INFLUENCE OF PARENTING STYLES ON PRE-SCHOOL CHILDREN DEVELOPMENT IN ROI ET PROVINCE

CHUTIMA NGAOSUSIT

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INFLUENCE OF PARENTING STYLES ON PRE-SCHOOL CHILDREN DEVELOPMENT IN ROI ET PROVINCE

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ABSTRACT

This is a cross-sectional survey aimed at investigating influences of parenting styles on pre-school children's development in Roi Et. The 360 eligible subjects were recruited from pre-school children using multi-stage random sampling. Data were collected using questionnaire interviews, Denver II, and nutritional assessment tool from July 24 to August 31, 2004. Data analysis was conducted through frequency distribution and multiple logistic regression.

Findings revealed that 55.3% of the families used democratic parenting style and 41.4% used mixed style. They indicated that parenting styles had significant influences on children's development [p-value < 0.05] and children who were raised with democratic parenting style had 1.8 times higher chances to have age-appropriate development than those whose parents used mixed parenting style. Development was defined on three levels: normal, suspected delayed development, and acteal delayed development.

In addition, family and children's individual factors had statistically significant influences on children's development [p-value < 0.05] and these included family type, mothers' educational background, fathers' occupation, relationship within family, children's gender, and nutritional status. Children living with an extended family had a 2.7 times higher chances of suspected delayed development than those living with a nuclear family. Children whose mothers completed only elementary education had a 3 times higher chance of suspected delayed development compared to those whose mothers had higher education. Children whose fathers had other occupations had a 3 times higher chance of suspected delayed development compared to those whose fathers were agriculturists. Children who lived in an unbalanced family had a 6.9 times higher chance of suspected delayed development compared to others. Boys were 2.3 times more likely of suspected to have suspected delayed development compared to girls. Finally, children with abnormal nutritional status were 1.9 times more likely of suspected to have suspected delayed development compared to those with normal status. Based on the research findings, it is recommended that democratic parenting styles should be applied to the family, along with a good relationship within family. These will lead to age-appropriate development of children.

KEY WORDS: PARENTING STYLES/ PRE-SCHOOL CHILDREN/ DEVELOPMENT

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อิทธิพลของรูปแบบการอบรมเลี้ยงดูต่อพัฒนาการเด็กปฐมวัยในจังหวัดร้อยเอ็ด
(INFLUENCE OF PARENTING STYLES ON PRE-SCHOOL CHILDREN DEVELOPMENT IN ROI ET PROVINCE)

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บทคัดย่อ

การศึกษาครั้งนี้เป็นการสำรวจภาคตัดขวาง เพื่อศึกษาอิทธิพลของรูปแบบการอบรมเลี้ยงดูต่อพัฒนาการเด็กปฐมวัยในจังหวัดร้อยเอ็ด กลุ่มตัวอย่างคือเด็กปฐมวัยที่อาศัยอยู่กับบิดามารดาจำนวน 360 คน เลือกกลุ่มตัวอย่างจากการสุ่มตัวอย่างแบบหลายขั้นตอน (Multi-stage Sampling) เก็บข้อมูลโดยใช้วิธีการสัมภาษณ์ และประเมินพัฒนาการเด็กด้วย Denver II ระหว่างวันที่ 24 กรกฎาคม - 31 สิงหาคม 2547 วิเคราะห์ข้อมูลโดยใช้ความถี่ ร้อยละ และ Multiple Logistic Regression

ผลการศึกษา พบว่า ครอบครัวเด็กปฐมวัยมีรูปแบบการอบรมเลี้ยงดูในลักษณะที่เป็นแบบประชาธิปไตยมากที่สุด ร้อยละ 55.3 รองลงมาคือ แบบผสม ร้อยละ 41.4 และเมื่อทดสอบอิทธิพลของรูปแบบการอบรมเลี้ยงดูต่อพัฒนาการเด็กปฐมวัยโดยใช้สถิติ Multiple Logistic Regression Analysis พบว่ารูปแบบการอบรมเลี้ยงดูมีอิทธิพลต่อพัฒนาการเด็กอย่างมีนัยสำคัญทางสถิติ (p-value < 0.05) โดยเด็กที่ถูกเลี้ยงดูแบบประชาธิปไตยมีโอกาสที่เด็กจะมีพัฒนาการสมวัยเป็น 1.9 เท่าของเด็กที่ถูกเลี้ยงดูแบบผสม

นอกจากนั้นปัจจัยด้านครอบครัวและปัจจัยด้านตัวเด็กที่มีอิทธิพลต่อพัฒนาการเด็กอย่างมีนัยสำคัญทางสถิติ (p-value < 0.05) ได้แก่ ประเภทครอบครัว, ระดับการศึกษามารดา, อาชีพบิดา, สัมพันธภาพในครอบครัว, เพศเด็ก และภาวะโภชนาการ โดยเด็กที่อาศัยอยู่ในครอบครัวขยายมีโอกาสที่จะมีพัฒนาการสงสัยว่าช้าเป็น 2.7 เท่าของโดยเด็กที่อาศัยอยู่ในครอบครัวเดี่ยว, เด็กที่มารดามีการศึกษาระดับประถมศึกษามีโอกาสที่จะมีพัฒนาการสงสัยว่าช้าเป็น 3 เท่าของเด็กที่มารดามีการศึกษาสูงกว่าระดับประถมศึกษา, เด็กที่บิดามีอาชีพที่ไม่ใช่เกษตรกรรมมีโอกาสที่จะมีพัฒนาการสงสัยว่าช้าเป็น 3 เท่าของเด็กที่บิดามีอาชีพเกษตรกรรม, เด็กที่อาศัยอยู่ในครอบครัวแบบไม่สมดุลมีโอกาสที่จะมีพัฒนาการสงสัยว่าช้าเป็น 6.9 เท่าของเด็กที่อาศัยอยู่ในครอบครัวแบบสมดุล เด็กชายมีโอกาสที่จะมีพัฒนาการสงสัยว่าช้าเป็น 2.3 เท่าของเด็กหญิง และเด็กที่มีภาวะโภชนาการที่ไม่ใช่เกณฑ์ปกติมีโอกาสที่จะมีพัฒนาการสงสัยว่าช้าเป็น 1.9 เท่าของเด็กที่มีภาวะโภชนาการตามเกณฑ์ปกติ การศึกษานี้มีข้อเสนอแนะว่า ควรส่งเสริมให้ครอบครัวเลี้ยงดูเด็กแบบประชาธิปไตย เสริมสร้างสัมพันธภาพที่ดีในครอบครัว เพื่อให้เด็กได้รับความรัก ความอบอุ่น ซึ่งจะส่งผลให้เด็กมีพัฒนาการสมวัย ต่อไป

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CHAPTER I
INTRODUCTION

Background and Rationale

Based on the theories of pre-school children development and brain development, as well as research regarding pre-school children conducted both locally and internationally, the Office of the National Education Commission (1) has pointed out that the most crucial period of brain development is the first five years of life, or when children are still pre-schoolers. This period is considered a 'golden phase' to establish development in all areas of life. To clarify the matter further, it is deemed imperative that development of quality of citizens or human development needs to place its emphasis on childcare. This is because if children are brought up properly, they will have stability in life. In other words, development of quality population has to begin as early as in the first phase of life, especially school-age period, which is the time when children are experiencing rapid growth in every aspect, particularly the neurological system and the brain which are developing at the rate 80% higher than that of adults. In addition to this, the Committee on Childcare and Education (2) indicates that it is deemed imperative that pre-school children receive proper childrearing from their parents who have to make sure that the children's development is encouraged and supported proper to their age and current level of capability. This is because the consequences of the development the children undergo during this phase will tremendously influence their quality in the later stages in life.

At present, Thailand has a policy to support quality population development, which emphasizes human development starting from the pre-school age phase. According to the Eighth National Economic and Social Development Plan (1997-2001) up to the Ninth National Economic and Social Development Plan (2002-2006) (3), one of the focuses of the plan is centered around human development which stresses the necessity to ensure that Thai people are healthy, capable,

kind-hearted, disciplined, faithful, and responsible for their own as well as the society's well-being. Furthermore, the plan includes development of the individuals, families, communities, and society at large as the core of the Thai society. It is believed that in order to achieve such goals, family is of paramount importance. According to the policy and plan of pre-school children development (aged 0-5 years), 2003-2007 (1), all children between the ages of 0 and 5 years must be developed to their fullest potential, with the family as the center taking care of children in society. In addition, families should also take part in creating the environment suitable not only for the local conditions but also the age of the children. Finally, the plan to develop excellence and ethical values of Thai children (2004-2006) (4) of the Department of Health, the Ministry of Public Health, aims to make more than 90% of the children aged 0 – 5 years have normal development.

The National Education Commission (5) surveyed health status of Thai citizens for the second time in 1996 and found that 10.2% of pre-school children have delayed development of fine motor and speech. The period during which children have the slowest rate of development was 61-72 months old. Moreover, the Health Support Office (6) investigated health status, development, and growth of the pre-school children all over the country in 1999. The results revealed that it was suspected that 71.96% of pre-school children had normal development, while 28.31% may have delayed development. Isranurug S. et. al. (7) studied the intellectual development levels of children of different ages in Thailand during the first phase in four areas—Bangkok, Buri Ram, Prae, and Saraburi province—in 2001 and discovered that 37.5-73.5% of the children aged 3 - <6 years old living in rural areas had higher delayed development, especially those living in Buri Ram and Saraburi Provinces. Also, the children living in Bangkok seemed to have fewer problems, and the areas which were more affected by developmental problems were fine motor and speech. Finally, Nantamongkolchai S. et. al. (8) studied the factors which influenced development of pre-school children in four provinces in Thailand. The findings indicated that 30% of the children had the developmental rate lower than normal and one of the family factors which statistically significantly affected child development at the < 0.05 level was parenting style. In fact, the children growing up in a family with

experiences with parenting styles had 2.5 times higher chance to have better development than those whose families did not have such experience.

At present, there are many ways in which pre-school children can be taken care of, and it cannot be pinpointed which parenting style is better than the others. This is because one parenting style may be suitable for children in one family, but may not be so effective in another family. However, the parenting style of the parents does have influence on child development and their direct behaviors. Appropriate parenting styles positively affect age-appropriate development of children. A review of related literature showed that most of the existing research was conducted to investigate different factors affecting child development or the influence of different parenting styles on physical development of children. However, a study of Pornpojaman P. (9) explored the influence of parenting styles on obesity in school-age children in urban communities in Bangkok in 2002. The findings revealed that authoritative parenting style was statistically significantly related to child obesity among school-age children. On the other hand, there is not much research done on the influence of parenting styles on development of pre-school children. In addition, the problems concerning delayed development of pre-school children are found more commonly in the Northeastern part of the country than in other regions, and there is no study conducted with pre-school children in Roi Et Province. Besides, pre-school age is the golden period in which the foundation for subsequent development in life can be laid. These reasons caused the researcher to be interested in investigating the influence of parenting styles on development of pre-school children living in Roi Et Province. It was anticipated that appropriate guideline could be established to encourage parents to raise their pre-school children appropriately to ensure their proper development as well as to support the policy to develop quality population of the government. Also, the outcomes of the present study could be used in implementing activities to support and improve effective parenting styles as well as to solve problems related to parenting to ensure appropriate development of pre-school children.

Research Question

Do parenting styles have influences on development of pre-school children?

General Objective

To investigate the influences of parenting styles on the development of pre-school children.

Specific Objectives

1. To study development of pre-school children in Roi Et Province
2. To investigate the parenting styles of pre-school children in Roi Et Province
3. To determine the influence of parenting styles on development of pre-school children in Roi Et Province.

Research conceptual framework

Based on an extensive review of relevant theories and existing research literature on child development, the researcher selected a number of factors which were expected to have an influence on the development of pre-school children, with an emphasis on parenting style factors, family factors, and children's individual factors, as illustrated in Figure 1.

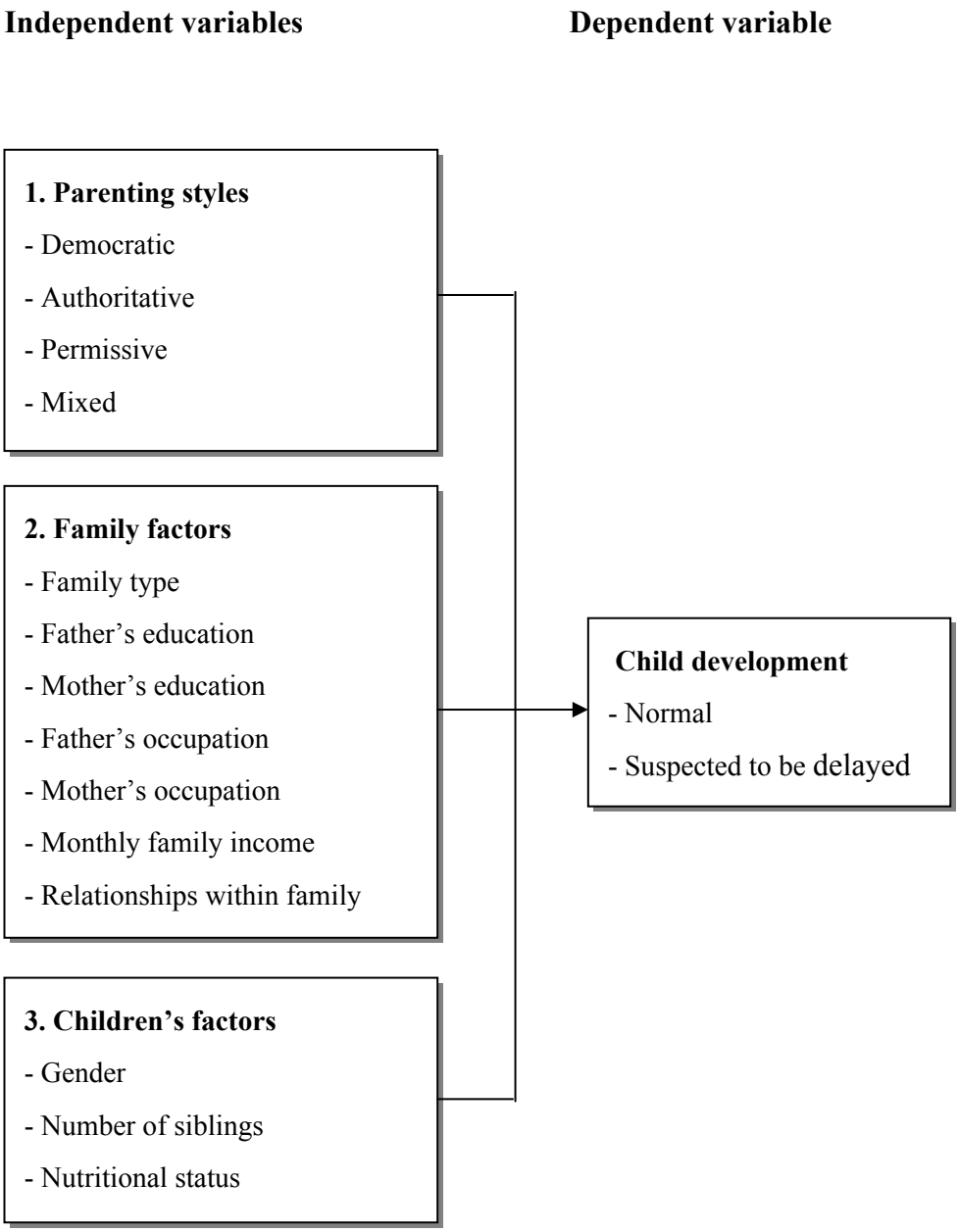

Figure 1 Conceptual Framework

Research Hypothesis

The parenting styles have influences on development of pre-school children.

Scope of the Present Study

The present study investigates the influences of parenting styles on development of pre-school children aged 3 years to 5 years 11 months 29 days, both males and females, who had no apparent abnormalities or disabilities or chronic illness, and who lived with their parents in Roi Et Province in 2004.

Operational definition

1. Pre-school children referred to children aged 3 years to 5 years 11 months 29 days.

2. Development of pre-school children was defined as the development of pre-school children as assessed by the Denver II assessment tool dividing developmental levels into the normal level and suspected to be delayed level.

3. Parenting styles referred to different methods or techniques parents used to take care of and rear children to promote physical, mental, psychosocial, and intellectual development. In this study, the parenting styles specified by Diana Baumrind were used. However, to make the specification more suitable for the local context in Thailand, parenting styles in the present study were divided into four types. The first three types were assessed by means of the questionnaires adapted from Harnvachirapong Y. (10) and Saingam V. (11), while the fourth type, or the mixed type, was assumed existent if there was none of the first three types which was equal to 75% or if there were more than one type that reached 75% or higher. The four types of parenting styles were as follows:

a. Democratic—This referred to the parenting style in which parents treated their children fairly without pampering them too much or being too strict with them. Parents provided love and warmth to the children appropriately and reasonably, accepted their capacity, and gave them proper cooperation.

b. Authoritative—This referred to the parenting style in which parents were very strict and forced the children to comply with their rules without reasons.

Children were unable to do as they pleased as the parents were in control and protect them all the times.

c. Permissive—This referred to the parenting style in which parents pay much attention to their children as they should. They did offer much advice or guidance, and they let the children do whatever they liked with much love and warmth.

d. Mixed—This referred to a mixture of the aforementioned parenting styles.

