

programs even though they did not have actual experience of raising a child ages 5 to 12 years.

The significant effect of parenting training upon the scores of PKQ, KCDI, and CIQ was also evident from Table 15. The influence of the parenting training variable on the relationship between the PKQ, KCDI and age may be considered powerful. Findings within the demographic information also indicated that subjects having attended parenting classes tended to produce the higher scores on the PKQ, KCDI, and CIQ (Table 15).

The results about education variable supported the hypothesis that educational level related to the level of parenting knowledge, knowledge of child development, and childrearing involvement, and the hypothesis that parents with higher education scored significantly higher than those with lower education on the scores of PKQ, KCDI, and CIQ. This data also confirmed the findings of the reported research in Chapter 2. For example, Kilman and Vukelich (1985) compared a mature mothers group who had college or technical school education and a teenage mothers group who were high school students. They concluded that maternal education level positively correlated with knowledge of child development. Kagan and Moss (1962) also found mother's educational level was significantly correlated with parenting behaviors. Parent educational level was a strong indicator of the level of parenting knowledge, knowledge of child development, and childrearing involvement.

Occupation as a variable seemed to influence the PKQ, KCDI, and CIQ scores in two ways (Table 8 and Table 12). One influence was that occupation was found to be significantly correlated with the PKQ and KCDI scores ( $p < .001$ ). The second influence was found that parents with professional jobs tended to score higher than those with nonprofessional jobs on the PKQ, KCDI, and CIQ. It stands to reason that this would be a significant factor related to parenting knowledge, knowledge of child development, and childrearing involvement. The results about occupation and the performance on the PKQ, KCDI, and CIQ were consistent with the hypotheses and the prior research in Chapter 2.

As to the variable of annual family income, two of the results indicated that there was a positive relationship of significance between the annual family income and the level of parenting knowledge, knowledge of child development (Table 8), and that subjects with higher family income scored significantly higher than those with lower income on the PKQ and KCDI (Table 13). These findings supported the hypotheses and the former research. For instance, Stevens (1984) found that family income was positively related to both the Knowledge of Environment Influence on Development Scale (KEIQ) and the HOME Observation Measurement of the Environment (HOME) scores for the subjects. Gottfried (1983) (1984), Horowitz (1990) also indicated that socioeconomic status was related to parenting. In addition, an earlier finding that the parents of the higher socioeconomic level were likely to be the more loving

parents to their children than those of the lower socioeconomic status was also reported by Roe and Siegelman (1963).

There was a negative relationship of significance ( $p < .01$ ) between parenting experience and the level of parenting knowledge. It was noted in Table 14 that subjects with no childrearing experience of children ages 5 to 12 had a significantly higher mean scores on the PKQ and CIQ than those with experience. All of these results failed to support the research hypotheses and the Landy, Montgomery, Schubert, Cleland and Clark's finding (1983) that experience was beneficial to parental knowledge increase.

The results indicated that when looking at childrearing experience, childrearing experience was not a significant factor by itself of knowledge of child development, and childrearing involvement. In the study, the positive influence of experience upon parenting knowledge, knowledge of child development, and childrearing involvement may be repressed by parental age and parenting training.

Younger parents with less childrearing experience took more parenting classes in this study (Table 8). Part of the results may be contributed to the fact that the information on the PKQ, KCDI and CIQ can be learned from parenting training classes, rather than from the actual experience of raising a child. Due to the high possibility of that information on the PKQ, KCDI, and CIQ can be heard in parenting training classes, the correlation in the variables of training and the scores of PKQ, KCDI and CIQ may have kept experience

from contributing positively to the correlation with the PKQ, KCDI, and CIQ. Data on this variable of experience might prove to be different in the future as researchers design the questionnaires based more on the real experience with children ages 5 to 12 instead of the general information being likely attained from training classes.

The findings of this study did show a significant relationship between parenting training and the level of childrearing involvement ( $p < .01$ )(Table 8). But, the relationships existed between training and the level of parenting knowledge, and knowledge of child development failed to approach significance at the significant level of .01. However, all positive correlation coefficients of training and the PKQ, KCDI, CIQ scores support what had already been written about this positive relationship in Chapter 2.

From Table 8, the evidence within the demographic information suggested that common correlational elements between education and training may have kept training from contributing a significant correlation with the scores on the PKQ and KCDI. Education and training significantly correlated with an  $r = .409$  ( $p < .001$ ). The influence of parenting training upon the PKQ and KCDI scores may be suppressed by the moderate correlation of education and training.