However, in analyzing the factors influencing child development, the parenting styles were combined into two groups—democratic parenting style and mixed parenting style. This is because there were very few parents who made use of authoritative and submissive parenting styles. If these two categories were analyzed with other parenting styles, the interpretation could not be made. Therefore, only two parenting styles were analyzed in the analysis.

4. Family type referred to the composition of the families which could be further divided into the following:

a. Nuclear family was a family that consisted only of the father, mother, and unmarried daughter or son living under the same roof.

b. Extended family was defined as a family that consisted of family members of different generations living together including grandfathers, grandmothers, uncles, aunts, fathers, mothers, children, or other relatives.

5. Parents' educational level referred to the highest level of education attained by the father or mother which was further divided into five levels:

a. No formal education—those not attended formal schooling
b. Elementary education—those finished elementary grade 6 or lower
c. Secondary education—those finished high school (grade 12) or lower
d. Vocational certificate—those completed vocational
e. Undergraduate degree—those graduated with a Bachelor's degree or higher

However, as for the analysis of the family factors which influenced the development of pre-school children in this study, only two groups of educational backgrounds were identified—those with elementary education and those with education higher than elementary level.

6. Parents' occupation referred to ways of living of the fathers to earn income which were divided into agriculturists, livestock farmers, traders, wage earners,

government officials/public enterprise employees, employees, and others. This is for describing the demographic characteristics of the subjects. However, in describing the family factors influencing development of pre-school children, only two groups of parental occupations were made—agriculture and non-agriculture.

7. Mothers' occupation referred to ways of living of the mothers to earn income which were divided into agriculturists, livestock farmers, traders, wage earners, government officials/public enterprise employees, employees, and others. This is for describing the demographic characteristics of the subjects. However, in describing the family factors influencing development of pre-school children, only two groups of parental occupations were made—agriculture and non-agriculture.

8. Monthly family income meant the average income of parents or either fathers or mothers (in the case the other did not have any occupation) which could be divided into three groups according to income distribution of the subjects as follows: lower than 3,000 Baht per month, 3,001-6000 Baht, 6,001-9,000, and 9,001 or higher. This was for describing the general characteristics of the subjects. However, in analyzing the family factors which had an influence on pre-school children's development, sufficiency of income was divided into two groups—sufficient and insufficient.

9. Relationships within the family referred to the environment and interactions among family members and participation of family members in different matters as assessed by the Family Attachment Change Ability Index 8 (FACI8) developed by McCubbin et. al. (12) which was used in the holistic developmental project of Thai children by Mosuwan L. et. al. (13). This is for the purpose of explaining the general characteristics of the subjects as follows:

Extreme family type were those whose members had separate lives with little attachment and cooperation as well as low adjustment.

Moderate family type were those whose members had little attachment and cooperation as well as a moderate level of adjustment.

Midrange family type were those whose members had moderate level of attachment and good level of cooperation and adjustment. Balanced family type were those families whose members had high level of attachment and good level of cooperation and adjustment. In analyzing the family factors influencing development

of pre-school children, family types were classified into balanced families and unbalanced families.

10. Gender referred to the sex of the elderly indicated by their physical characteristics.

11. Number of siblings referred to a total number of alive children that parents of pre-school children had including the pre-school children themselves. The general characteristics of the subjects were described in terms of the number of siblings—1 sibling, 2 siblings, 3 siblings, and 4 siblings. However, in analyzing the pre-school children's individual factors which had an influence on their development, the number of siblings was categorized into two groups—having one siblings and having more than one sibling.

12. Nutritional status referred to the nutritional status of the children as measured by their body weight and height compared to the criteria set by the Nutrition Division, Department of Health, the Ministry of Public Health 2000 (14). The nutritional status of pre-school children could be classified into three measures:
The criteria began Weight for age (under normal, normal, and over normal), These criteria were used in analyzing pre-school children's individual factors which had an influence on their development. Weight was divided into two groups—normal weight and abnormal weight (either under normal and over normal). The second criteria Height for age (short, normal, and tall), and the third Weight for height (thin, normal, and obese).

CHAPTER II
LITERATURE REVIEW

The present study aimed to investigate the influence of parenting styles on development of pre-school children in Roi Et Province. In this chapter, related to literature and existing research are reviewed in the following topics:

1. Conceptions and theories related to development of pre-school children
2. Factors influencing development of pre-school children
3. Concepts of parenting styles of pre-school children
4. Related research

Conceptions and theories related to development of pre-school children

Definition of pre-school children

According to the National Education Board (1), pre-school children refer to the age range of children from conception to the age of 5 years 11 months and 29 days (age range 0-5 years). This is the time when the children undergo the greatest development, and it is a golden period for establishing the foundation for subsequent development in all areas of life.

Pichaisanit P. (15) defined pre-school children as those who were between one and six years of age.

In summary, pre-school children refers to the age of children from conception to 5 years 11 months 29 days, the period during which children undergo the greatest development and learning. In the present study, pre-school children meant children ranging in ages from 3 years to 5 years 11 months 29 days who lived with their parents in Roi Et Province in 2004. The reason why this group was selected because they were similar age, tend to receive close care from their family and learn about their surrounding, and parenting styles should influence on this group development.

Significance of pre-school children

Most child psychologists pay greater attention to the pre-school age because this is the most important period when human beings establish the foundation for their subsequent physical, mental, emotional, social, and intellectual development, as well as personality. It is the time when children have the greatest level of learning. For this reason, the personality and characteristics of grown-ups can be predicted by judging from what they are like when they are still pre-school children because personality is difficult to change once it has become ingrained.

Studies conducted by world-renowned psychologists such as Freud, Erikson, and Piaget led to a conclusion that pre-school age is the most important period for the following reasons:

1. Childhood experience is important and influences personality development of children when they become grown-ups.
2. Social environment can determine the personality of each child, and this occurs easily when the child is still inexperienced.
3. Pre-school children start to learn more about the outside world and learn to adjust themselves to the environment appropriately if they are properly taken care of.

Thus, it can be concluded that the pre-school age is a golden phase of life as it is the foundation for development in all aspects of life, especially the brain as 80% of brain development occurs during this period. As a result, if the children at this age receive age-appropriate development, they will become quality adults who can be the source of social and national development. In this study, the researcher was interested in studying pre-school children because it is the period during the children undergo the highest level of development and deserve the correct upbringing and care to ensure their age-appropriate development.

Definition of development

Good (16), development referred to structural changes and changes in functions of different organs in the body. The body becomes bigger, and the body's functions increase. This includes permanent changes caused by intended learning as well as incidental learning.

Watson (17) contended that development means changes in types of functions including growth and decline. All developments are based on growth.

Chan-aim S. (18) defined development as changes in all structures and organic patterns. The development continuously increases step-by-step from one phase to another, causing children to have new characters and capabilities and leading to further physical, intellectual, emotional, and social development and growth.

Kotchabhakdi N. (19) defined development as changes in function and maturation of different organs of individuals, enabling organs to function more effectively and to be more able to do complicated things. This entails an increase in new skills including ability to adjust to new environment and new family and social contexts.

Hurlock (20) explained that development means different changes which involve continuous steps. In other words, development is a process which involves both physical and mental changes which stimulate individuals to be able to control new environments, with changes in body sizes and with new characteristics replacing old characteristics.

From what discussed above, it can be concluded that development refers to a process which involves systematic and continuous changes of human beings. Such changes include changes in quality. Simply said, development not only referred to an increase in size, weight, and shape, but also involved occurrence of new characteristics, abilities, and skills. In the present study, development was a process of changes in characteristics and functions of different organ systems both inside and outside the body.

Steps of development of pre-school children

Kaewvichit S. et. al. (21) discussed development of children aged 3 to 5 years as follows:

1. Physical development

During this age, children are more able to control their movement. They can move faster and more steadily, so they have less chance of tripping and falling down. However, they have a higher risk of using increased speed and curiosity. It is normal for this children to be highly curious and active, and sometimes it can be very difficult to differentiate them from those who are hyperactive. As they are able to use fine motor more effectively, they may want to climb up high places and this can increase their accident proneness. At the end of this phase, the children can start learning how to write, so it is time for them to go to a kindergarten.

2. Emotional development

The children in this age have a high level of sibling rivalry. They know how to love and hate, and they can better express their feelings. Their curiosity increases and they begin to worry and be afraid of something. For example, children can have castration fear which makes boys afraid that they will lose their maleness while girls are concerned with not having a penis like boys. In addition, it is quite common to find children in this period masturbate, especially those who are neglected. It is considered an autoerotic act which makes the children satisfied after playing with themselves. Their sexual curiosity is rather high, so boys may like to look under girls' skirts while girls like to look at a penis. Children may imitate the actions of their parents during their intercourse even though they do not understand the real meaning of the act. Furthermore, the children in this phase will have a high level of anxiety because of developed mental mechanisms, and they can experience repression, rationalization, compensation, reaction formation, displacement, and projection. However, these mental mechanisms are not yet fully developed and they can be problematic. Finally, the children can have a high level of fantasy, and they may cling to transitional objects such as their blankets or teddy bears, etc.

3. Intellectual development

The children during this phase have further language development and they can learn different symbols and numbers, making them able to go to a kindergarten. Also, they can learn about different bodily organs and their functions, their own

gender, and they are more able to take care of themselves. Moreover, they can compare physical characteristics such as length, height, colors, names, ages, and at the end of this phase some children are able to explain some objects such as what pens or brooms are for. Some children know their date of birth, count one to ten, differentiate between days and nights, and understand different components of objects such as tables and cupboards. They can also draw four to five body parts of a human being such as head, body, and limbs. However, they are not good at using reasoning so they may think that they are punished by their parents when they are sent to the hospital due to a sickness.

4. Social development

For these children, their house is still the center of their society. As they grow older, their social circle expands. They start to learn how to give and take, play with friends, and learn from trials and errors. Going to a kindergarten, therefore, is the first step for the children to have a social circle when helps prepare them for their subsequent schooling. At the same time, the children at this age have a high level of separation anxiety, so they may have problems once they start going to school. However, the anxiety level will decrease in the children who are emotionally secured.

5. Personality development

Freud considered this phase a "Phallic Phase" as boys are proud of having their penis while experiencing castration fear that their penis will be castrated if they are threatened. At the same time, girls experience penis envy and their high level of curiosity may cause them to explore their genitalia, resulting in masturbation. The children in this phase have the Oedipus complex, so boys will compete with their fathers while girls will compete with their mothers. However, such complex will resolve at the end of the phase. According to psychoanalysis theories, if the children are defected during this phase, they can turn out to have hysterical neurosis in the following stage. Boys may become impotent while girls may have sexual frigidity, or they can become homosexuals or exhibitionists. However, the belief in Freud's theory has declined over the years.

According to Erikson, this is considered an initiative phase in which children start to experience the outside world. They start to have identification including primary identification. The environment will reflect on their body image and they learn more about the roles of their gender. For example, boys will cut their hair short, while girls will wear a skirt. However, if the parents do not have proper roles, children can be confused and they may have trouble. For instance, boys may want to wear girls' clothes, while girls may want to wear boys' clothes.

Conceptions and theories related to development of pre-school children

There are numerous theories related to development of pre-school children. However, only the more prominent ones are discussed in this chapter. Theories related to development of pre-school children. There are a number of theories which are related to the development of pre-school children. However, in this study, emphases were placed upon Piaget's Intellectual Development Theories and Bruner's Intellectual Development Theory. Other theories including cognitive theory, psychoanalysis theory, maturity theory, biological theory, and social development theory.

1. Piaget's Theory of Intellectual Development

Jean Piaget (cited in 22) has proposed developmental theory based on biology related to living things' adjustment to the environment. Piaget has determined the following three development principles as follows:

1. Children's development is in accordance with their maturation. This is a definite process, and the developmental characteristics of the later ages can be predicted from those of the previous ages.

2. Children's development is in accordance with their accumulated learning from their experience with the environment and their adjustment to the environment.

3. Children's development is in accordance with their maturational theory and learning theory.

Based on schema, or the behavioral process resulting from simple and complex biological structures, Piaget divides schema into two types as follows:

1. Sensorimotor schema is the initial schema related to sensory perceptions and movements.

2. Cognitive schema is the more complex schema resulting from the internalization process of the sensorimotor schema in the brain to create meaning by applying experiences when trying to understand different things.

Such adjustment depends on two processes of assimilation and accommodation.

Thus, it can be concluded that the adjustment of intellectual structures refers to the process in which human beings adjust themselves to suit the environment or new experiences based on assimilation or adaptation to create balance between new experience and equilibrium. Based on such foundation, Piaget has devised the intellectual development theory consisting of four phases as follows:

1. Sensorimotor period. This is the period when children are 0 to 2 years old and they mainly rely on the use of their body and sensory perceptions.

2. Pre-operational period. This is when the children are 2 to 7 years old. It can be further divided into the following:

2.1 Preconception thought. The children have language development, learn to use words related to objects, and have conception thoughts about different things, even though they are not yet complete and still illogical. They live in their imaginary world and like to play using their imagination such as supposing dolls are real children or making belief that objects are alive.

2.2 Intuitive thought. The children are between 4 and 7 years old. They have more logic and reasoning, but their thinking is shown in the form of perception rather than understanding. They begin to develop their ideas about the permanence of objects—including their quantity, weight, and volume.

3. Concrete operation. The children are 7 to 12 years old. Children learn to arrange their thinking based on concrete objects. They better understand overall existence and continuation. They develop their conceptions more systematically, enabling them to understand physical relationships between objects in the environment including quantity, mass, weight, volume, and distance. They are interested in

learning new causes and effects, and their hand-eye coordination is more developed. During the middle of the phase to the end, children are better able to calculate more complicated numbers, draw simple three-dimensional pictures, and use inductive reasoning to explain phenomena and occurrences.

4. Formal operation. The children are 11 to 12 years old or higher. This is the highest developmental stage of children. Their understanding is fully developed and they can use several methods to solve abstract problems. They like to experiment, use reasoning, and they begin to think like adults using deductive logic to explain different phenomena or occurrences. They also know how to analyze, hypothesize, test their hypotheses, and solve problems, even though the phenomena are not concrete ones. They are able to use deductive reasoning as well.

Based on Piaget's intellectual developmental theory, it can be concluded that the developmental phase related to pre-school children is the pre-operational period when the children are from 2 to 7 years old. This is because it is the phase when children have language development and know how to use words related to the objects. Even though they have deductive thinking, but it is not yet complete and not logical. Children have more reasoning but their thinking is shown in the form of perception rather than understanding. They begin to develop their ideas about permanence of objects in terms of quantity, weight, and volume as well.

2. Bruner's Theory of Intellectual Development

Bruner's theory of intellectual development, (cited in 22) which has been developed based on Piaget's development theory, divides intellectual development into three stages as follows:

1. Enactive Representation: This developmental phase is similar to the sensory motor phase of Piaget. It takes place when children are about 0 to 2 years old. They can express themselves through action and they can solve problems even though they are still unable to give explanation using words.

2. Ikonic Representation: This phase is almost similar to Piaget's preconceptual phase during the age of 2 to 4 years. During this phase, when children are stimulated by an arousal, they will have perception and the image will be created in their brain.

They see the world in their own way, and they tend to have a narrow-minded understanding and one-sided viewpoint.

3. Symbolic Representation: Similar to Piaget's intuitive period, this phase starts when children are about 3 years old. Children better understand the symbol of arousals as they are now able to differentiate alternatives more rapidly.

These three intellectual stages will be developed as children grow older. The development will be completed when children are about 8 years old, and the intellectual capability will remain with children for the rest of their lives.

Based on Bruner's intellectual development stages, it can be concluded that pre-school children have these three stages of intellectual development, even though it is not yet complete.

3. Cognitive Theory

According to the cognitive theory (cited in 23), pre-school children begin to understand the psychological process of both others and themselves. The children at this age have developed theory of the mind, and they can understand and differentiate their own emotion, ideas, and intention from those of others. They can also use their intellect to coordinate these thoughts to deal with situations in their lives. For example, four-year-old children understand that they will be punished by their parents if they intentionally do something wrong, so if they are caught, they may say, "I didn't mean to."

However, their psychological understanding is not yet complex, and they still don't understand the complexity of human personality or differences between human capability. For instance, they do not understand someone who is mean to children can love cats so much, or others can be good at calculation but poor at reading. In addition to this, the children this age still do not understand human qualifications. For example, they do not understand the difference between excellence and perseverance, so they may think that being gifted can be changed like perseverance. In short, the understanding of children this age is general understanding which is not complex.

4. Psychoanalysis Theory

The psychoanalysis theory (cited in 24) comes from the word "psyche" which means mind, spirit, or soul. Two of the most prominent psychoanalysts are Sigmund Freud (1905) and Erik Erikson (1963) who emphasized personality development.

According to Freud, personality development can be affected by childhood experience when the children become grown-ups. He proposes five-stage psychosexual development, with pre-school children belonging stages 1 to 3.

1. Oral stage: This is the period when children use their mouth to create happiness and satisfaction, lasing from birth to about two years of age. Children use their mouth to suck, swallow, bite, and chew, etc. During this period, if children do not receive enough satisfaction, they will have problems when they have grown up such as chewing a pencil or pen, chewing chewing gum, using a straw to suck water, and etc.

2. Anal stage: Children are satisfied after having bowel movement. It is the period when they are about 2-3 years old. The developmental problems which can take place during this time may be caused when parents are too strict with potty training. Children may become stubborn, strict, and constantly tense when they grow up.

3. Phallic stage: Children are about 3 to 6 years old. They are interested in their sexual organs and enjoy touching their sexual organs. They are also interested in the differences between the two sexes and the love they receive from the parent of opposite gender. That is, boys love their mothers, while girls love their father (Oedipus complex).

Thus, parenting depends largely on parents' expression. Parents should give love, care, and attention to their children while correctly perform the parents' roles., so that children can see the differences between the two sexes. Parents should also lay down a foundation of appropriate practice. Freud believes that children at different ages learn differently. The developmental stage is very crucial to learning. If the children have prolonged characteristics of a particular stage without further developing to the next stage, they may have problems learning later on. Thus, if children receive

support for age-appropriate development, they will grow up to be adults with complete maturity.

Based on this theory, it can be concluded that the developmental stages for pre-school children aged 3 to 5 years old are the anal stage and the phallic stage. Parents should not be too strict with their children when it comes to bowel movement as it can result in developmental problems. As children this age are interested in sexual issues, parents should pay attention to answering their questions while promoting age-appropriate behaviors.

5. Biological Theory

As for the biological theory (cited in 25), biological theorists such as Gesell believe that the development of each children is predetermined by their genetics. Studies which confirm this belief are a study on IQ of identical twins and fraternal twins who were raised together and who were raised apart conducted by Bouchard & McGue (1981, 1983) and a study comparing the IQ level of children and their parents and adoptive parents carried out by Scarr & Weinberg (1983). In the former, it was found that the IQ levels of identical twins tended to be similar even though they were raised separately, with not much effect from the environment, while in the latter, it was discovered that children's IQ would be directly related to their parents' but not their adoptive parents'. Also, it was found that some of the pathological behaviors are caused by genetics such as alcoholism, schizophrenia, aggression, and loss of appetite, etc.

Children's emotional background is another factor which reflects the significance of genetics. This means the ways children respond to new things around them including their emotions, responsive reactions, satisfaction, and consistency of daily life activities. Among those who studied this issue are Jerome Kagan (1990, 1993), Buss & Plomin (1984, 1986), and Thomas & Chess (1977). In fact, Thomas & Chess have divided children into three types:

1. Easy child—Children who are easy to raised. They eat and sleep according to schedule, are happy, and can easily adjust themselves to new or changing environments.

2. Difficult child—Children who are difficult to sleep or eat. They tend to have harsh reactions to changing environments, are easily irritable, and cry a lot. Sometimes they cry so much that their body convulses.

3. Slow-to-warm up child—Children who have harsh reactions sometimes, while at the other times they can easily adjust themselves to new environment. Sometimes they can be silently stubborn and rebellious such as refusing to swallow the fool whose taste has changed instead of crying or making a fuss. However, after they have adjusted themselves, they can have positive reactions.

Studies have been conducted by child development theorists. For example, a number of studies conducted with identical twins and fraternal twins revealed that identical twins have similar emotional basis. Longitudinal studies also suggested that some of the emotional bases developed since childhood will remain with the children until they grow up, while others may be adjusted to suit the environment. However, biological theorists have pointed out that at the same time, the environment can be adjusted by genetics. For example, parents with high IQ tend to change the environment to better suit their children than those who have low IQ.

6. Erikson's Social Development Theory

Erik Erikson (26) was a Danish who studied parents' practice and its effect on children's personality development. He points that childhood is the time children learn about their environment. If the environment makes the children happy, they will be optimistic and confident. Erikson also states that whether children will see the world they are living in as happy or not depends on how much their developmental needs at different stages are met.

Erikson has studied child development beginning with the relationship between the infant and its mother. He concludes that childrearing experience the children receive plays an important role in instilling personality in them. Also, love and warmth from their parents make children confident, and they learn to trust their parents more than other people. On the contrary, if they do not receive love and attention from their parents, they can develop emotional problems and have undesirable behaviors.

Erikson then proposes the psychosocial stage which is further divided into eight stages with an emphasis on early developmental stages as the basis for subsequent development. Pre-school children have developmental stages 1 to 3 as follows:

1. Trust and mistrust: Since birth to about one year old, children have to totally depend on others especially their parents who feed and dress them, pay attention to them, and teach them to learn new arousals. Parents hug, touch, and talk to children all the time. Thus, if they receive love, warmth, and satisfaction, they will feel that they can live in this world happily. Also, they will trust the world, making them dare and eager to learn new things and to trust others. However, if they do not receive sufficient love and warmth, children will feel scared, isolated, and lonely. They will not trust anybody, and they can become lethargic or do not want to learn new things. For this reason, basic social and emotional development depends on the relationship between children and their parents.

2. Autonomy and doubt: At the age of 1 to 3 years, children begin to learn to take care of themselves such as eating, having bowel movement, speaking, or doing things independently. It is the period in which children try to use their own words and to investigate the world around them. If parents support the children and stimulate them to help themselves, they can become capable, self-reliant, and independent. However, if parents tend to prevent them from doing things or being too protective, children may be embarrassed and have self-doubt.

3. Initiative and guilt: At the age of 4 to 5 years, children like to play and start to learn their social roles such as being responsible for their own belongings. Children have creative development based on plays, and they will have less attachment with their parents. Instead, they have increased relationship with neighbors, classmates, or relatives. If the activities children do are supported by their parents, they will feel happy and creative. In contrast, if parents are too strict or controlling, children may feel that they have done something wrong and will not dare to be creative.

In brief, according to Erikson, whether children, especially pre-school children, will have age-appropriate development or not depends largely on their parents. If the parents give them love, warmth, attention, support, and encouragement, providing them with opportunity to play, learn, and socialize, children will be creative and

sociable. In this study, it is concluded that pre-school children are in the stages of autonomy and doubt and initiative and guilt.

7. Intellectual Development Theory

As regards the intellectual development theory (cited in 25, 27, and 28), the most prominent theorist is Jean Piaget (1957), a Swiss psychologist. According to Piaget, children learn and adjust their behaviors based on three important processes:

1. Assimilation—Children assimilate what they have perceived through their sensory perceptions and make meaning according to the system they have created.

2. Accommodation—After assimilation, what has assimilated may affect children's behavioral adjustment, making their subsequent expression more appropriate.

3. Equilibration—Children adjust their behaviors after they have clearly learned about the relationship of those things.

What has previously been discussed reflects the significance of pre-school age. It can be seen that it is the time when development takes place to enable children to be ready for their roles, duties, and adjustments to suit the environment. Children's physical and social experience will be their role model, while encouragement, stimulation, and guidance will facilitate their learning to ensure age-appropriate development. These theories make it easier to understand the pre-school children's personality and behaviors, as well as their learning and thinking processes, which can be applied to further promote their development.

Factors influencing pre-school children's development

The factors which influence pre-school children's development are divided into two factors as follows:

1. Organismic factors are the results of genetics which determines the potentials of individuals which are expressed in the form of sex and individual characteristics such as physical appearances and hereditary diseases such as Down's syndrome, Thalassemia, etc. It is also determined by degree of vulnerability.

2. Environmental factors are further divided into two aspects:

2.1 Bio-physical aspect includes food, infection, sickness, exposure to radiation or chemicals, and pollutions, etc.

2.2 Psycho-social aspect includes upbringing, educational level, economic status, culture, politics, public utilities, mass communication, and facilities available in the society.

These environmental factors have different degrees of facilitative input to development. They determine children's chance to receive responses to their different needs and to experience at a certain point in time. If the environment is fully supportive, individuals have a chance to develop to their own fullest potentials. On the other hand, if the environment is not facilitative, that particular capability will be omitted. In addition, receiving too much or too little of a particular experience can hinder children from growing up or from developing to their fullest potential. The timing in which different factors affect children is also important because at different developmental stages children have different aspects of development. Thus, the developmental outcomes will be different. The factors which affect pre-school children as proposed and discussed by different scholars and researchers are as follows:

Kotchabhakdi N. (19) factors which influence pre-school children's development are the following:

1. Genetics: Each child receives 23 chromosomes from each of their parents. These chromosomes are composed of numerous genes which are determiners of physical appearance, intellectual potential, personality type, as well as defects which can be inherited such as Thalassemia.

2. Impact during pregnancy: What can affect the fetus during pregnancy include mothers' nutritional status, health, smoking habit, alcohol drinking, some types of medications, some types of infections such as German measles or HIV, and exposure to radiation or chemicals, etc.

3. Family structure: Family structure enables children to receive different patterns of developmental support such as breadwinner of the family, number of siblings, single parenting, having step-parents, or living in an extended family. Other factors which are related to risk factors of child development are low socioeconomic

status of the family, unemployment, malnutrition, lack of vaccination, rate of accidents, and teen pregnancy, etc.

4. Culture: Some cultural practices which can affect children's development include eating some types of local food which may prevent children from receiving nutrition from the five food groups. For instance, children living in the northern and northeastern parts of the country may not receive enough seafood containing iodine, or hill tribe children are normally tied to their mother's back while she is working, thus affecting their physical growth and development. Those children tend to have slower development of the hipbone, and their motor movement including crawling and walking will be more slowly developed.

5. Environment: Television and video games tend to teach children aggression and making them aggressive. Their ability to learn and to play sports is also reduced. Thus, parents should consider the amount of time and the program children should watch on television.

As for school, sport activities offered in school help children develop their physical and social well being. Their psychosocial development will also be enhanced. Thus, children should be encouraged to discuss what they have learned to further promote their intellectual development.

Moreover, the community in which children live can either promote or hinder their age-appropriate development. For instance, gambling in a community can teach the wrong idea to the children.

Stress situation: Stressful events can affect children's behaviors, causing regression, restlessness, or they can cause symptoms related to their digestive system. Events which can cause stress to children are family problems, abuse, or moving to a new school. If children are under stress for a prolonged period of time, their bodily organs and functions can be affected, lead to such symptoms as high blood pressure, heart disease, etc.

Junaim S. (18) posited that child development does not depend on food or any one single cause. Rather, it is dependent on different causes as follows:

1. Intellect—Intellect has a great influence on child development. Children who are intelligent have better developmental rate than those who are not intelligent. It has been proved that children with high IQ can walk and talk faster than children with low IQ.

2. Gender—Boys and girls have different development rates, especially physical development. During infancy, boys grow up faster than girls, but after that, girls develop faster than boys. In general, girls reach maturity about 1 to 2 years faster than boys do. As for intellectual development, girls tend to be a little smarter than boys.

3. Different glands in the body—Some of the pituitary glands in the body control growth rate. If these glands malfunction, secreting too much or too little hormone, children may have too fast physical development or they may become dwarfs.

4. Food—Children who receive nutritious food and all types of vitamins and minerals have faster development than those who suffer from malnutrition or do not have as much quality food. The latter group of children can easily become sickness-prone as well.

5. Fresh air and sunlight—During the early years, if children receive enough fresh air and sunlight, they can have normal and consistent development as well as good health.

6. Injury or sickness—Injuries and sicknesses can disrupt or slow down development of children.

7. Ethnicity—Ethnicity has considerable effect on development of children. For example, Mediterranean children tend to have faster physical development than children who live in the north of Europe. In addition, African American children and American native children tend to have slower physical development when compared to Caucasian or Mongoloid children.

8. Culture—Culture is one factor which brings about differences in child development outcomes. For example, Thai children tend to be Permissive as they are taught to obey adults, while American children are always encouraged to express their ideas freely, so they are extroverted and sociable.

9. Birth order—Generally, the second child in the family tend to have faster development than the first born because they can imitate what their older brother or sister does. On the other hand, the youngest born child tends to be pampered and does not have to do anything by himself or herself, so he or she tends to have slower development.

10. Upbringing—If adults let children take care of themselves and be self-reliant, they will have faster development than those who have adults do everything form them.

In conclusion, factors which affect children's development are genetics and environment. Environmental factors consist of parenting style factor, family factor, and children's individual factor. In the present study, the researcher was interested in investigating some factors which have been found to influence pre-school children's development—parenting style factor, family factors (type of family, fathers' educational background, mothers' educational background, average monthly family income, and family relationship), and children's individual factors (gender, number of siblings, and nutritional status) as these factors are seen as the factors which can be improved by family members and close persons.

Assessment of pre-school children's development

Isaranurug S. (29) points out that assessment of child development aims at identifying different developmental progresses and detecting abnormal behaviors of children, if any. Assessment of each stage of development has a different purpose, and the instrument used differs depending on the age of the children. For instance, during the first 28 days of life, behavioral assessment aims at detecting if there is any defect in children's neurological system as well as stimulating parents to learn about specific characteristics of their children. During the first year of life, developmental assessment helps detect if there is abnormality in children's perception, movement, intellect, and emotion as well as stimulate their interest and interaction between parents and children. During the middle years, assessment aims to reflect the success of learning and detect children's social problems.

As for assessment for developmental screening, standardized screening instruments are required, and the assessors need to undergo training and be certified

that they understand child development. They have to be able to examine and observe children's behaviors and interpret their meanings correctly based on a standardized examination manual. Also, they need to understand a variation of normal child population as well as the limitations of the instruments, their validity, and reliability. They have to also understand how suitable the instruments are for the children with particular lifestyles and sociocultural appropriateness. More importantly, they have to use the instruments to serve the purposes. For example, they need to understand that the instruments are not to diagnose the children's IQ but to screen the children with abnormality for further detailed and more accurate developmental psychological or clinical psychological diagnoses so that children can receive appropriate treatment or therapy according to their needs. Developmental assessment can be done in different ways such as behavioral observation, use of certain instruments, and interviews of parents, etc. Some psychologists have attempted to devise ways to effectively assess child development and they have developed and standardized instruments to assess child development which can be categorized into two groups as follows:

1. Diagnosis tests such as Bayley scales of infant development used with children one to 42 months old, Stanford-Binet intelligence scales used with children two years old until adulthood, and Wechsler preschool and primary scales of intelligence (WPPSI-R) used with children four to six and a half years old.

2. Screening tests such as DDST, Denver II, Draw-A-Person (DAP), Gesell figure, and Developmental Screening Inventory (DSI).

In this study, pre-school children aged 3 to 5 years old were screened to determine whether they had normal or suspected to be delayed development. The instrument used was Denver II, as detailed below.

Denver II Screening Test is a screening test which has been widely used all over the world. It was first used in 1969 under the name "Denver Development Screening Test" (DDST), and it was developed by W.K. Frankenberg et. al. It consisted of four developmental domains—language, personal-social, fine motor-adaptive, and gross motor. It was generally used to assess development of children from birth to six years of age. DDST was used widely in many countries because it was not expensive and the training required was not too difficult. This instrument was occasionally revised and improved until 1992 when W.K. Frankenberg

et. al. improved the instrument one more time and renamed it "Denver II" to include language-related behavioral development. Behavioral observation of children and children's responses are now used in the assessment, and the criteria, interpretation of outcomes, accuracy, and standardization were revised. Furthermore, some test items have also been adjusted to decrease the complexity of the test, the test items have been revised to suit a particular group of children, the speed of interpretation of the outcomes has been increased, and the training criteria of the examiners has been tightened.

In the present study, a Thai version translated by Kotchabhakdi N. et. al. (30) was used to assess the development of pre-school children.

Type of the instrument

Denver II is an assessment used with children since birth to six years of age. It is a systematic screening which examines developmental behaviors of children in different aspects. This instrument is generally used with children with no abnormal signs and symptoms, and it aims to confirm what parents or medical team members suspect about the children's development and to monitor children who have risks of developmental problems such as those who had difficult childbirth and underprivileged children.

Denver II is not an IQ test, and it cannot be used to estimate children's future intellectual level. Also, it is not designed to diagnose children's abnormality such as learning disability, language disorder, or emotional disturbance. For this reason, Denver II should not be used instead of physical examinations or other diagnoses. In other words, Denver II is merely a comparison of children's different abilities to those of normal children the same age.

Denver II consists of 125 items which are divided into four domains:

1. Personal social development is an assessment of children's relationship and co-habiting with others as well as daily self-care.

2. Fine-motor adaptive development is an assessment of hand-eye coordination in handling small objects and problem-solving.

3. Language development is an assessment of hearing, using, and understanding a language.

4. Gross motor development is an assessment of development regarding body balance and movements such as sitting, walking, jumping, and moving all large muscles.

In addition to this, after the assessment has been completed, observation of five behaviors of children during the assessment will be logged to record examiners' ideas on children's overall behaviors and to determine how much ability the children used, which will help make the outcome more accurate and helpful.

Use of Denver II in clinical work and research

The benefits of Denver II are that it yields a summary of all aspects of child development which is systematic and which can notify screeners of the children who have a risk of delayed development for further detailed diagnosis. Denver II is used to compare children's behavioral development to that of the children the same age, but it cannot be used to predict children's future intellectual level or capacity. In other words, screeners should keep in mind that Denver II is not an IQ test was only a questionnaire examining four aspects of ability of pre-school children compared to those of the children of the same age.

In the present study, the development of pre-school children were assessed, which was considered a direct assessment, to screen children who had suspected to be delayed development, using Denver II. Denver II a standardized instrument which was easy to use and can effectively detect children's abnormal or delayed development. It was comprehensive, accurate, and valid, and the results can shed light on what parents need to do to stimulate their children's development to be age-appropriate.

3. Concepts of parenting style of pre-school children

Definition of parenting

Israwat S. (31) defined parenting by dividing the term as composed of two terms—discipline and care.

Discipline refers to educational arrangement which related individuals do to ensure children's knowledge and development as specified.

Care refers to the process parents do to transfer values, beliefs, concepts, personality, and social regulations to children.