At the same time, the  $t$ -test results between the parenting training and the mean scores of PKQ, KCDI, and CIQ showed that subjects with parenting training scored significantly higher on the PKQ, KCDI, and CIQ than those with



no training (Table 15). Thus, identified parenting training could be a strong indicator of parenting knowledge, knowledge of child development, and childrearing involvement. Yet the results from this study leave an open question as to the actual level of influence this training may have on the PKQ, KCDI, and CIQ scores.

### Recommendations

Based on the current work, there are several recommendations for continued research on the sources of the wide range of parenting knowledge, knowledge of child development, and childrearing involvement.

1. Conclusions drawn from the results of this study should be examined in the light of the analysis techniques that were employed. The Pearson's correlation coefficients in the study allow for the explanation of the degree of relationship, but do not allow for substantiation of cause-effect relationships. Perhaps a multiple regression by parental demographics and PKQ, KCDI, CIQ would provide clearer information on the effects of the parental factors on variations of parenting knowledge, knowledge of child development, and childrearing involvement.
2. Since variables which were not included in the study may be relevant, future studies between the parent's demographics and PKQ, KCDI, CIQ with regard to other factors would open a totally new area in

understanding the sources of variance in the knowledge about parenting and child development for parents.

3. A study in which levels of childrearing experience and parenting training are controlled might offer clear insights into what relationship actually exists between experience and training and the level of parenting knowledge, knowledge of child development, and childrearing involvement.
4. In the future, a replicated study which makes use of a current education average, a current family income average for all inferred populations as a dividing point of high education vs low education level, high income vs low income in the comparison analysis of subgroups is recommended.
5. The improvement of content validity of Parenting Knowledge Questionnaire, Knowledge of Child Development Inventory, and Childrearing Involvement Questionnaire is recommended in a future study. The item coverage of each questionnaire would be extended on the basis of more literature review and cultural considerations. In addition, to avoid high internal consistency between each questionnaire, items straddling questionnaires would be discarded. A strict culling procedure in increasing the discriminational function among these instruments is recommended.
6. A different measure of childrearing involvement with children ages 5 to 12 can be done by children. The reports of parents' involvement with

them from children themselves may be useful and reliable in future studies.

### Implications

Although caution must be practiced in generalizing beyond this sample, the results suggest some implications for counselors, educators, and mental health practitioners who want to further the parenting education movement in Taiwan.

It is obvious that if people have low level of knowledge of parenting and child development, they may devalue the importance of parenting education because they do not see the importance of parenting practice to the child's total development or even to our society. If people devalue parenting education, they might not support public funding of such education. Trying to promote the parents' level of parenting knowledge and knowledge of child development will be a basic task for Taiwanese counselors, educators, and mental health practitioners.

When parenting training providers are going to help parents increase their parenting knowledge, knowledge of child development, they first need to know which parent group needs the most urgent education for good parenting practice. This study suggested that even experienced parents may be lacking the parenting ability. The older Taiwanese parents with low educational level, or with non-professional jobs, or with low income are likely to have insufficient knowledge about parenting and child development.

In addition, these parents tended to take less parenting training classes. Thus, encouraging these parents to participate more parenting-related training will be useful in the promotion of parenting ability for Taiwanese parents. Simultaneously, how to encourage these parents to attend parenting training programs may need to be addressed by counselors, educators, and all mental health practitioners.

Another area which may need addressing is the lack of training opportunities offered for potential parents or current parents in Taiwan. The finding that there were over a half of the subjects who had never received any parenting training cannot be ignored. Counselors, educators or other practitioners need to consider providing more parenting and child development courses in schools or other agencies. The association found in this study between parental factors and the level of parenting knowledge, knowledge of child development, and childrearing involvement may be used as a basis for designing the effective parenting training programs.

### Summary

The increasing rate of child crime and the more serious child problems have received more attention from counselors, educators, mental health practitioners, and sociologists. The conclusion made by researchers was that the better way to prevent and solve child problems is through parents.

In fact, parenting ability differs in each parent. As it has been shown, parents' educational level, occupation, family income, and childrearing experience significantly related with their parenting knowledge. Parents' occupation, income had strong relationships with the knowledge of child development. Parental age and parenting training showed significant relationships with their degree of childrearing involvement. The parents' age, educational level, occupation, income, experience, and training affect the parents' level of parenting knowledge, knowledge of child development, and childrearing involvement.

Children are the future for Taiwan. Effective parenting training programs appear to be one way to guarantee the future of Taiwan is bright.

**APPENDIX A**

**INVITATION LETTER FOR VOLUNTEERS  
(ENGLISH AND CHINESE VERSIONS)**

October, 1993

Dear parents:

I am a graduate student at the University of Arizona's Counseling and Guidance program. As part of my Master's studies, I am conducting a research project on how parental factors may be related to the parenting knowledge and childrearing involvement.