Pichaisanit P. (15) defined parenting in the same way but gives different meanings:

Discipline refers to advice, teaching, and training aimed at making children behave in a desired manner and have self-control, responsibility, and ethics.

Care refers to serving children's both physical and mental needs to ensure their good health and to protect them from diseases or disability, making them well-mannered, cheerful, and smart, as well as teaching them how to have a good interaction with others.

Green (32), teaching children to understand social regulations is a process in which children can learn about culture and create their own personality and identity.

Broom et. al. (33) defined parenting in two ways. Socially, it refers to transfer of culture and instillation of rules and regulations in individuals' life. Individually, it means a process which transform human beings from organisms to real humans, enabling them to control themselves and to act in accordance with their values, ideals, and ambition.

Suparb S. (34) defines parenting as transfer of culture and development of personality.

Junaim S. (35) states that parenting is one of the processes individuals have to undergo since birth until death. It is important to life development and influences all behaviors in life. Also, parenting helps individuals learn about different regulations and rules in society, forms individuals' behaviors, and develops individuals' personality according to the customs, traditions, and cultures of the society.

Craig (36) maintains that parenting is a process in which individuals learn to develop attitudes, beliefs, values, knowledge, and hope of society, as well as to do according to the roles in society.

Peerayot R. (37) defines parenting as types of care and practice parents or guardians perform to children under their care. Parenting styles vary such as democratic, Self-reliance , permissive, and authoritative, etc.

Based on these definitions, it can be concluded that parenting is a process that develops attitudes, beliefs, and values of individuals in society, as well as a transfer of ideas, beliefs, and practice of each family in society. Parenting is one environmental factor of individuals, which can be learned from the environment and cultural transfer. Parenting styles of parents will have some effects on children's current behaviors and future potentials. Individuals' behaviors result from parenting styles of their parents. In this study, parenting styles of parents refer to types of parenting in which parents teach and have interaction with their children in different ways to enable children to grow and have age-appropriate development, and to be ethical persons. This includes parents acting as a good role model for their children as well. In this study, parenting styles are divided into four types—democratic, authoritative, permissive, and mixed.

Purposes of parenting

Broom et. al. (33) explain that in general cultural transfer in society have four main purposes:

1. Instilling discipline—Discipline is regarded as an important basis for social activities and co-habitation. Instilling discipline makes individuals accept the rules and regulations defined by society regardless of difficulty and unwillingness. Discipline is what individuals receive early in life in daily living.

2. Instilling aspiration—Generally, discipline is what individuals may not want to do, but aspiration makes it easier to follow the discipline to get what individuals want.

3. Determining social roles—Determining social roles and other role-related attitudes enable ease of living in society. If individuals know their roles, they can use appropriate roles to relate to others according to occasions and timing.

4. Developing skills or specialty—Traditional transfer and learning to imitate daily life practice leads to development of specific skills necessary for doing activities with others in society.

Concepts and principles of parenting of Thai children

Soonthornthada K. et. al. (38) summarize concepts of parenting in the Thai context based on four principles:

1. Buddhist principle: Buddhist principle involves discussion of development of human body and spirit, development of intellect, ethics, and establishment of good friendship. The Buddhist concepts have discussed both the physical and mental beings of humans, development of intellectuality (the Four Noble Truths and man of great learning), development of virtue (morality, meditation, wisdom and nine virtues), and good friendship (roles of parents, teachers, and guardians).

2. Cultural principle: Cultural principle which lays foundation for child development includes patriotism, awareness of being Thai, and love and care of local cultures, languages, natural environments, spirits, and family systems.

3. Early childhood education principle: The educational principle involves human development and child development by family, especially those related to the education of children aged 0 to 6 years old—child development, development and needs of children, and learning and playing of pre-school children.

4. Basic needs of children principle: Apart from combining the aforementioned three principles, it includes concepts related to child development including medical and political rights. It covers all basic needs of pre-school children such as nutritional and healthcare needs, physical strength needs, recreational needs, cultural and language needs, and needs for intellectual, spiritual, emotional, and social development.

However in the Thai society, children aged 0 to 5 years old tend to receive care with an emphasis on educational needs and basic needs, especially when compared to children in the past who tended to be brought up based on Buddhism and cultural principles.

Parenting styles of pre-school children

Each family tends to have its own way to raise and care for their children, with their own attitudes toward and belief about parenting. Parenting styles can be divided into different types depending on the practice of parents in accordance with their knowledge, understanding, beliefs, values, environment, and different facilities.

Parenting styles affect children's intellect, personality, values, and rate of development. Parenting styles have been classified differently by different scholars and researchers.

Amornvivat S. et. al. (39) propose ten parenting styles in the modern day Thai society:

1. Giving freedom but with control—When at home, adults give children freedom to make decisions about themselves such as eating, taking a shower, or playing, so that children can learn to help themselves and to reduce burdens of adults. Adults will keep their eyes on them from a distance to ensure the children's safety. However, when entering childcare center, the children's freedom will be reduced as they have to comply with the schedules of the center such as play only when it is time to play and take a nap when it is time to do so. Thus, children have to adjust themselves to the new way of life which is different from when they are at home.

2. Controlling but with neglect—Adults control and supervise that children eat and sleep at the time they are told to do so, but the supervision is not comprehensive. Sometimes adults let children do something that they are told not to do, while at other times adults become strict, making the children confused. However, when the children go to the daycare center, their will be under more supervision all through the process than when they are at home.

3. Accepting but without expression—Adults accept children but with no obvious behavioral expression. When children are about 3 years old or younger, adults show their love by hugging and kissing them. After they have grown up, physical touch will be reduced, and showing of love and acceptance will be changed from physical touch and physical relationship to verbal expression and action. When children are well behaved, adults may not give them praise. Sometimes saying or doing nothing is a way to show adults' acceptance. However, if children do something adults are not happy with, adults may scold, spank, or verbally teach them. This again changes when children go to a childcare center where teachers give children more compliments when they have desirable behaviors.

4. Being a role model—Children learn from imitating adults' behaviors which can be either positive or negative. Positive behaviors include being respectful of the elderly or monks, or cooperatively do something with fellow residents of the village. Negative behaviors are lying or making a fool out of someone just for fun or quarreling. Other than this, there are some behaviors whose consequences have not been decided yet whether it will benefit or harm the children such as being superstitious, asking for favor from the sacred beings and promising to give something in return, etc.

5. Letting the children bond with the environment—Children should be given an opportunity to take part in different activities to ensure natural learning. Children learn from touching and relating to environment, including human environment, natural environment, spiritual environment, and material environment. Children accumulate experiences from daily activities, observations, and learning about their roles in the family. Also, they learn from participation in religious ceremonies, earning one's living, playing with friends, and encountering different situations. Children's learning is natural learning.

6. Using a lot of verbal behavior with little reasoning—Adults tend to use words to tell, order, prohibit, warn, threaten, and reprimand children. Both parents and teachers at school tend to use more verbal behaviors and less reasoning with children.

7. Using authority—Adults exercise their power, using both words and actions—when children do something they do not like. Adults may punish children by reprimanding them, spanking them, or not giving them a reward. Adults' use of authority depends on their emotion. If adults are in a foul mood, they may use more authority than when they are in a good mood. Small children tend to be punished less then older children. Teachers or childcare center staff can also use authority with children. When they order children to do something, they expect that children will have to comply with them.

8. Being inconsistent—Adults can be inconsistent in their parenting, both words and actions, depending on their mood. They may do something when they are in a good mood, and they may do another thing when they are in a bad mood. Parents

tend to use a lot of emotion when they are teaching their children, and they are likely to ignore the cause of those problematic behaviors.

9. Having more than one caregivers—Most families in the rural areas remain extended families. In addition to parents, relatives who live with them such as grandmothers, aunts, and siblings, even neighbors, can take part in raising children.

10. Serving children's needs according to age, maturity, birth order, and gender—Parents' parenting styles vary according to these variables. For example, when children are very young, parents give close care to them and use a lot of physical touch. When children are growing up, parents tend to use more and more words to show their love and care, with very little or no physical touch. Furthermore, some families raise boys and girls differently. They instill the sense of toughness, perseverance, and protection of female siblings in boys, while emphasizing manners and ability to do household chores in girls. Other families may spoil the youngest child in the family more than others.

Baumrind (40) has proposed three parenting styles as follows:

1. Authoritarian—Parents use power and authority to force children to do what they please without asking for their consent. They do not conceal their displeasure, and they have little acceptance and trust for the children. They also have little attachment and warmth for the children, while they tend to punish them more.

2. Authoritative—Parents still have a high level of supervision and control to make them do whatever parents want. However, they also have a high level of acceptance for children. They use love, warmth, and reasons.

3. Permissive—Parents greatly accept children. They give warmth, but they do not assess or control children less. They just let children be and do as they please.

Baumrind concludes that children whose parents are authoritarian will have less attachment to their parents. They will be obedient, but they are unhappy children. For permissive parenting, children will lack self-discipline and self-control, and they do what they please without being thoughtful of others. As for parents who are authoritative, giving love and boundary to children, children tend to be more successful and happy with themselves, and they are generous. The findings have led to a conclusion that the good points of the authoritative parenting will become more

obvious as time goes by. Parents who use this parenting style can protect their children from drugs and have talented children.

Thongpakdi T. (41) classifies parenting styles into four types as follows:

1. Supportive parenting style is used when parents give love and attention to their children. These parents are close to their children, and they tend to do different activities together.

2. Reasoning parenting style is used when parents give reasons to their children when supporting them to do something or preventing them from doing something or punishing them. Parents also give rewards and appropriately punish their children to suit their actions rather than treating their children based on their own emotions. Parents' action helps children learn and acknowledge what they should and should not do.

3. Physical or psychological punishing parenting style is used when parents punish their children physically or psychologically. Physical punishment is used when children act inappropriately and parents hit, spank, slap, or kick them, causing them physical pain. Psychological punishment is when parents reprimand children, suspend their rights to do something, or temporarily ignore them.

4. Controlling parenting style is used when parents order children to do something and children have to obey. Parents closely monitor whether children do as they are told to do or not. If not, children will be punished.

Saingam W. (11) has adapted Baumrind's idea when categorizing parenting styles as follows:

1. Democratic parenting style refers to parenting in which parents give love, warmth, and attention to their children. They praise their children when they have a good behavior and encourage children to be independent, extroverted, and decisive. Parents also listen to their children's opinion, and they teach children to respect others' and their own rights and to be responsible for their duty.

2. Authoritative parenting style refers to parenting in which parents have full authority in every family activity. Parents set the rules, and they do not give explanation. At the same time, children have to obey the rules without any

complaints. Parents hardly ever show love and affection to their children, and they do not respect their children's rights, so there is very little relationship between parents and children.

3. Permissive parenting style refers to parenting in which parents love their children so much that they let them do everything they want without setting any rules or regulations. Even if rules are set, parents do not punish children if they fail to comply. They do not teach their children to learn to take responsibility or to respect their rights and duties.

Psychologists believe that differences in children result from differences in parenting styles when children are still young, influencing personality and characteristics which will remain with the children for the rest of their lives. Thus, parents have a very significant role in raising their children.

Children's personality and behavior resulting from parenting styles

Rakvichai W. (42) summarizes the effects of democratic parenting style on children's personality as follows:

Children will be open and self-reliant. They can use reasons, and they are responsible. Also, they have a sense of humor, joyfulness, and optimism. They can learn fast and can easily adjust themselves. They are also confident and expressive, they can help themselves, and they are to solve immediate problems effectively. Other personality traits include high self-confidence, leadership, cooperative spirit, emotional stability, and understanding of self. Finally, they realize their self-worth, know how to use reasons, and know how to respect others' and their own rights.

Peerayot R. (37) if parents use the permissive parenting style, children will grow up with the following traits:

They are hardly able to control themselves and be independent. They seldom listen to others' feeling and do whatever they themselves please. They do not care much about what other thinks, and they lack stability, discipline, and liveliness.

Panyaroj A. et. al. (43) point out that authoritative parenting style makes children weak, dependent, and unconfident. They feel that they always make a mistake in their parents' eyes. Some children may have aggressive behavior, while others become violent or strongly protest against society to compensate for having

always been suppressed. Having parents who always nag them, children may experience the feeling of inferiority and lack sense of self-worth.

At present, it can be found that Thai parents may use more than one parenting style, mixing two or more styles. Sometimes parents try to seek ways to apply in their parenting. If they have too much love for their children, they may unwittingly spoil them or have too high an expectation from them because they want their children to have a good life. In general, parents love their children and want them to be the best they can, so they use parenting styles differently depending on their family conditions. However, no matter what parenting styles they use, they should base their parenting on love and try not too be too extreme if they want their children to grow up to be good persons and succeed in life.

In short, there are different parenting styles, each of which has different effects on pre-school children. There are different definitions and categorizations of parenting styles, but in this study, the concept proposed Diana Baumrind was used. However, to better suit the Thai context, parenting styles in this study were divided into four types, firstly Democratic parenting style, secondly Authoritative parenting style, thirdly Permissive parenting style and finally Mixed parenting style. By reacher give the questionnaires about the parenting styles of Harnvachirapong Y. (10) and Saingam V. (11) to apply for this study. The detail of the parenting styles as follows:

Democratic parenting style—Parents treat their children in ways that make them feel that they are fairly treated. Parents have patience and do not spoil their children, while at the same time they are not too strict. They give love and warmth to their children, and respect their children's ability and ideas. They use reasons and cooperate with their children properly.

Authoritative parenting style—Parents or guardians treat children in ways that make them feel they are treated strictly and forced to be in the frame of practice of parents. They may be under their parents' control not to do things they want to do.

Permissive parenting style—Parents treat children in ways that they feel they are not properly cared for as they should. Children are let to do whatever they want to do, without having parents paying attention to them. Children also lack support and guidance from parents.

Mixed parenting style—Parents or guardians use a combination of the aforementioned parenting styles.

Related research

1. Related research on development of pre-school children

The National Educational Board (5) surveyed health status of the Thai people for the second time in 1996 using a questionnaire adapted from different questionnaires designed by Kotchabhakdi N. et. al. The findings revealed that 10.2% of pre-school children delayed fine motor development and language development, which foundation for intellectual development. The period in which children had delayed development during 61 to 72 months of age.

Suwanapan A. (44) conducted a cross-sectional survey to investiage growth, development, health status, and related factors in 576 children aged younger than 6 years old in the central region of the country in 1997 to validate the newly adapted Denver II scale. It was found that 8.6% of delayed gross motor development and 8.4% of delayed fine motor development. In addition, 6.3%, 6.1%, and 5.2% of delayed language development, personal social development, and overall development, respectively.

Health Promotion Office (6) conducted a survey of health status, development, and growth of 3,096 pre-school children aged 1 and 4 years from nine provinces in four regions of the country using the Thai version of Denver II. It was discovered that 71.69% had normal development, while 28.31% of suspected to be delayed development. As regards each domain of development, 13.66% of delayed language development, 10.12% of delayed fine motor-adaptive development, 4.10% of delayed gross motor development, and 3.2% of delayed personal social development.

Chooprapawan J. (45) studied overall health status of Thai people in 2000. She reported that 0.3% of children aged 0 to 4 years in the study had delayed development in all domains, with personal social development most advanced, followed by language development. Also, 10.2% of delayed fine motor, language, and

personal social development, and children residing outside the municipal areas had delayed development than those living in the municipality.

Isaranurug S. et. al. (7) examined intellectual development of children of different ages in 2001: the first stage—analyzing the situation. The assessment of overall development of 257 children younger than 6 years old and 257 their major caregivers in four provinces, namely Bangkok, Burirum, Prae, and Saraburi, was conducted. The findings revealed that 63.9% and 73.3% of children in Muang and Kumuang Districts in the northeastern part of the country had delayed development, respectively. In Prae Province, 37.5% and 43.7% in Maung and Rong Kwang Districts had delayed development, while 68.0% and 50.0% in Muang and Baan Mor Districts in Saraburi Province had delayed development, respectively. Finally, only 22.2% and 16.7% of children living in Toongmahamake and Bukkalo communities in Bangkok were found of delayed development, respectively. The most frequently found problems were language development and fine motor development.

Mosuwan L. et. al. (13) explored holistic development of Thai children regarding their growth and nutritional status based on body weight and height in 2002. The findings indicated that Thai children's age-appropriate holistic development decreased from pre-school age to school age to teenage when compared to the survey conducted five years before. For the intellectual, the mean of cognitive development ten to decrease when the children grow up. For group 1 to 6 the appropriate age of all development ten to decrease suspectialy. In the group 3 to < 6 when comparing each region of the country, it was discovered that children in the southern region had the highest rate of age-appropriate development, while those in the northeastern part had the lowest. The factor which influenced holistic development of children of all age groups was parenting, whose influence was highest in pre-school children and decreased as the children grew up until it had the least influence when children became teenagers.

Isaranurug S. et. al. (46) studied development of children different ages in the country in the second stage—analyzing family factors in 2003. The subjects were 257 children aged 3 to <6 years old living in Bangkok, Burirum, Prae, and Saraburi

Provinces. The findings suggested that 66% of the children had normal development, while 28.1% had suspected to be delayed development.

Nanthamongkolchai S. et. al. (8) carried out a cross-sectional survey to examine family factors which influenced development of 224 pre-school children aged 3 to <6 years old and caregivers in four provinces—Bangkok, Burirum, Prae, and Saraburi Provinces—in 2003 using Denver II. The findings indicated that 30.0% of the subjects had delayed development lower than normal.

From these related research, it can be seen that pre-school children still have problems regarding delayed development, especially in the northeastern part. One factor found to have an influence on the children's holistic development was parenting style. This study aimed at investigating the influence of parenting styles on development of pre-school children in the northeastern part of the country in Roi Et Province.

2. Research related to factors influencing development of pre-school children

2.1 Parenting style factors

2.2.1 Research related to parenting styles following:

Mussen (47) studied the effects of parenting styles on child development in 1969 and the findings revealed the following:

Authoritative or overprotective parenting style makes children emotionally unstable. They lack warmth, tend to be introverted and uncreative, and are unable to adjust themselves. Also, they are afraid to express themselves, lack self-confidence, and need to depend on adults. However, they are obedient, polite, and not aggressive.

Rejecting parenting style involves being unfriendly and negligent. Children will become scared, lonely, isolated and unconfident. Moreover, they may be unable to adjust themselves, and they cannot develop trust for others. Also, they may be inconsiderate to others, do not understand how to take responsibility, and lack self-discipline.

Democratic parenting style makes children feel that they are well accepted by their parents, so they are optimistic, easily adjustable, friendly, sociable, and

expressive. They are also extroverted, inquisitive, and creative. Children who are raised democratically are filled with self-confidence, self-reliance, responsibility, and self-discipline as well.

Hurlock (20) studied child development in 1972 and found that the outcomes of democratic parenting, which involved giving love and attention and realizing children's significance, are children who are responsible, self-confident, cheerful, emotionally stable, and creative. They can live their lives with confidence.

Prajakjit P. (48) studied parents' attitudes and parenting styles on the emotional characteristics of pre-school children in 1987. The subjects were 120 parents of children aged 4 to 5 years living in Bangkok. The findings revealed that children whose parents were very strict and highly emotional and protective and children whose parents were strict but only slightly emotional and protective had the same emotional characteristics. When considering each group according to the assessors, it was found that children whose parents were strict but were only slightly emotional and protective had more emotional characteristics than those whose parents were highly emotional and protective. Also, the children who were raised by their parents and those who were raised by relatives or guardians with similar characteristics did not differ emotionally. Based on these findings, the researcher concluded that no matter which type of parenting style the parents used, if they were extreme, inconsistent, and unbalanced, such as being too strict, too negligent, or too protective, children could be adversely affected. Thus, parents should realize that the aim of parenting is to enable them to be self-reliant when it comes to their emotion, thinking, and action so that children can adjust themselves and live in the world happily while also making others happy.

Harnwachirapong Y. (10) investigated factors affecting developmental levels of personal and social characteristics of 221 pre-school children aged 3 to 4 years at the Day Care Center in a slum area in Bangkok in 1989. The instrument used was the Denver Developmental Screening Test. The findings indicated that parenting styles had an effect on personal and social characteristics of children with statistical significance at the 0.01 level. The findings also pointed out that the democratic parenting style is an important factor which affects personal characteristics of pre-school children. Also, interaction between mother and child, children's gender,

and democratic parenting style could co-predict the variance of the children's personal and social developmental level by 31.5%.

Brody GH. et. al. (49) conducted a study to explore mothers' parenting practices and children's ability among African-American children raised by single mothers in 1998. The findings indicated that parenting practice had an effect on intellectual and social development of children.

Boonnuan W. (50) studied development regarding ability to help themselves and society of children aged 2 to 5 years living 13 slum areas in four municipalities in Nakhon Sawan Province in 1998. There were 256 children, 183 of whom were randomly selected. According to the findings, democratic parenting style was positively associated with self-care development, while permissive parenting style was negatively associated with such development. The findings led to the conclusion that in order to enable pre-school children to take care of themselves, parents should train the children to perform self-care and let them use their capability freely. Also, being too strict and not letting children do the activities they want, or spoiling them, make the children unable to help themselves.

Sanepong J. (51) surveyed a relationship between parenting plan of mothers, relationship between mothers and fathers, and self-confidence of pre-school children in 2000. The subjects were 200 mothers and their children aged 5-6 years studying in Kindergarten 2 in elementary schools under Suan Luang District, Bangkok. The findings revealed that democratic parenting plan used by mothers was positively associated with children's self-confidence in expressing themselves and taking responsibility with statistical significance ($r = 0.177$, $p = 0.012$), while authoritative parenting plan was negatively associated with children's self-confidence with statistical significance 0.05 ($r = -0.151$, $p = 0.033$). The findings suggested that parents should use democratic parenting style with their children by giving children love, attention, and a chance to take care of themselves. They should eliminate conflicts in children's mind as well. As regards parental relationship, mothers and fathers should be close to each other and take a good care of each other, which can increase their children's self-confidence.

Achenbach (52) studied the pattern of relationship among authority, permissive parenting style, and dissatisfaction with marriage which could predict external

behaviors of pre-school children aged 2 to 5 years in 2001. The subjects consisted of 60 pre-schoolers recruited from the out-patient list of the department of mental health, mother-child basic behavior treatment center, and general communities. It was found that pattern of relationship was not statistically significantly related to parenting style or satisfaction in marriage. Also, there was a negative relationship between economic status and external behaviors of children. It is worth noting, however, that the clinical subjects had economic status lower than that of the subjects from communities with statistical significance.

Napapongsuriya T. (53) studied personal and social development of 90 pre-school children aged 3 to 6 years in Bangkapi District in 2003 who were raised with three parenting styles—democratic, authoritative, and permissive. The instrument used was a questionnaire. The test revealed that there was a statistically significant difference between personal development and social development at the .05 level. Children who were raised with democratic and permissive parenting styles had higher personal and social development than those raised with authoritative parenting style at the .05 level.

Thompson A. et. al. (54) conducted a longitudinal study to investigate attitudes toward authoritative parenting style as a risk factor and the effects of problem-solving development in England in 2003. The findings indicated that mothers' obvious attitude toward authoritative parenting was associated with problem-solving development with statistical significance.

Mosuwan L. et. al. (13) studied holistic development of Thai children in 2003. Path analysis revealed that the factor which had an effect on holistic development of children in all age groups was parenting. The influence of parenting was highest in pre-school children, followed by in school-age children, and lowest in teenagers. As for emotional-mental-social development of pre-school children, multiple regression analysis was used to determine the relationship between selected family factors and parenting style factors and emotional and social development of children aged 1 to < 6 years. The findings indicated that the factors which had a statistically significant positive relationship with child development were parenting style and mothers' educational background.

However, a review of literature also revealed that there are different, if not contradictory, findings. For example,

Tiller E. et. al. (55) investigated the influence of parenting style on intellectual development of children in 2003. The findings indicated that parenting style was not as good a predictive factor of children's intellectual ability as socioeconomic status.

It can be seen that one factor which has an influence on holistic development of children was parenting. Authoritative or overprotective parenting style makes children emotionally unstable. They lack warmth, tend to be introverted and uncreative, and are unable to adjust themselves. Also, they are afraid to express themselves, lack self-confidence, and need to depend on adults. However, they are obedient, polite, and not aggressive. Children who are raised with democratic parenting style feel that they are well accepted by their parents, so they are optimistic, easily adjustable, friendly, sociable, and expressive. They are also extroverted, inquisitive, and creative. Children who are raised democratically are filled with self-confidence, self-reliance, responsibility, and self-discipline as well. Thus, this type of parenting is supportive of child development. On the other hand, children who are raised with authoritative parenting style become emotionally unstable. In addition, they are deprived of warmth, tend to be introverted and uncreative, and are unable to adjust themselves. Also, they are afraid to express themselves, lack self-confidence, and need to depend on adults. Finally, children who are raised with permissive parenting style are scared, lonely, isolated and unconfident. Moreover, they may be unable to adjust themselves, and they cannot develop trust for others. Also, they may be inconsiderate to others, do not understand how to take responsibility, and lack self-discipline. Again, these traits do not support child development. It can be concluded at this point that each parenting style has different strengths and weaknesses, and it cannot be pinpointed which parenting style is better than the others. In this study, the researcher was interested in investigating the influence of parenting style on child development and formulated the research hypothesis that parenting style has an effect on development of pre-school children.

2.2.2 Research related to parenting pre-school children

Bradley et. al. (56) investigated the effectiveness of a short-term parenting program used with 222 caregivers of children in 1998. The subjects were divided into the experimental group and the control group. The research instruments included interviews and use of video. The findings indicated that parents in the experimental group reported with statistical significance that their practice had been improved.
It was concluded that the use of a short-term program was effective for use with parents and small children with behavioral problems.

Isaranurug S. et. al. (7) examined intellectual development of children of different ages in 2001. The findings indicated that in children age 3 to < 6 years old revealed that 63.9% and 73.3% of children in Muang and Kumuang Districts in Burirum Province had delayed development, respectively. The developmental problems most frequently found were language development and fine motor development. 43.6% had proper parenting, while 8.2% did not. An analysis of different factors related to development of children at different ages indicated that in children aged 3 to < 6 years old, one factor which was related to development was parenting. Children tended to be closely cared for by adults as they were young and they could not help themselves. Quality childrearing is then important to child development. If parents understand the significance of parenting and are able to create parenting experience, children will be able to learn and easily adjust themselves to the environment, rendering them age-appropriate development.

Isaranurug S. et. al. (46) studied development of children different ages in the country in the second stage—analyzing family factors in 2003. The findings suggested that 66% of the children had normal development, while 28.1% had suspected to be delayed development. Multiple regression analysis suggested that the factor which influenced the development of children aged 3 to < 6 years old was parenting. Put another way, quality parenting increased children's chance to have normal development to 2.5 times higher than that of children without quality parenting.

Nanthamongkolchai S. et. al. (8) carried out a cross-sectional survey to examine family factors which influenced development in four provinces in 2003. The findings indicated that 30.0% of the subjects had development lower than normal. The

family factor which had an influence on child development with statistical significance at $p < 0.05$ level was parenting experience. Children who lived in a family with good parenting experience had 2.5 times higher chances to have normal development than those who did not live in a family with good parenting experience.

In short, parenting is associated with child development. As for quality parenting, parents need to have understanding and be able to arrange parenting experience properly to enable children to learn and adjust themselves to the environment, so children have more likelihood to have normal development. This study was then interested in finding a suitable parenting style to ensure pre-school children's age appropriate development.

2.2 Family factors

2.2.1 Type of family

Isaranurug S. et. al. (57) studied development of Thai children aged 6 months to 2 years in Saraburi Province in 1990. The findings revealed that the factor which influenced child development was having an older relative in the family, which was associated with higher developmental mean scores, especially those regarding language development and hearing ability and gross motor development. Having more family members in the household is one individual medium which can promote child development, especially language development, as children have a chance to learn more widely.

Belsky et. al. (58) studied development of infants, children, and teenagers in 1991. According to the findings, parents with more than two children tended to use authoritarian parenting style more than parents with only one child. However, parents with more than two children were better able to perceive and understand their children's needs than those who had only one child. Also, the number of siblings was an indicator of family size, which in turn indicated parents' scope of responsibility. If it was a large family, parents had to bear more responsibility than living in a small family, hence a higher chance to develop stress and tension as they had little time to take care of and be close to their children, which could affect the quality and means of parenting.

However, some research findings yielded conflicting results.

Nookhong A. (59) studied growth, development, and health status of children and satisfaction of adults with services of early childhood educational center, Faculty of Nursing, Chiang Mai University, in 1992. The subjects were 48 children and 48 caregivers. The findings indicated that family type did not affect growth and development of children and that children had the same level of growth and development regardless of the type of family they had. This may be because the subjects who lived in an extended family did not have many members in the family. Rather, they may have a grandparent or two in addition to parents, so there was not much difference.

Isaranurug S. et. al. (7) examined intellectual development of children of different ages in 2001: the first stage—analyzing the situation. The findings suggested that family type was associated with intellectual level with statistical significance (p-value < 0.05), so children in a nuclear family had more chances to have normal development when compared to those in an extended family.

Khumyu A. et. al. (60) studied development of pre-school children in young children development center, Department of Community Development, in the eastern part of the country in 2002. The subjects were 360 pre-school children aged 3 to 5 years old. The findings revealed that most of the subjects had overall development at a higher than normal level.

2.2.2 Parents' educational background

In studies conducted abroad regarding parenting, educational background of parents tended to be included as part of socioeconomic status of the subjects.

Glusec et. al. (61) studied the direct impact of socioeconomic status in 1980. The findings revealed that 40 middle-class American women with a rather high educational background (with an average of 15 years) who had a child between the age of 4 and 8 treated their children differently depending on the behavior of the children. For example, if the children hurt others' feelings, they would use reasoning and explanation, but if the children were not obedient and naughty, they would punish them.

Supanvanich S. (62) investigated the factors which were associated with delayed development in children aged younger than 6 years in 1992 and found that one of the factors associated with delayed development of children was place of residency.

Living in a rural area was associated with slow personal development, while living in an urban area was associated with slow fine motor and language development. Also, poverty and lack of education of parents were also related to delayed development of children regarding language and personal development.

Saingam W. (11) examined the relationship between child characteristic based on emotional basis and mothers' parenting style. The subjects were 311 per-school children aged 3 to 6 years going to a private nursery in Prakanong District, Bangkok during June 10 to August 10, 1995. It was discovered that one of the factors which were statistically significantly related to mothers' parenting style was the mothers' educational background ($p < 0.05$). Mothers who were highly educated tended to use more democratic parenting style than those who were not as highly educated.

Suwanapan A. (44) studied growth, development, health status and related factors in children younger than 6 years old in the central region of Thailand in 1997. It was found that one factor that was associated with children's growth, development, and health status with statistical significance (p-value < 0.05) was parents' or guardians' education.

Kotchabhakdi N. et. al. (63) surveyed health status and development of 3,306 Thai children aged 0 to 5 years in 1998. The findings showed that 19.2% of the mothers who had lower than elementary education had children with delayed development, while only 12.9% of mothers with higher than elementary education did.

Health Promotion Office (6) surveyed health status, development, and growth of pre-school children all over the country in 1999 and found that one factor which was associated with all domains of development of pre-school children with statistical significance at the $p < 0.05$ level was parents' educational background.

Isaranurug S. et. al. (7) examined intellectual development of children of different ages in 2001: the first stage—analyzing the situation. The subjects were divided into three groups: 1 - <3 years old, 3 - <6 years old, and 6 – 12 years old. Multiple regression analysis showed that the factors which had an influence on development of children aged 3 to <6 years old were fathers' educational background and parenting style. When compared the findings to those of the second phase, it was found that the factors which had an influence on development of children aged 3 to <6

years old were mothers' educational background and parenting style, with parenting style having continuous influence in the children 3 to <6 years old.

Nanthamongkolchai S. et. al. (8) carried out a cross-sectional survey to examine family factors which influenced development in four provinces in 2003. The findings indicated that 30.0% of the subjects had development lower than normal. The family factor which had an influence on child development with statistical significance at $p < 0.05$ level was mothers' educational background. Children whose mothers had higher than elementary education had 2.2 times higher chances to have normal development than those whose mothers had a lower level of education.

However, a number of research studies have pointed out that there was no relationship between parents' educational background and child development. For example,

Harnwachirapong Y. (10) investigated factors affecting developmental levels of personal and social characteristics of pre-school children at the Day Care Center in a slum area in Bangkok in 1989. The findings indicated that the factor which had no effect on personal and social characteristics of children with statistical significance at the 0.05 level was parents' educational background.

Nookhong A. (59) studied growth, development, and health status of children and satisfaction of adults with services of early childhood educational center, Faculty of Nursing, Chiang Mai University, in 1992. The findings indicated that all children had personal social development, fine motor development, language development, and gross motor development at a normal or faster than normal level. However, one factor which had no effect on child development was parents' educational background. The researcher explained that as both mothers and fathers had a rather similar educational background, there was no obvious influence on child development. In addition, parents who had the same level of education tended to raise their children in a similar way, and even though parents were not highly educated, but if they were well-off, they could promote their children's growth and development by using other factors such as food, toys, and family interaction, etc.

Khumyu A. et. al. (60) studied development of pre-school children in young children development center, Department of Community Development, in the eastern part of the country in 2002. The findings revealed that the subjects who had parents

with different educational background did not differ when it came to their development. Thus, this finding led to a conclusion that parents' educational background was not related to development of pre-school children.

The previous discussion has shown that findings are contradictor when it comes to the influence of parents' education on child development. Generally, parents with higher education tend to have more knowledge and understanding about their children than those who are not highly educated. Also, they have better chance to find a job with pay that can better serve all needs of the children. They can also organize activities to effectively support their children's learning, and they can seek more knowledge about child development to help their children develop to their fullest potential. Thus, their children have more chances to have normal development. However, some studies found that parents' educational background does not relate to child development. For this reason, this factor was chosen as one study variable so that further information on this factor could be found.

2.2.3 Parents' occupation

Binsomprasong W. (64) conducted a study to examine the relationship among knowledge, attitude, and practice in mothers' parenting and development of children in their early childhood in 1983. In this study, 89 mothers whose children ranged in age from one year six months to two years six months old living in Din Daeng Housing Project were interviewed. The findings showed that children whose mothers worked outside the home had faster development than children whose mothers were stay-at-home

Suwanapan A. (44) studied growth, development, health status and related factors in children younger than 6 years old in the central region of Thailand in 1997. It was found that one factor that was associated with children's growth, development, and health status with statistical significance (p-value < 0.05) was Parents' occupation

However, there are studies which reported that there was no relationship between parents' occupation and child development.