I would like your cooperation in participating in this research study. Participation in this study is voluntary. If you are interested in participating in the study, please complete the form below and return it to me in the enclosed envelop by November 30, 1993. When I receive your notice form. I will immediately mail the questionnaires to you.

I thank you very much for participating. Please call at (602) 795-5908 for any other information or questions.

Sincerely,

Li-you Tsao  
Graduate Student  
University of Arizona

Detach Here

.....

I am interested in this study research. I would like to receive the questionnaires. Mailing me the questionnaires by the following name and address.

My name: \_\_\_\_\_

My Address: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

親愛的家長您好：

我是亞利桑那大學諮商與輔導研究所的學生。為了完成一部份研究所的課程，我正在進行一項研究計畫。此項研究計畫旨在瞭解父母親的因素和其教養子女的認知及教養子女參與程度有何相關性。

我希望您能參與此項研究，參與此項研究完全是自願性的。假如您想參與此項研究，請填妥下列的回條，並在十一月三十日之前利用回郵信封寄給我。當我收到您的回條，我會馬上將問卷郵寄給您。

非常感謝您的參與，若有其他問題請利用 (602) 795-5908 的電話與我聯絡。

亞利桑那大學研究生 曹麗優 敬上

中華民國八十二年十月十日

回條 請沿虛線撕開

.....

我有興趣於參與此項研究，請利用下列的姓名和住址郵寄問卷給我。

我的姓名：\_\_\_\_\_

我的住址：\_\_\_\_\_

\_\_\_\_\_



**APPENDIX B**

**HUMAN SUBJECTS COMMITTEE APPROVAL LETTER**

Human Subjects Committee



1690 N. Warren (Bldg. 526B)  
Tucson, Arizona 85724  
(602) 626-6721 or 626-7575

November 5, 1993

Li-you Tsao, Candidate/MA  
FCR: Counseling/Guidance  
c/o Betty J. Newlon, Ph.D.  
Esquire Apartments, #210  
Campus Mail

**RE: FACTORS RELATED TO PARENTING KNOWLEDGE, KNOWLEDGE OF CHILD  
DEVELOPMENT AND CHILD-REARING INVOLVEMENT AMONG PARENTS**

Dear Ms. Tsao:

We have received documents concerning your above cited project. Regulations published by the U.S. Department of Health and Human Services [45 CFR Part 46.101(b) (2)] exempt this type of research from review by our Committee.

Thank you for informing us of your work. If you have any questions concerning the above, please contact this office.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "W. F. Denny".

William F. Denny, M.D.  
Chairman  
Human Subjects Committee

WFD:rs

cc: Departmental/College Review Committee

**APPENDIX C**

**PERSONAL INFORMATION QUESTIONNAIRE  
(ENGLISH AND CHINESE VERSIONS)**

8. PLEASE CHECK WHICH OF THE FOLLOWING ARE TRUE FOR YOU

☐ never attend any class or workshop in child development or parenting education

☐ attended a class in child development or parenting education in school

☐ attended a short course/workshop in child devel-

## 個人資料問卷

親愛的家長您好！以下問題是為學術研究，個人資料絕對保密，請放心，並請依實際狀況，在適當的空格中打勾或填答。

1. 性別  
☐ 男性  
☐ 女性
2. 出生年月：  
民國 \_\_\_\_ 年 \_\_\_\_ 月
3. 最高學歷  
☐ 小學畢業  
☐ 國中畢業  
☐ 高中，高職，高工，高農，高護畢業  
☐ 五專畢業  
☐ 二專畢業  
☐ 三專畢業  
☐ 大學畢業  
☐ 碩士  
☐ 博士
4. 除了家庭之外，您是否還有其他的工作？  
☐ 是。  
☐ 否。
5. 如果除了家庭之外，您還有其他工作，您的工作是\_\_\_\_\_。

6. 您全家人的年度總收入是多少？

- ☐ NT\$ 200,000 以下
- ☐ NT\$ 200,000 - 399,999
- ☐ NT\$ 400,000 - 599,999
- ☐ NT\$ 600,000 - 699,999
- ☐ NT\$ 700,000 - 799,999
- ☐ NT\$ 800,000 - 899,999
- ☐ NT\$ 900,000 - 999,999
- ☐ NT\$ 1,000,000 以上

7. 您有幾個小孩？

不到五足歲的小孩有 \_\_\_\_ 個。

五足歲或大於五足歲的小孩有 \_\_\_\_ 個。

8. 下項哪項敘述符合您的實際情況，請在空格中作勾選。

- ☐ 從來沒參加過有關兒童發展或養育小孩的課程，講習或研習會。
- ☐ 在學生時代，曾修過有關兒童發展或養育小孩的課程。
- ☐ 曾參加過短期的有關兒童發展或養育小孩的課程，講習或研習會。

APPENDIX D

PARENTING KNOWLEDGE QUESTIONNAIRE

(ENGLISH AND CHINESE VERSIONS)

# PARENTING KNOWLEDGE QUESTIONNAIRE

Directions: Below are some statements about rearing and educating children. Choose an answer that best describes if you strongly disagree (SD), mildly disagree (MD), are not sure (NS), mildly agree (MA), or strongly agree (SA).

	SD	MD	NS	MA	SA
1. Parents need to provide for physical needs for food, rest and activities, and proper care of the eyes, ears, teeth and the like.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Children's running, jumping, climbing and playing games are meaningless for their development.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Acts for which parents praise, punish or ignore their children should not vary from time to time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Parents should make decisions for children no matter how old the children are.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. What children learn at home is very important to their school success.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Children learn best by doing things themselves rather than listening to others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Children should be educated in the same way regardless of differences among them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Parents should punish children when they are doing something wrong on purpose.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Parents need to praise a child when he/she does a good job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Parents should allow a child the right to express his/her own views.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## 教養子女認知問卷

親愛的家長，以下有一些關於養育小孩的说法，請按您贊同的程度來打勾：

	非常 不同意	不同意	沒意見	同意	非常 同意
1. 父母親需要提供小孩飲食，休息，活動等身體上的需要，以及提供小孩視力，聽力和牙齒等的保健。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. 兒童的跑、跳、爬和玩遊戲對他們身體的發展沒有影響。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. 父母親對小孩讚美或處罰的標準不能常常變化不定。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. 不管小孩年齡的大小，父母都必須替小孩作決定。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. 小孩在家裡學到的知識或技能，對小孩在學校的學習成就有很大的影響。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. 小孩從靠著自己的動手做所獲得的學習效果會遠比，只是聽別人說來得好。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. 所有的小孩雖有不同都可以使用相同的教養方式。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. 當小孩故意做錯事時，父母需要給予適當的處罰。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. 當小孩表現良好時，父母需要給予適當的讚美。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. 父母需要給予小孩表達自己意見的權利	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**APPENDIX E**

**KNOWLEDGE OF CHILD DEVELOPMENT INVENTORY  
(ENGLISH AND CHINESE VERSIONS)**

## KNOWLEDGE OF CHILD DEVELOPMENT INVENTORY

Directions: This is a test of your knowledge of child development, from age 5 to age 12. Read each question carefully. Choose the letter you believe best answers the question. Please make only one answer for each item.

### SOCIAL DEVELOPMENT

- \_\_\_1. Children from age 5 to 12 like to imitate
  - a) mother
  - b) father
  - c) teacher
  - d) peer group
- \_\_\_2. Children from age 5 to 12 prefer to play
  - a) alone
  - b) with peer group
  - c) with siblings
  - d) with parents
- \_\_\_3. Conformity to the expectations of peer group members
  - a) is unimportant
  - b) is best achieved by parent training
  - c) is necessary for the socialization of the child
  - d) will occur naturally until the adult ages
- \_\_\_4. Boys at school age like to fight and wrestle with peers
  - a) Parents should worry the boys are too aggressive
  - b) Parents should stop these activities, because it will make boys learn more violent behaviors
  - c) Parents should realize it is normal for the boys at these ages
  - d) Parents should punish these boys immediately
- \_\_\_5. Which of the following will be good for children
  - a) teach them to stay at home
  - b) remind them to keep away from peers
  - c) encourage them to play with peers
  - d) lead them to visit many adult friends
- \_\_\_6. If the rules parents set conflict with those peer group require, children from age 5 to 12 likely
  - a) obey parents' rules, not peers' will be
  - b) obey peers' rules, not parents'
  - c) do not obey any rules
  - d) try to change the peers' rules

### COGNITIVE DEVELOPMENT

- \_\_\_7. When a child is interested in something, the mother should
  - a) tell the child to discuss it with his father when he arrives home
  - b) pretend to listen to the child while going on with the