Harnwachirapong Y. (10) investigated factors affecting developmental levels of personal and social characteristics of pre-school children at the Day Care Center in a slum area in Bangkok in 1989. The findings indicated that one of the factors which did not affect personal and social characteristics of children with statistical

significance at the 0.05 level was mothers' employment status. Children whose mothers were stay-at-home had faster development than children whose mothers worked outside the home. Furthermore, children whose parents were government officials or traders had better language development than those whose parents worked in other fields.

Isaranurug S. et. al. (57) studied development of Thai children aged 6 months to 2 years in Saraburi Province in 1990. The findings revealed that the main occupation of the family did not relate to any domain of child development.

Nookhong A. (59) studied growth, development, and health status of children and satisfaction of adults with services of early childhood educational center, Faculty of Nursing, Chiang Mai University, in 1992. The subjects were 48 children. The findings indicated that mothers' occupation was negatively associated with children's development, but there was no association between mothers' occupation and children's growth. That is, mothers who were traders, employees, wage earners, or housewives had children with better developmental stages than mothers who were government officials or public enterprise employees. This may be because mothers who did not have regular nine-to-five jobs had more time to take care of their children than those who had to work in office.

Khumyu A. et. al. (60) studied development of pre-school children in young children development center, Department of Community Development, in the eastern part of the country in 2002. She found that parents' occupation was a factor of pre-school children with different developmental mean scores with no statistical significance at the 0.05 level.

Based on these related studied, it could be seen that findings on the effect of parents' occupation on children's development are conflicting. As for studied which confirmed that parents' occupation had a relationship with child development, it could be explained that parents' with respectable jobs such as being academics, government officials, or public enterprise employees can better provide care and promote their children's development, and they were also able to give correct or proper advice to their children. In this study, parent's occupation was chosen as one of the study variables as it was assumed that it has influence with pre-school children's development.

2.2.4 Average monthly family income

Pongchoke P. (65) conducted a study to investigate factors which were associated with development of children aged 0 to 6 years old. The subjects were 5,352 normal children with good health randomly selected from both urban and rural areas in 147 villages in 11 provinces in 1991. It was discovered that there was a relationship between caregivers' being well-to-do and children's sight, fine motor, personal, and overall development. This may be because families with good financial status were better able to provide toys and other materials to stimulate children's intellectual development and perception.

Supanvanich S. (62) investigated the factors which were associated with delayed development in children aged younger than 6 years in 1992 and found that the factors associated with delayed development of children were parents' poverty and lack of education, especially language and personal social development.

Health Promotion Office (6) conducted a survey of health status, development, and growth of pre-school children all the country in 1999. According to the findings, average monthly family income was found to be statistically significantly related to holistic development of pre-school children at the $p < 0.05$ level.

Suwanapan A. (44) studied growth, development, health status and related factors in children younger than 6 years old in the central region of Thailand in 1997. It was found that one factor that was associated with children's growth, development, and health status with statistical significance (p-value < 0.05) was family income.

Isaranurug S. et. al. (7) examined intellectual development of children of different ages in 2001: the first stage—analyzing the situation. The study findings showed that 3.1 - 42.3% of the families had inadequate income. Moreover, 48.2% of the family had appropriate childrearing, 43.6% had moderately appropriate childrearing, and 8.2% had inappropriate childrearing. About one-quarter of the families, or 28.8%, had faced one critical situation in the household in the past year, most of which was unemployment. An analysis of different factors associated with development of children at different ages pointed out that one factor which was related to development in children aged 3 to <6 years was family income.

Tiller et. al. (55) investigated the influence of parenting style on intellectual development of children in 2003. The findings indicated that parenting style was not as good a predictive factor of children's intellectual ability as socioeconomic status.

Mosuwan L. et. al. (13) explored holistic development of Thai children regarding their growth and nutritional status based on body weight and height in 2003. The findings indicated that family income had a considerable influence on Thai age-appropriate holistic development of pre-school children and teenagers.

On the other hand, there are some studies which suggested that there is no relationship between family income and child development. For example,

Laungrangsee S. (66) explored basic self-help behaviors of 96 pre-school children aged 2 years 3 months to 3 years 5 months old in the rural areas in the central region of the country in 1973. A questionnaire was used to elicit data from the mothers of these children regarding the children's behaviors reflecting their self-reliance. The findings showed that children from families with high and low socioeconomic statuses had the same ability to take care of themselves.

Harnwachirapong Y. (10) investigated factors affecting developmental levels of personal and social characteristics of pre-school children at the Day Care Center in a slum area in Bangkok in 1989. The findings indicated that one of the factors which had no effect on personal and social characteristics of children with statistical significance at the 0.05 level was family income per month.

Huntrakul S. et. al. (67) compared development of 120 pre-school children between the age of 2.5 and 6 years old raised at home and those raised at the day care in Jaturamitrsampan community. According to the findings, there was no difference in the development of both groups of children. In addition, it was found that socioeconomic status of the family had no direct effect on the children's development.

Nookhong A. (59) studied growth, development, and health status of children and satisfaction of adults with services of early childhood educational center, Faculty of Nursing, Chiang Mai University, in 1992. The findings indicated that family income had an effect on children's growth, but it had no effect on their development.

Vajarasin J. et. al. (68) studied factors affecting developmental level of pre-school children at the Child Development Center in Chonburi Province in 1995. The researchers found that different family incomes resulted in differences in scores of

language and hearing development at the 0.05 level. A large number of children who came from families with low socioeconomic status did not experience any developmental problem as they received enough love and attention from their parents.

Evidently, family income has an influence on development of pre-school children. In particular, children whose parents have a high socioeconomic status tend to have more age-appropriate development than those whose parents have a low socioeconomic status. In general, families with high and moderate economic statuses do not normally use spanking to punish their children. Rather, they like to praise the children or give them a reward. They also train and develop self-discipline in their children. They use compromise, and they teach their children how to be self-reliant in accordance with their age. However, some contradictory findings have also been found. As a result, family income was chosen as one study variable in this study in hope that the study findings could shed more light on the influence of family income on child development.

2.2.5 Relationship in the family

Harnwachirapong Y. (10) investigated factors affecting developmental levels of personal and social characteristics of pre-school children at the Day Care Center in a slum area in Bangkok in 1989. The findings indicated that the relationship between the father and the mother had an effect on personal and social characteristics of children with statistical significance at the 0.01 level. Therefore, it could be concluded that the relationship between the parents was one factor which affect personal development of pre-school children.

Saingam W. (11) examined the relationship between child characteristic based on emotional basis and mothers' parenting style. The subjects were going to a private nursery in Prakanong District, Bangkok. It was discovered that one of the factors which were statistically significantly related to mothers' parenting style was the marital relationship ($p < 0.05$). Mothers who had a good relationship with their husbands tended to use more democratic parenting style than those who did not have a good marital relationship.

Sanepong J. (51) surveyed a relationship between parenting plan of mothers, relationship between mothers and fathers, and self-confidence of pre-school children in 2000. in Kindergarten 2 in elementary schools under Suan Luang District, Bangkok.

The findings revealed that the relationship between the father and the mother was associated with children's self-confidence in expressing themselves and taking responsibility as well as adjusting and having people skills with statistical significance at the 0.01 level,($r = 0.307$, $p = 0.000$ and $r = -0.224$, $p = 0.001$), respectively. The findings suggested that parents should use maintain a good relationship between each other, giving each other love, care, and affection, as it could help instill self-confidence in their children.

Isaranurug S. et. al. (7) examined intellectual development of children of different ages in 2001: Analyzing the situation. The at-risk families were assessed using the Family Resilience-Risk Index (FRRI) which was designed from eight sub-variables of parents' educational background, critical condition in the family, family relationship, physical environment in the household, family income, type of family, and parenting style. The families were divided into three groups—low risk, moderate risk, and high risk. The findings revealed that 5.8% were high-risk families, 49.5% were moderate-risk families, and 44.7% were low-risk families. It was also found that children in the high-risk and moderate-risk families tended to higher chances to have low body weight, delayed development, and low intellectual level than those living in low-risk families.

From the above discussion, it could be seen that the relationship between the parents was a factor that influences child development. Children who have parents with a good marital relationship can live their lives amid love, affection, consideration, and warmth. Parents who love each other also pay close attention to their children, making the children have appropriate emotional, mental, and social development. They are also optimistic and confident, and they can adjust themselves to society easily. Consequently, they have higher chances to have normal development than the children whose parents do not have a good marital relationship. In this study, family relationship was expected to have an influence on development of pre-school children.

2.3 Children's individual factors

2.3.1 Gender

Harnwachirapong Y. (10) investigated factors affecting developmental levels of personal and social characteristics of pre-school children aged 3 to 4 years at the

Day Care Center in a slum area in Bangkok in 1989. The findings indicated that children's gender had an effect on personal and social characteristics of children with statistical significance at the 0.01 level, with girls having the mean scores of personal and social development higher than those of boys with statistical significance. The researcher explained that in Thai society, the roles of the two genders are defined differently. Boys are taught to value success in life and learning, while girls are taught to realize the significance of successful family life and household chores.

Nookhong A. (59) studied growth, development, and health status of children and satisfaction of adults with services of early childhood educational center, Faculty of Nursing, Chiang Mai University, in 1992. The findings indicated that gender had an influence on child development. That is, girls had faster development than boys. The researcher explained that parents may have had similar expectations for their children, regardless of their gender, so they raised them in the same way. Also, the subjects in this study, both boys and girls, received the same care and did the same activities.

Berndt et. al. (69) studied the perceived role of mothers in grown-up children in China, Taiwan, and Hong Kong in 1993. The findings showed that daughters had a higher level of perception of the fathers' love than sons. Daughters also perceived that the fathers controlled them less than sons did. On the contrary, mothers tended to be more controlling with their daughters, and they gave less warmth to their daughters than to their sons.

Suwanapan A. (44) studied growth, development, health status and related factors in children younger than 6 years old in the central region of Thailand in 1997. It was found that one factor that was associated with children's growth, development, and health status with statistical significance (p-value < 0.05) was the children's gender.

However, there were some studies which did not find any difference in the influence of gender on child development.

Kotchabhakdi N. et. al. (63) surveyed health status and development of 3,306 Thai children aged 0 to 5 years in 1998. The findings showed that boys had slightly slower development than girls, but there was no statistical significance.

Khumyu A. et. al. (60) studied development of pre-school children in young children development center, Department of Community Development, in the eastern part of the country in 2002. The findings revealed that most of the subjects had overall development at a higher than normal level. Moreover, there was no statistically significant difference between developmental mean scores of boys and girls at the 0.05 level. This may be because boys and girls under the care of the center received the same kind of care and the same promotion of their development while doing the same activities, so their developmental levels were similar.

From the above discussion, it became evident that the children's gender was a factor that influences the way they are treated by their parents. Girls are protected more than boys, but at the same time they receive less stimulation to be self-reliant or independent. Also, girls may be controlled more than boys. In this study, the children's gender was selected as one study variable as it was expected to have an influence on development of pre-school children.

2.3.2 Number of siblings

Belsky et. al. (58) studied development of infants, children, and teenagers in 1991. According to the findings, parents with more than two children tended to use authoritarian parenting style more than parents with only one child. However, parents with more than two children were better able to perceive and understand their children's needs than those who had only one child. In fact, the number of siblings was an indicator of family size, which in turn indicated parents' scope of responsibility. If it was a large family, parents had to bear more responsibility than living in a small family, hence a higher chance to develop stress and tension as they had little time to take care of and be close to their children, which could affect the quality and means of parenting.

Nookhong A. (59) studied growth, development, and health status of children and satisfaction of adults with services of early childhood educational center, Faculty of Nursing, Chiang Mai University, in 1992. The findings indicated that number of children in the family was negatively related to development of children. That is, the children with a lower number of siblings had better development than those with a higher number of siblings. However, in this study, almost all of the families, (97.9%) were small families with only 1 to 3 children, so parents had sufficient time

and opportunity to pay close attention to their children. As a consequence, children had a similar level of love, warmth, and family interaction.

In conclusion, the higher the number of children in the family, the less close care children will receive from their parents. Also, families with different numbers of children tend to raise their children differently, and this could lead to difference in child developmental level. In the present study, number of siblings was chosen as one study variable as it was suspected to have an influence on development of pre-school children.

2.3.3 Nutritional status

Kotchabhakdi N. (70) studied the effects of environment on development of four boys with malnutrition stages 2 and 3 in 1978. She found that the effect of nutrition deficiency was delayed development, which could be improved after the children received nutritional rehabilitation and developmental stimulation.

Vera NA. et. al. (71) examined nutrition status, economic status, and family background of Mexican children with low academic achievement in 1990. The sample consisted of children aged between 4 and 6 years going to a kindergarten in Hermosillo. The study results suggested that malnutrition and inappropriate environment at home were important factors leading to low academic achievement of the subjects.

Supanvanich S. (62) investigated the factors which were associated with delayed development in children aged younger than 6 years in 1992 and found that one of the factors associated with delayed development of children was malnutrition in children. In fact, children with malnutrition had problems with fine motor development, language development, and social development.

Kotchabhakdi N. et. al. (63) surveyed health status and development of Thai children aged 0 to 5 years in 1998. The findings showed that malnutrition, in terms of weight for age and height for age, affected child development. That is, children with weight for age lower than criterion had delayeder development when compared to those with normal nutritional status, as 16.4% of children who were too thin for their age had delayed development, whereas 9.1% of children with normal nutritional status did. It was the same case for children with height for age lower than criterion, as

15.3% of children shorter than their age had delayed development, while only 9.8% of children with normal nutritional status did.

Health Promotion Office (6) conducted a survey of health status, development, and growth of pre-school children of the country in 1999. It was discovered one factor which was associated with overall development of pre-school children with statistical significance at the $p < 0.05$ level was nutritional status.

Ivanovic et. al. (72) studied a long-term effect of severe malnutrition during the first year of life on brain development and learning of 32 secondary students in Chile in 2003. The findings showed that malnutrition at a very young age had an effect on brain development, intellectual level, and academic achievement of the students.

Isaranurug S. et. al. (46) studied development of children different ages in the country in the second stage—analyzing family factors in 2003. The subjects were children aged 3 to < 6 years old. As regards nutritional status of children aged 3 to <6 years old, 5.2% were overweight, 6.0% were short, and 3.0% were obese. However, there was no obvious change in the children's nutritional status before and after the organization of family learning activities.

In conclusion, it can be seen that existing research has pointed out that nutritional status is one factor which affects child development. For instance, malnutrition affects the development of the brain, which can in turn affect children's learning achievement at a later age. Thus, it is expected that nutritional status is one factor which has an influence on development of pre-school children because abnormal nutritional status can lead to abnormal growth and delayed development. This was why this factor was chosen as one study variable.

A review of related theories and existing research literature has led to the conclusion that factors which affect child development are parenting style, type of family, father's educational background, mother's educational background, fater's occupation, mother's occupation, monthly family income, family relationship, children's gender, number of siblings, and nutritional status. With an emphasis placed on parenting styles and their influence on development of pre-school children. However, it was assumed that all factors discussed had more or less influence on the normal or delayed development of pre-school children.

CHAPTER III
MATERIALS AND METHODS

The study was a cross-sectional survey which aimed at investigating influences of parenting styles on the development of pre-school children in Roi Et Province.

Population and Sample

The population of the present research was pre-school children, both males and females, that lived with their parents in Roi Et Province in 2004.

The sample of the study was selected based on the following inclusion criteria:

1. They were children in their pre-school ages who did not have any form of physical or mental disability or sickness. They ranged in age from 3 years old to 5 years 11 months and 29 days old.
2. They had their parents as the main caregivers and they had been living with their parents for at least six months to ascertain the effects of parenting styles on their development.
3. Their parents were willing to participate in the study and agreed to sign their names in the informed consent form.

Sample Size

The sample size of the study was calculated from the problem phenomena proposed in the study conducted by Nanthamongkolchai S. et al. (8) who investigated the influences of family factors on pre-school children's development in four provinces in Thailand which found that 30% of the 224 children aged 3 to < 6 years old who were the subjects of the study had delayed development.

1. Determination of sample size

As the study variables were group variables, the sample size of the present study was calculated using the formula employed when the exact population size was unknown of Daniel W.W. (73):

$$n = \frac{Z^2 P (1-P)}{d^2}$$

When n = Sample size

Z = Standard statistical value, under normal distribution curve, set at $\alpha = 0.05$, $Z = 1.96$

P = value of population proportion with maximum value P = 0.30

d = value of absolute variation equal to 0.05

$$n = \frac{(1.96)^2 (0.30)(0.70)}{(0.05)^{-2}}$$

n = 322.69

Thus, the sample size for this study could not be smaller than 323 to ensure validity of the findings. However, the researcher increased the sample size by 10%, so the total number of sample was 360.

2. Sampling method

The sample was selected using the multi-stage sampling as follows:

Step 1: The sample districts in Roi Et Province were selected by dividing the districts into three zones—northern, central, and southern—based on the geographical criteria and working zones of the Roi Et Public Health Office. After that, one district was randomly selected from each of the three zones. The results were Phanomprai District, Selaphum District, and Chaturapakphimarn District.

Step 2: One Tambon was randomly selected from each of the sampled districts.

Step 3: One village was then randomly selected from the sampled Tambon.