- important household work
  - c) attempt to understand the child and seriously listen to his/her thoughts
  - d) ignore the child so he learns not to interrupt her with his ideas
- \_\_\_8. How does the idea that "children should be seen and not heard," relate to language development?
- a) it is correct because this is a teaching passed down through the generations
  - b) it is wrong because children should be listened to and talked to
  - c) it is correct because children do not need to be listened to and talked to
  - d) it does not really matter because children talk to each other
- \_\_\_9. What advice should parents be given to help them improve their child's language?
- a) restrict the child so that he does not hear improper language
  - b) correct the child every time he says something wrong
  - c) talk to the child and listen to the child
  - d) have the child watch more television
- \_\_\_10. Which of the following will encumber the intellectual development of children?
- a) provide more challenging experiences at their level of ability
  - b) provide more intellectually successful and satisfying experiences
  - c) provide more creative experiences
  - d) have children conform to what parents request
- \_\_\_11. What kind of instructional methods is more helpful to children from age 5 to 12
- a) explain every detail orally to children
  - b) adopt concrete experiences for children
  - c) really does not matter what kind of instructional methods is used for children
  - d) teach children to recite everything
- \_\_\_12. Which of the following is incorrect?
- a) children who have worse academic achievement are less intelligent than those who have better academic achievement
  - b) children differ in intelligence
  - c) the older the child, the longer the attention span is
  - d) mental development is rapid in early childhood and slows down later

#### PHYSICAL DEVELOPMENT

- \_\_\_13. Does poor nutrition affect a child?
- a) no, it really does not affect the child very much

- b) yes, but it can be made up later in life
  - c) maybe, it depends on the child
  - d) yes, it affects his/her growth and makes it easier for him/her to become ill
- \_\_\_14. Children's physical development is controlled by
- a) only heredity
  - b) only environment
  - c) both heredity and environment
  - d) neither heredity nor environment
- \_\_\_15. Which of the following is better for children's physical development?
- a) provide a wide variety of activities to meet the physical needs of children at different age levels
  - b) the same kinds of activities can meet the physical needs of children at different age levels
  - c) what kinds of activities do not affect the physical development for children
  - d) the choice of physical activities is due to parents' favorite
- \_\_\_16. To prevent a child from forming set opinions on food likes and dislikes, parents can
- a) keep nagging the child to clean his/her plate
  - b) Supply the child only with foods that he/she may not like
  - c) let the child eat only the food he/she likes
  - d) provide a rather large variety of foods in the child's life
- \_\_\_17. If we compare the manipulative skills and muscular condition of the sixth graders with those of the first graders, we can find
- a) the sixth graders are better than the first graders in the manipulative skills and muscular condition.
  - b) the first graders are better than the sixth graders
  - c) the first graders behave as well as the sixth graders in the manipulative skills and muscular condition
  - d) it is hard to tell who does better
- \_\_\_18. What should parents be concerned with regarding nutrition for children?
- a) the quality of food
  - b) the amount of intake food
  - c) the price of food
  - d) the producer of food

#### EMOTIONAL DEVELOPMENT

- \_\_\_19. When a child shows a fearful response to animals, parents should
- a) ignore this, because the child will go over the fearful response when he/she gets older
  - b) pay attention to the child's response and employ some effective treatment in reducing the child's fear

- c) scold the child for his/her behaving so cowardly
  - d) make fun of the child because of his/her fearful response
- \_\_\_20. Children from age 5 to 12, on the average, do not like
- a) adult domination
  - b) being trusted
  - c) being independent
  - d) being successful
- \_\_\_21. If a child has a strong fear that is due to the fantastic or unreal danger, parents should
- a) be concerned about the child's mental health
  - b) scold the child having too much fantasy
  - c) explain every detail about something fearful and avoid the unfitful fear from child
  - d) prevent the child from having fantasy
- \_\_\_22. What kind of emotion may be caused for a child in facing the classmate who has more friends and better grades than he/she?
- a) joy
  - b) fear
  - c) anger
  - d) jealous
- \_\_\_23. When a child is tired and sick, he/she may
- a) become irritated and easily angry
  - b) have no emotion changed
  - c) talk a lot with his/her friends
  - d) want to go out playing with friends
- \_\_\_24. What will have bad effects upon the child's emotional development?
- a) planning physical activities for children
  - b) encouraging children to learn from many different roles
  - c) improving the social skills of children
  - d) making many decisions for children

## 兒童發展認知問卷

親愛的家長，這是一個評估您對5歲到12歲兒童發展狀況認知的量表。請仔細閱讀每個問題，然後選擇一個您認為最好的答案。每個問題，請只選擇一個答案。

### 兒童的社會發展

- 1. 5 歲到 12 歲的兒童通常喜歡模仿的對象是
- (1) 媽媽
  - (2) 爸爸
  - (3) 老師
  - (4) 同年紀的同學或朋友
- 2. 5 歲到 12 歲的兒童，通常喜歡和誰一起玩？
- (1) 自己一個人玩
  - (2) 和同年紀的同學或朋友玩
  - (3) 和兄弟姐妹玩
  - (4) 和爸媽玩
- 3. 遵從同年紀的同學或朋友的期望，對兒童來說
- (1) 不太重要
  - (2) 靠著父母嚴格的訓練就可以達成
  - (3) 是兒童社會化過程中非常需要的
  - (4) 要等到長大後，才能學會遵從同年紀的同學或朋友的期望
- 4. 小學年紀的男孩喜歡和同學玩扭打的遊戲
- (1) 父母必須擔心這些男孩的攻擊性太強
  - (2) 父母必須馬上加以制止，因為扭打會使男孩學會更多攻擊性的行為
  - (3) 父母必須了解這種扭打行為對小學年紀的男孩是正常的
  - (4) 父母必須馬上給予處罰
- 5. 下列哪項有益兒童的正常發展？
- (1) 教他們待在家裡
  - (2) 提醒他們要遠離同年紀的朋友
  - (3) 鼓勵他們和同年紀的朋友一起玩
  - (4) 帶他們去拜訪很多的大人朋友

- 6. 假如父母的規定和同年紀朋友所要求的相衝突時，小學階段的兒童通常會
- (1) 聽從父母的規定，不管同年紀朋友的要求
  - (2) 聽從同伴的要求，不管父母的規定
  - (3) 不遵從任何的規定或要求
  - (4) 設法去改變同伴的要求

#### 兒童認知的發展

- 7. 當一個小孩對某一種東西或某一件事情有興趣時，媽媽需要
- (1) 告訴小孩，等爸爸回家時再和爸爸討論
  - (2) 假裝傾聽小孩的敘述，並繼續忙著做家事
  - (3) 儘量去了解小孩和認真的聽小孩的想法
  - (4) 不理會小孩，這樣小孩就能學會不去干擾媽媽做事
- 8. "小孩有耳無嘴" 這句話對小孩語言發展有何影響？
- (1) 這句話是對的，因為它是自古流傳下來的一個教育方式
  - (2) 這句話是錯的，因為父母需要對小孩多說話和重視小孩的話
  - (3) 這句話是對的，因為父母不需要對小孩多說話和重視小孩
  - (4) 因為小孩間會互相交談，父母有沒有對小孩多說話或重視小孩，對小孩的語言發展都沒有影響
- 9. 下列哪項建議可以提供給父母親，幫助小孩的語言發展？
- (1) 限制小孩，以免小孩聽到不好的話
  - (2) 當小孩每次講錯話時，就馬上糾正他
  - (3) 多和小孩說話，並聽小孩說話
  - (4) 讓小孩多看電視
- 10. 下列哪項會阻礙小孩的智能發展？
- (1) 在小孩的能力範圍內，提供他們較具挑戰性的經驗
  - (2) 提供更多智能方面成功的經驗
  - (3) 提供更多創造性的經驗
  - (4) 要小孩遵從父母的一切要求



- 11. 下列哪種教育方式，對小學階段的小孩比較有幫助？
- (1) 口頭式的解釋每項細節給小孩聽
  - (2) 採用讓小孩具體去經驗的方式
  - (3) 使用哪種教育方式對小孩都沒有影響
  - (4) 教小孩把每樣東西背起來
- 12. 下列哪項敘述是不正確的：
- (1) 在學校成績較差的小孩比成績較好的小孩不聰明
  - (2) 小孩的聰明智慧各不相同
  - (3) 小孩年紀愈大，注意力愈能持久
  - (4) 在兒童早期，小孩的智能是快速的發展，以後就逐漸緩慢下來

#### 兒童身體的發展

- 13. 營養不良是否會影響小孩的發展
- (1) 不會，營養不良不會對小孩的發展有很大的影響
  - (2) 會有影響，但是以後還可能彌補
  - (3) 是否會有影響取決於小孩的體質
  - (4) 是的，營養不良會影響小孩的生長，而且會使小孩容易生病
- 14. 兒童身體的發展，受到哪些因素的影響？
- (1) 只受到遺傳的影響
  - (2) 只受到後天環境的影響
  - (3) 受到遺傳和後天環境的影響
  - (4) 既不受遺傳，也不受後天環境的影響
- 15. 下列哪項有助於兒童身體的發展？
- (1) 提供各種不同的活動以適合不同年紀小孩的需要
  - (2) 同一種活動就能夠適合不同年紀小孩的需要
  - (3) 各種活動都不會影響兒童的身體發展
  - (4) 體能活動的選擇只要取決於父母的喜好
- 16. 為了預防小孩養成偏食的習慣，父母可以
- (1) 不斷的嘮叨，叫小孩將碗裡的食物吃乾淨
  - (2) 只提供小孩他不喜歡吃的食物
  - (3) 讓小孩只吃他喜歡吃的食物
  - (4) 提供各種不同的食物給小孩