Step 4: The sample was selected by examining the development of all children residing in the villages until the total number of subjects needed was reached, with equal proportion between normal children and children have suspected to be delayed development. If the total number of children have suspected to be delayed

development reached the desired number, the examination in that Tambon would be terminated. The sample selection process was depicted in Figure 2 below.

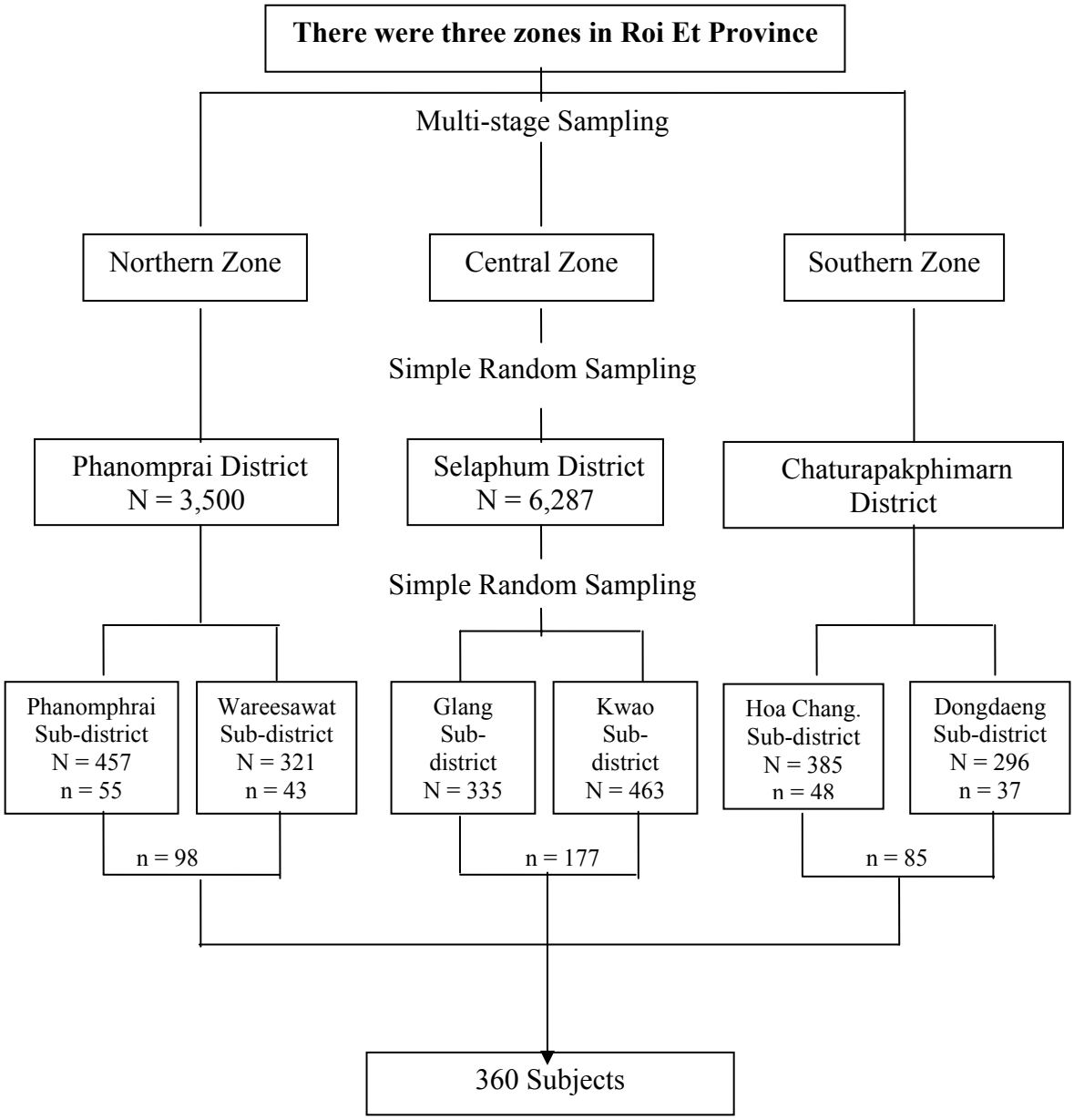

Figure 2 Sample Selection Process Using Multi-State Sampling

Research Instruments

The instruments used in collecting data were divided into two parts:

1. Questionnaires

The questionnaires used in the study could be divided into three parts:

1.1 Questionnaire eliciting data regarding the demographic characteristics of pre-school children and their family type

1.2 Family Attachment Changeability Index 8 (FACI8)

1.3 Parenting Style of Pre-School Children Questionnaire

2. Pre-School Children Development Assessment Tools

The tools used to assess the development of pre-school children in the present study consisted of the following:

2.1 Denver II to assess development of pres-school children

2.2 Body weight and height measurement to assess pre-school children's nutritional status

1. Questionnaires devided into three part:

Part I: Questionnaire eliciting data regarding the demographic characteristics of pre-school children and their family type

Part II: Family Attachment Changeability Index 8 (FACI8)

Part III: Parenting Style of Pre-School Children Questionnaire

Part I: Questionnaire eliciting data regarding the demographic characteristics of pre-school children and their family type

This questionnaire was developed by the researcher to elicit information regarding pre-school children including name of the informants, relationship of the informant with the pre-school children, individuals who played a major role in taking care of the children, first name and last name of the pre-school children, gender, date of birth, prenatal care, type of delivery, delivery method, birth weight, current weight, height, number of siblings, results of assessment of development according to Denver II, nutritional status, illness, serious illness during the previous six months, and accidents in the previous six months. Also, information regarding the characteristics of the pre-school children's family was also elicited including the father's age,

mother's age, father's educational background, mother's educational background, father's occupation, mother's occupation, monthly family income, adequacy of income, type of family, type of ownership of residence, and family's traumas in the past year.

Part II: Family Attachment Changeability Index 8 (FACI8)

The Family Attachment Changeability Index 8 (FACI8) was the translated version of the original Family Attachment Changeability Index 8 (FACI8) of McCubbin et al. (1996) which was translated into Thai by Mosuwan L. et al. (13). The index assessed the holistic development of children using 16 items, each of which was in the form of a three-point rating scale of "never," "sometimes," and "always" totaling 1, 2, and 3 points, respectively for the positive items and vise versa. The index was divided into two subscales:

Subscale 1: Attachment: items 2, 5, 7, 9, 12, 13, 15, and 16 (negative item)
Subscale 2: Change ability: items 1, 3, 4, 6, 8, 10, 11, and 14
The scores of the subscales were calculated as follows:

Attachment			**Changeability**		
0-6	=	1	0-5	=	1
7-10	=	2	6-7	=	2
11-13	=	3	8-10	=	3
14-16	=	4	11-12	=	4
17-20	=	5	13-14	=	5
21-24	=	6	15-24	=	6

As for the interpretation of scoring, the scores obtained from both subscales were added up and divided by two to derive at the FACI8 with the following interpretations:

FACI8 = 1 – 3.5	=	Extreme family type
FACI8 = 4 – 4.5	=	Moderate family type
FACI8 = 5 – 5.5	=	Midrange family type
FACI8 = 6	=	Balanced family type

Extreme families were those whose members lived their separate lives with little attachment and cooperation as well as low adjustment.

Moderate extreme families were those whose members had little attachment and cooperation as well as a moderate level of adjustment.

Midrange families were those with members with a moderate level of attachment and a good level of cooperation and adjustment.

Balanced families were those families whose members had a high level of attachment and a good level of cooperation and adjustment.

Part III: Parenting Style of Pre-School Children Questionnaire

The questionnaire was adapted from the parenting questionnaires of Harnvajirapong Y. (10) and Saingam V. (11) to match different types of parenting of pre-school children in Thailand with the details as follows:

1.1 The questionnaire was a four-point rating scale of "absolutely true," "mostly true," "hardly true," and "not true at all." It elicited the parenting styles of parents in three types:

-Democratic parenting styles consisting of 15 items
-Authoritative parenting styles consisting of 15 items
-Permissive parenting styles consisting of 15 items

All together there were 45 items in the questionnaire.

1.2 As for sequencing, the first item was related to democratic parenting, the second authoritative parenting, and the third permissive parenting, and the sequencing went on like this all through the questionnaire.

1.3 As for scoring, each response was scored as follows:

Absolutely true = 3 points
Mostly true = 2 points
Hardly true = 1 point
Not true at all = 0 point

As for the parenting styles of pre-school children, in the present study, the parenting styles were evaluated based on the parents' behaviors shown to their children as follows:

1. **Democratic parenting styles**
   - 1.1 Supporting the children's independence
   - 1.2 Listening to the children's opinions and using reasons to argue with them
   - 1.3 Listening to the children's needs and responding as seen appropriate
   - 1.4 Giving reasons to the children before punishing them
   - 1.5 Teaching children their duties and responsibilities
   - 1.6 Training children to carry out their duties and responsibilities
   - 1.7 Teaching children to respect their own and others' rights
   - 1.8 Giving children warning when they violated others' right
   - 1.9 Establishing rules and regulations and teaching them how to comply with these rules and regulations
   - 1.10 Not letting children witness when parents violated others' rights
2. **Authoritative parenting styles**
   - 2.1 Not letting children have a chance to be themselves
   - 2.2 Not listening to children's opinions, reasons, or needs
   - 2.3 Repeatedly teaching children to carry out their duties strictly
   - 2.4 Establishing strict rules and regulations
   - 2.5 Strictly reinforcing rules and regulations
   - 2.6 Scolding children when they did not obey rules and regulations
   - 2.7 Always forcing children to comply with the parents' needs
   - 2.8 Punishing children even when they made a minor mistake
   - 2.9 Showing considerable anger when children failed or made mistakes
   - 2.10 Complaining incessantly when children made a mistake
3. **Permissive parenting styles**
   - 3.1 Showering children with love and affection
   - 3.2 Always letting children do whatever they pleased
   - 3.3 Never punishing children
   - 3.4 Not teaching children their duties and responsibilities
   - 3.5 Not training children to be responsible
   - 3.6 Not teaching children about others' rights and how to respect others' rights

3.7 Never establishing any rules or regulations, or never punishing children when they did not obey rules or regulations

3.8 Being indifferent when seeing children have inappropriate behaviors

In considering the parenting style each child received, the criterion was set at 75%. In other words, if the respondents had any type of responses at 75% or higher, it was then considered the children received that type of parenting. In case no response was as high as 75%, or there were more than one type of response that was higher than 75%, it would then be considered that the pre-school children received the mixed parenting style.

2. Assessment of Children's Development using Denver II

In this study, Denver II was used. It was developed from Denver Developmental Screening for children aged lower than 6 years. The Denver II was originally constructed by Frankenberg et al. (1967, 1981) and later developed in 1990. In the present study, the Thai version translated by Kotchabhakdi N. et al.(30) was used.

The objectives of Denver II were as follows:

1. To assess the development of children who appeared to be normal to screen developmental problems; and

2. To assess the development of at-risk children to monitor the problems that might occur.

Interpretation

As for the interpretation, the assessment of pre-school children using Denver II compared the children's development with that of other children the same age. In the present study, Denver II was used to assess the overall development of pre-school children dividing their developmental stages into two levels:

Age-appropriate development meant the children had normal development

Suspected to be delayed development meant the children had developmental stage slower than normal

3. Assessment of Nutritional status

The nutritional status of the pre-school children was evaluated using their body weight and height measurement based on the standard from the graph of Nutrition Department, the Ministry of Public Health (14), revised version 2000. The nutritional status of children was divided into three aspects: weight for age, height for age, and weight for height as follows:

3.1 Weight for age

This was an index indicating whether the current nutritional status of the children was suitable for their age. If the body lacked nutrition or was stricken with a physical sickness, size and body weight would be affected and the children would lose weight. If the condition persisted, the children would become thin and short. Thus, weight for age was a popular criterion, especially among infants and pre-school children, because it exclusively covered the malnutrition condition.

Interpretation

Weight for age was classified into three groups:

Under normal is lower than -1.5 S.D.of linear.

Normal is between -1.5 S.D. to +1.5 S.D. of linear

Over normal is higher than +1.5 S.D.of linear

3.2 Height for age

was an index indicating the prolonged nutritional status whether the children's height was appropriate to their age or not. If the body lacked needed nutrition for a long period of time, the children's body structure would be affected and they would be shorter than other children of the same age.

Interpretation

Height for age was classified into three groups:

Short is lower than -1.5 S.D. of linear

Normal is between -1.5 S.D. to +1.5 S.D. of linear

Tall is heigher than +1.5 S.D. of linear

3.3 Weight for height

This was an index indicating whether the children's current weight was appropriate to their height or not. The interpretation of the children's current nutritional status could be conducted without having to know the age of the children. If the body lacked nutrition for a short period of time or was stricken with a physical sickness, the body would be thin and the Weight for height would be lower than normal. On the contrary, if the body received more nutrition than it needed, the Weight for height would be a good indicator of obesity.

Interpretation

Weight for height was classified into three groups:

Thin is lower than -1.5 S.D. of linear

Normal is between -1.5 S.D. to +1.5 S.D. of linear

Obese is higher than +1.5 S.D. of linear

Assessing the quality of the instrument

Content validity

The instruments were first submitted to the thesis committee members to be examined to ensure their content validity and language appropriateness. After that, the content validity and language appropriateness of the revised versions were confirmed by a panel of three experts before they were tried out with the study subjects. The three experts included:

1. Associate Professor Dr. Sirikul Isaranurug, M.D.
   Director of the Asean Institute for Health Development, Mahidol University
2. Dr. Rattanothai Plabrookarn, M.D.
   A medical expert on child and teenage psychology, the Maharajinee National Health Center for Children
3. Associate Professor Dr. Pitaya Charupoonphol, M.D.
   Head of the Department of Family Health, Faculty of Public Health, Mahidol University

Reliability

The revised questionnaires were tried out with 30 parents of pre-school children who shared similar characteristics with the study subjects living in Koulmung Sub-District, Selaphum District, Roi Et Province. Then, Cronbach's Alpha Coefficient was used to calculate the reliability of the instruments as follows:

1. The reliability of the parenting styles of pre-school children questionnaire was equal to 0.85.
2. The reliability of the Family Attachment Changeability Index 8 (FACI8) was equal to 0.75.

The project form present to the Committee on Human Rights

The proposal of the present study was approved by the Committee of Human Rights on Experiments Conducted with Human Subjects of Mahidol University. Before the study proceeded, the subjects signed the informed consent form as a means to indicate that they were fully informed of the research project and were willing to participate in the study.

The approval number of the present project was 75/2004 dated 22 July 2004 (Appendix A).

Data Collection

In the present study, data were collected by means of the questionnaires, Denver II test, and nutritional status assessment. Data collection was conducted from July 23 to August 31, 2004 by the researcher and two research assistants who were graduate students. The research assistants had been informed of the research objectives and data collection procedures. They had sufficient understanding of the questionnaires, how to check for the completion of the questionnaire, and they had to practice interviewing with five subjects as a try-out before the actual data collection commenced. The steps taken in the data collection process were the following:

1. A letter from the School of Graduate Studies, Mahidol University, asking for cooperation in conducting this research was sent to the Roi Et provincial public health doctors in different districts selected, hospital directors, or heads of related public

health stations in different districts to ask for permission to collect data and carry out research.

2. The research contacted the heads of the community health centers and staff working in the health stations in the selected sub-districts to explain research objectives and ask for cooperation in surveying the name directory of children aged 3 to 5 years old and their parents' names to conduct simple random sampling until the desired number of subjects was obtained. Appointments were also made with appropriate date and time for data collection as well.

3. On the data collection date, the researcher introduced herself, explained the research objectives, and asked for cooperation in filling out the questionnaire. The pre-school subjects' development was assessed using the Denver II, and their nutritional status was also evaluated, lasting about 30-45 minutes. The researcher ensured the subjects that the data collected from them would be kept strictly confidential and would be reported as group data for the research-related purposes only. If the approached subjects were willing to participate in the study, they would then be asked to sign their names on the informed consent form provided.

Data Analysis

After data collection was completed, data analysis took place in the following manner:

1. Descriptive statistics were used to describe the demographic characteristics of the subjects in the form of frequency, percentage, mean, standard deviation, which were then tabulated and presented in tables.

2. Analytical statistics were then used to analyze factors regarding parenting styles, family factors (type of family, mothers' educational background, fathers' educational background, mothers' occupation, fathers' occupation, family income, and family relationship), and children's individual factors (gender, number of siblings, and nutritional status) which affected pre-school children's development using simple and multiple logistic regression analysis.

Simple Logistic Regression and Multiple Logistic Regression

The simple logistic regression analysis is used to study the relationship between either qualitative or quantitative independent variables and qualitative dependent variables which are divided into two groups only. However, in this study, this type of the analysis could not clearly identify the factors influencing child development. Therefore, the multiple logistic regression analysis was also used with the following conditions:

1. The dependent variables had to be group data which were dichotomous.
2. There was no multicolinearity among the independent variables.
3. If some of the independent variables were qualitative in nature, they had to be modified into dummy variables whose values were either 0 or 1 only.