—— 17. 假如比較六年級兒童和一年級兒童操作技巧和肌肉的發展情形，我們可以發現：

- (1) 六年級兒童的操作技巧和肌肉的發展情形比一年級的兒童好
- (2) 一年級的兒童比六年級的兒童好
- (3) 一年級的兒童和六年級兒童一樣好
- (4) 要比較六年級和一年級兒童的表現，是很困難的

—— 18. 關於兒童的營養，父母必須關心的是：

- (1) 兒童所吃食物的營養價值
- (2) 兒童所吃食物量的多少
- (3) 食物的價格
- (4) 食物的製造廠商

#### 兒童情緒的發展

—— 19. 當小孩表現對動物的害怕反應時，父母必須

- (1) 不必在意，因為小孩長大後自然就能克服這種害怕的反應
- (2) 注意小孩的反應，並使用一些有效的處理方式來減輕小孩的害怕情緒
- (3) 責罵小孩表現得太懦弱
- (4) 取笑小孩有這種害怕的反應

—— 20. 小學階段的兒童，一般而言都不喜歡

- (1) 大人的控制
- (2) 被信任
- (3) 獨立
- (4) 成功

—— 21. 假如小孩因為想像或是一些不真實的危險而產生強烈的害怕情緒，父母必須

- (1) 擔心小孩的心理不健康
- (2) 責罵小孩想像力太豐富
- (3) 仔細的解釋小孩所害怕的東西給小孩聽，並且避免這種不適當的害怕
- (4) 避免小孩有太多的想像

- 22. 當小學階段的兒童面對一個朋友比他多，功課比他好的同學時，他可能會有哪種情緒反應？
- (1) 快樂
  - (2) 害怕
  - (3) 生氣
  - (4) 嫉妒
- 23. 當一個小孩很累或生病時，他可能會
- (1) 變得煩躁不安，且容易生氣
  - (2) 沒有任何情緒上的改變
  - (3) 和他的朋友說很多的話
  - (4) 想要出去和朋友一起玩
- 24. 下列哪項會對兒童的情緒發展產生不良的影響？
- (1) 替小孩多安排適當的體能活動
  - (2) 鼓勵小孩從不同角色中去學習
  - (3) 改善小孩的社交技巧
  - (4) 替小孩做很多的決定

**APPENDIX F**

**CHILDREARING INVOLVEMENT QUESTIONNAIRE**

**(ENGLISH AND CHINESE VERSIONS)**

### CHILDREARING INVOLVEMENT QUESTIONNAIRE

Directions: Please read each statement and choose an appropriate answer that best describes the extent to which you are involved in each of the following areas.

	NEVER,	SELDOM,	OFTEN,	VERY ,	ALWAYS
				OFTEN	
1. Preparing breakfast for your child	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Eating dinner with your child	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Playing with your child; engaging in physical activities with him/her	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Teaching your child appropriate social and living skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Rewarding appreciate behavior of your child	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Supervising your child's homework	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Sharing your feelings and views with your child	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Telling stories to your child	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Initiating useful discussion aimed at resolving specific problems or issues concerning your child	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Providing many learning experiences to your child	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## 教養子女參與程度問卷

親愛的家長，請閱讀每個句子，並在最適當的方格打勾來表示您在教養小孩的參與程度。

	從不	很少	偶而	經常	一向
1. 替小孩準備早餐	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. 和小孩一起吃晚餐	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. 和小孩一起玩，一起從事體能的活動	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. 教導小孩適當的社交和生活技能	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. 獎賞小孩的優良表現	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. 指導小孩的家庭作業	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. 和小孩分享您的感受和想法	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. 說故事給小孩聽	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. 針對解決小孩特殊的問題，作有效的討論	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. 提供小孩很多的學習機會	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**APPENDIX G**

**COVER LETTER**

**(ENGLISH AND CHINESE VERSIONS)**

October, 1993

Dear parents:

We are interested in finding out if there is any parents' factors related to their parenting knowledge, knowledge of child development and childrearing involvement. Your participation in this study may help us learn more about the relative factors upon parenting practice and provide counselors, educators and social workers with suggestions while they help parents deal with their children.

We realize that some of the information that we have asked you to provide us on the questionnaires is very personal and under normal circumstances we would not ask you to disclose such information. However, the nature of this study necessitates a more detailed understanding your personal information. (In order to insure confidentiality, please do not put your name on any of the questionnaires). In the long run, we hope that the information that you provide us will help us to be able to help other parents with the demands of raising and educating their children. In the short run, we hope that by filling out the questionnaires you may learn more about issues that may be important to you as parents. In order for this study to be helpful to other parents in the future, it is very important that as many of you as possible respond.

Enclosed are a number of questionnaires designed to assess different domains of parenting, such as parenting knowledge, knowledge of child development and childrearing involvement. Your participation in this study is entirely voluntary. If you elect to participate in this study, please answer the questionnaires openly and honestly.

Please DO NOT WRITE YOUR NAME on any of the questionnaires. Individual responses will be held in strictest confidence.

We thank you very much for participating in the study. Please call Li-you at (602) 795-5908 for any other information or questions.

Sincerely,

Betty J. Newlon, Ph.D  
Head of Counseling and Guidance  
University of Arizona

Li-you Tsao  
Graduate Student  
University of Arizona



親愛的家長：

在這一個研究裡，我們想要探討是否父母親本身的因素，會影響到其對教養子女的認知，兒童發展的認知和教養子女的參與程度。您的參與將協助我們了解更多關於影響父母教養子女習慣的因素。同時也將提供給諮商員，教育學者和社會工作人員一些建議，以協助這些專業人員更有效的幫助父母親來處理小孩的問題。

我們知道在後面這些問卷上有一些問題是關乎個人隱私的。只是這些資料對我們的研究來說，是絕對必要的。因此，為了確保個人的隱私，請不要在任何問卷上寫上您的大名。就長遠的目標來說，我們希望您所提供的資料將協助我們有效地幫助其他父母來扶養和教育子女。就短期的目標而言，我們非常希望，在您填寫這些問卷的過程中，您能獲得一些對您為人父母能有幫助的資訊。為了使這項研究在未來能有助於其他的家長，我們需要有相當人數的家長來參與這項研究。因此，您的參與更顯得格外的重要。

隨信附上的三種問卷在於評估父母的教養子女認知，兒童發展認知，以及教養子女的參與程度。參與此項研究完全是自願性的，假如您願意參與此項研究，請坦誠的回答這些問卷。

請不要在任何問卷上寫上您的大名。任何個人資料或答案將絕對保密。

再次感謝您的參與！

亞利桑那大學研究生曹麗優敬上

中華民國八十三年一月二日

**APPENDIX H**

**INSTRUCTION GUIDE**

**(ENGLISH AND CHINESE VERSIONS)**

## INSTRUCTIONS

Enclosed are the following questionnaires:

- 1    Personal Information Questionnaire
- 1    Parenting Knowledge Questionnaire
- 1    Knowledge of Child Development Inventory
- 1    Childrearing Involvement Questionnaire

1. Please complete the Personal Information Questionnaire. Please do not leave any question blank.
2. Please complete Parenting Knowledge Questionnaire, Knowledge of Child Development Inventory, Parent Involvement Questionnaire without discussing them with your spouse or friends.
3. Do not write your name on the questionnaires. You may notice that there is a number at the top of your questionnaires. The purpose of this number is to ensure that all the questionnaires that belong together do not get separated. There is no way that we can identify you with these numbers.
4. After completing the questionnaires, please double-check to make sure that you have not left any pages blank and have answered all the questions.
5. After completing the questionnaires, place them in the envelope included in your packet. Please return all questionnaires in the postage-paid envelope that has been provided.

THANK YOU VERY MUCH FOR YOUR PARTICIPATION

## 填寫指引

隨信附寄的有以下四份問卷：

- (一) 個人資料問卷
- (二) 教養子女認知問卷
- (三) 兒童發展認知量表
- (四) 教養子女參與程度問卷

在填寫問卷時，請特別注意：

- (一) 請先填妥個人資料問卷，且請不要遺漏任何一個問題。
- (二) 請完成教養子女認知問卷，兒童發展認知量表，教養子女參與程度問卷，也請不要在填寫問卷時和您的先生，太太或朋友討論答案。
- (三) 請勿在任何問卷上寫上您的名字。您可能發現在問卷的右上角有一個號碼，這個號碼是為了避免您所填寫的問卷，在無意間被打散，而無法辨認是否屬於同一位家長所填。我們絕對沒有辦法用此號碼來認出個別的家長。
- (四) 完成四份問卷後，請再次檢查，以確定您沒有遺漏任何一頁問卷或漏答任何問題。
- (五) 請將填妥的四份問卷，利用附帶的回郵信封，寄回給研究者。

非常感謝您的參與！

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