In this study, the dependent variable was the development of pre-school children which were then divided into two groups—those with normal development and those suspected to have delayed development. In the logistic regression analysis, the independent variables in the equation had to be dichotomous variables or variables which were divided into two groups only. Thus, some of the variables in this study needed to be changed into dummy variables in the analysis as follows:

Independent variables

-Parenting styles: democratic parenting style = 0 and mixed parenting style = 1

-Family types: nuclear family = 0 and extended family =1

-Fathers' educational background: higher than elementary = 0 and elementary = 1

-Mothers' educational background: higher than elementary = 0 and elementary = 1

-Fathers' occupation: agriculture = 0 and non-agriculture = 1

-Mothers' occupation: agriculture = 0 and non-agriculture = 1

-Sufficiency of income: sufficient = 0 and insufficient = 1

-Family relationship: balance = 0 and unbalanced = 1

-Gender: female = 0 and male = 1

-Number of siblings: one sister or brother = 0 and more than one sibling = 1

-Nutritional status: normal = 0 and abnormal = 1

In the present study, the pattern indicating factors influencing development of pre-school children are as follows:

Model 1 consisting of parenting style factors and family factors

Model 2 consisting of parenting style factors, family factors, and children's individual factors

When comparing the ability to explain the factors influencing the development of pre-school children, parenting style factors, family factors, and children's individual factors were analyzed with the patterns of factors added into the analysis. The differences of -2 Log Likelihood were considered between two patterns to determine if there was any statistical significance. If there was statistical significance, it meant that when adding the study factors into the existing analysis, the new analysis could explain the factors which influenced pre-school children's development in addition to the first pattern. In this study, the Odd Ratio (OR) which was the ratio of the chances the pre-school children were suspected to be delayed development to the chances the pre-school children were likely to have normal development was used.

CHAPTER IV
RESULTS

The present study aimed at investigating the influence of parenting styles on development of 360 pre-school children who lived with their parents in Roi Et Province. Data collection took place from July 24 to August 31, 2004. In this chapter, the findings of the study are presented in the following order:

Part I: Demographic characteristics of pre-school children including age, gender, birth oder, number of siblings, history of prenatal check-up, type of delivery, delivery method, sickness in the past six months, and accidents in the past six months.

Part II: Demographic characteristics of the families of pre-school children including persons who mainly raised the children, fathers' age, fathers' educational background, fathers' occupation, mothers' age, mothers' educational background, mothers' occupation, average family income, sufficiency of family income, type of family, number of family members, type of residency, traumatic events in the past year, and family relationship.

Part III: Preschool children's development.

Part IV: Parenting styles of pre-school children.

Part V: Influences of parenting styles on development of pre-school children.

Part I: Demographic characteristics of pre-school children

1.1 Gender

The findings revealed that 55.6% of the subjects were female, while 44.4% were male (Table 1).

1.2 Age

The subjects were in 4 or 5 years old, with 35.3% being 4 years old and 34.7% being 5 years old, with the mean age of 4.0 years (Table 1).

1.3 Birth order

The largest group of subjects, (41.7%) were the second child in the family, followed by those who were the firstborn child, which made up another 33.3%. Only 0.3% were the fourth child in the family (Table 1).

1.4 Number of siblings

The largest group of the subjects, (55.0%) had two siblings, while 33.3% had only one brother or sister (Table 1).

1.5 History of prenatal check-ups

Almost all of the subjects, (96.7%) were those whose mothers had four prenatal quality check-ups, while 2.2% were those whose mothers did not have all four prenatal quality check-ups. Only 1.1% were born to the mothers who did not see prenatal examination (Table 1).

1.6 Type of delivery

Almost all, (92.5%) of the subjects were born full term, while 6.7% and 0.8% were premature and overterm, respectively (Table 1).

1.7 Means of delivery

The majority, (81.1%) had normal delivery, while 18.9% had abnormal delivery (Table 1). As for the latter group, their delivery was considered abnormal as it involved having a cesarean section due to fetal distress, contraction, prolonged second stage of labour, prolonged second stage of labor, contraction, prolonged first stage of delivery, and abnormal labour and premature rupture of membranes. In such cases, vacuum extraction can be used, as well as forceps extraction.

1.8 History of illnesses in the past six months

Almost all of the subjects, (95.8%) had never had history of illness, while 4.2% had been sick (Table 1) with common cold, pneumonia, diarrhea, fever with seizure, digestive tract infection, infectious wounds on legs, and ear problems.

1.9 History of accidents in the past six months

Almost all of the subjects, (97.8%) had never had an accident in the previous six months, while 2.2% (Table 1) had one or more of the following accidents: falling down, being hit with a bicycle, falling down while riding a motorcycle, falling down while riding a bicycle, and falling out of a car.

Table 1 Number and percentage of demographic characteristics of pre-school children

Demographic characteristics	Number (n = 360)	Percentage
Gender		
Male	160	44.4
Female	200	55.6
Age (years)		
3	108	30.0
4	127	35.3
5	125	34.7
$\bar{x}$ = 4.1	Min = 3	
S.D. = 0.8	Max = 5	
Birth order		
First	63	17.5
Second	150	41.7
Third	26	7.2
Fourth or after	1	0.3
Only child	120	33.3
Number of siblings		
1	120	33.3
2	198	55.0
3	38	10.6
4 or more	4	1.1
$\bar{x}$ = 1.8	Min = 1	
S.D. = 0.7	Max = 4	

Table 1 Number and percentage of demographic characteristics of pre-school children (cont.)

Demographic characteristics	Number (n = 360)	Percentage
Prenatal care		
No	4	1.1
Yes without all four quality cares	8	2.2
Yes with all four quality cares*	348	96.7
Type of birth		
Full-term	333	92.5
Premature	24	6.7
Overterm	3	0.8
Means of delivery		
Normal	292	81.1
Abnormal	68	18.9
History of illnesses in the previous six moths		
No	345	95.8
Yes	15	4.2
History of accidents in the previous six months		
Yes	352	97.8
No	8	2.2

Remark: *Prenatal care with all four quality cares refer to the criteria which requires pregnant women to receive treatment and care from public health officials periodically until delivery to ensure that pregnant women receive appropriate care for safe delivery. The criteria are as follows:

- At least one check-up during the first six months
- At least two check-ups during the gestation age of 26 to 35 weeks (7-8 months)
- At least once after the gestation age of > 36 weeks (more than 9 months).

Part II: Demographic characteristics of family of pre-school children

2.1 Persons with the main responsibility taking care of the pre-school children

The findings revealed that the mothers were the ones who played the most significant role in raising the children, accounting for 87.8%, while the father did the rest, (12.2%) (Table 2).

2.2 Fathers' age

More than half, (58.9%) of the fathers were between 31 and 40 years old, followed by those who were 21 to 30 years old (28.6%) with the mean age of 34.3% (Table 2).

2.3 Fathers' educational background

The largest group of the fathers, (57.5%) completed elementary education, while 16.9% completed early secondary education (Table 2).

2.4 Fathers' occupation

Approximately half of the fathers, (49.7%) were agriculturists or farmers, while 27.5%, were wage earners (Table 2).

2.5 Mothers' age

The largest group of mothers, (47.2%) were 31 to 40 years old, while a rather similar number, (46.4%) were 21 to 30 years old, with the mean age of 31.2 years (Table 2).

2.6 Mothers' educational background

Close to two-thirds of the mothers, (62.2%) graduated from an elementary school, whereas 16.4% completed early secondary education (Table 2).

2.7 Mothers' occupation

More than half, (52.2%) of the mothers worked in the filed of agriculture, whereas 17.5% were wage earners (Table 2).

2.8 Family income

Half of the subjects, (50.3%) of the subjects had an average income of less than 3,000 baht per month, while a little more than one-quarter, (28.3%) had an average income of 3,001-6,000 baht per month. The lowest mean income was 300 baht per month, with the mean of 5,810.4 baht per month (Table 2).

2.9 Sufficiency of income

About half, (43.6%) had enough income but it was not enough for savings, whereas about one-third, (32.5%) did not have enough income and had to ask for a loan (Table 2).

2.10 Family type

As for the pre-school children's family, 52.8% lived in an extended family, while 47.2% had a nuclear family (Table 2).

2.11 Number of family members

52.2% had less than five members in the family, while 46.7% had five to ten members in the family. The mean of number of family members was 5.6 (Table 2).

2.12 Type of ownership of residence

Close to three-quarters, (72.5%) owned the land and house they were living in, and 21.1% lived with their relatives without having to pay for a rent (Table 2).

2.13 Traumatic events during the past year

More than half of the families of pre-school children did not encounter any traumatic event in the past year, accounting for 58.3% of the total. On the other hand, 21.9% had someone in the family who were seriously sick and needed to be hospitalized.

2.14 Relationship in the family

More than half of the subjects, (56.4%) had a balanced family, while 39.2% had an almost balanced family (Table 2).

Table 2 Number and percentage of demographic characteristics of pre-school children's families

Demographic characteristics	Number (n = 360)	Percentage
1. Persons who played prominent roles taking care of the children		
Mother	316	87.8
Father	44	12.2
2. Fathers' age		
Younger than 20 years old	1	0.3
21 – 30 years	103	28.6
31 – 40 years	212	58.9
31 – 40 years	44	12.2
$\bar{x}$ = 34.3	Min = 20	
S.D. = 6.1	Max = 61	
3. Fathers' educational background		
Elementary	207	57.5
Early secondary	61	16.9
High school	46	12.8
Vocational certificate or Diploma	13	3.6
Bachelor's degree or higher	33	9.2
4. Fathers' occupation		
Agriculturists	179	49.7
Animal farmers	2	0.6
Traders	33	9.2
Wage earners	99	27.5
Government officials/Public enterprise employees	30	8.3
Business owners	6	1.7
Employees	7	1.9
Others	4	1.1

Table 2 Number and percentage of demographic characteristics of pre-school children's families (cont.)

Demographic characteristics	Number (n = 360)	Percentage
5. Mothers' age		
Younger than 20 years old	5	1.4
21 – 30 years	167	46.4
31 – 40 years	170	47.2
Older than 40 years	18	5.0
$\bar{x}$ = 31.2	Min = 19	
SD = 5.5	Max = 51	
6. Mothers' educational background		
Elementary	224	62.2
Early secondary	59	16.4
High school	34	9.4
Vocational certificate or Diploma	14	3.9
Bachelor's degree or higher	29	8.1
7. Mothers' occupation		
Agriculturists	188	52.2
Animal farmers	3	0.8
Traders	53	14.7
Wage earners	63	17.5
Government officials/Public enterprise employees	20	5.6
Business owners	4	1.1
Employees	10	2.8
Others	19	5.3
8. Average family income (baht/month)		
Lower than 3,000	181	50.3
3,001 – 6,000	102	28.3
6,001 – 9,000	20	5.6
9,001 or higher	57	15.8
$\bar{x}$ = 5,810.4	Min = 300	
S.D. = 7,152.1	Max = 50,000	

Table 2 Number and percentage of demographic characteristics of pre-school children's families (cont.)

Demographic characteristics	Number (n = 360)	Percentage
9. Sufficiency of income		
Enough with savings	39	10.8
Enough without savings	157	43.6
Not enough but without loans	47	13.1
Not enough and with loans	117	32.5
10. Type of family		
Nuclear family	170	47.2
Extended family	190	52.8
11. Number of family members		
Fewer than 5	188	52.2
5 – 10	168	46.7
More than 10	4	1.1
$\bar{x}$ = 5.6	Min = 3	
S.D. = 2.0	Max = 12	
12. Type of residency		
Owning land and house	261	72.5
Owing the house but renting the land	10	2.8
Living in a rental house	7	1.9
Living with family with no rent	76	21.1
Living in government housing project	4	1.1
Others	2	0.6
13.Traumatic events in the past year		
None	210	58.3
Losing a family member	20	5.6
Having a sick and hospitalized family member	79	21.9
Being unemployed or fired	45	12.5
Others	6	1.7
14. Relationship in the family		
Extreme	7	1.9
Rather extreme	9	2.5
Rather balanced	141	39.2
Balanced	203	56.4

Part III: Development of Pre-School Children

3.1 Development of pre-school children

This study included 360 pre-school children who were divided into two groups-180 were those who had normal development and the other 180 were suspected to have delayed development. This was to investigate the influence of parenting styles on development of pre-school children, especially the areas in which they were suspected to be delayed development. The findings revealed that when considering each aspect of development, the areas which were suspected to develop slowly and required the most adjustment were the use of fine motor-adaptive (61.7%), which was followed by language development (24.4%), while the least frequently found problem was gross motor (3.9%) (Table 3).

Table 3 Number and percentage of the examination of pre-school children's development as classified by the Denver II scale

Development	Number (n = 360)	Percentage
Normal	180	50.0
Suspected to be delayed	180	50.0
- Personal social development	18	10.0
- Fine motor-adaptive development	111	61.7
- Language development	44	24.4
- Gross motor development	7	3.9

Remark A child may be suspected to have more than one area of delayed development

3.2 Nutritional status

In this study, pre-school children's nutritional status was considered in three aspects based on the nutritional status assessment criteria of the Division of Nutritional, Department, the Ministry of Public Health (14). The criteria began with a comparison of weight for age, which was an index indicating the current nutritional status of pre-school children whether it was appropriate to their age or not. The criteria were widely used with pre-school children. In the present study, the findings revealed that two-thirds of pre-school children had weight for age normal, accounting for 68.6% of the total, followed by those whose weight was under normal (27.8%). The second criteria were used to compare pre-school children's with the height for age previously determined. This was considered an index which indicated a long-term nutritional status of the children whether their height was appropriate to their age or not. In this study, 83.6% of the subjects had normal, while 13.1% were short. In addition, the weight for height was then compared to their height so as to determine whether their weight was in proportion to their height or not. It was found that more than the subjects, (69.7%) had normal, while about (26.4%) were thin (Table 4).

Table 4 Number and percentage of pre-school children as categorized according to their nutritional status

Nutritional status	Number (n = 360)	Percentage
Weight for Age		
Under normal	100	27.8
Normal	247	68.6
Over normal	13	3.6
Height for Age		
Short	47	13.1
Normal	301	83.6
Tall	12	3.3
Weight for Height		
Thin	95	26.4
Normal	251	69.7
Obese	14	3.9

Part IV: Parenting styles of pre-school children

The findings revealed that more than half, (55.3%) had a democratic parenting style. Also, 41.4%, 1.9%, and 1.4% of the pre-school children were raised with the mixed parenting style, authoritative parenting style, and permissive parenting style, respectively. When considering the mixed parenting style, it was discovered that the majority of those who used the mixed parenting style, (86.6%) used all three styles of democratic, authoritative, and permissive parenting styles, while a much small percentage, or only 7.4%, mixed two parenting styles of democratic and authoritative (Table 5).

In addition to this, it was found that the parents who used only the authoritative style and those who used the permissive style made up only 12 of the total number of subjects. Thus, these could not be included as part of the analysis as they could hinder interpretation. This, coupled with statistical limitations which required a large enough sample size in the analysis, meant that the parents who solely used any of these two parenting styles had to be omitted. For this reason, the researcher conducted simple random sampling to exclude 20 subjects from the analysis to maintain the equal number of the subjects with normal development and those with suspected to be delayed development so as to determine the influence of parenting styles on pre-school children's development. In the end, the number of subjects was equal to 340, and only the democratic parenting style and the mixed parenting style were included in the analysis of data.

Table 5 Number and percentage of parenting style used with pre-school children

Parenting style	**Number (n = 360)**	**Percentage**
1. Democratic	199	55.3
2. Authoritative	7	1.9
3. Permissive	5	1.4
4. Mixed	149	41.4
• Democratic and authoritative	11	7.4
• Democratic and permissive	7	4.7
• Authoritative and permissive	2	1.3
• Democratic, authoritative, and permissive	129	86.6

Part V: Influence of parenting styles of pre-school children's development

The analysis was conducted with an aim to determine the influence of parenting styles on the development of pre-school children. The analysis began with the bivariate analysis using simple logistic regression to analyze the influence of each independent variable on the dependent variable (Table 6), which was then followed by analyzing all independent variables (parenting style factors, family factors, and children's individual factors) together with the dependent variable in the multivariate analysis using multiple logistic regression. The analysis was divided into two models as follows:

Model 1: analysis of parenting style factors and family factors

Model 2: analysis of parenting style factors, family factors, and children's individual factors (Table 7), which yielded the following results:

5.1 Influence of parenting style factors

When considering the influence of parenting style factors on pre-school children's development using simple logistic regression analysis, it was found that parenting styles had an influence on children's development with statistical significance (p-value < 0.01). The children who were raised with the mixed parenting style had 1.8 times higher chances to have delayed development when compared with the children who were raised with the democratic parenting style (Table 6). When controlling the family factor variables and the children's individual factor variables using multiple logistic regression analysis, it was still found that parenting styles had an influence on children's development with statistical significance (p-value < 0.05). The children who were raised with the mixed parenting style had 1.9 times higher chances to have delayed development when compared with the children who were raised with the democratic parenting style (Table 7).

5.2 Influence of family factors

5.2.1 Type of family

Type of family was one variable which was assumed to have influence on pre-school children's development. A simple logistic regression analysis revealed that

type of family had an influence on children's development with statistical significance (p-value < 0.01). The children who lived in an extended family had 3 times higher chances to have delayed development when compared with the children who lived in a nuclear family (Table 6). When controlling the parenting style factor variables, the family factor variables, and the children's individual factor variables using multiple logistic regression analysis, it was still found that type of family had an influence on children's development with statistical significance (p-value < 0.01). The children who were raised in an extended family had 2.7 times higher chances to have delayed development when compared with the children who were raised in a nuclear family (Table 7).

5.2.2 Fathers' educational background

The results from a simple logistic regression analysis revealed that fathers' educational background had no influence on children's development (p-value = .13). (Table 6). When controlling the parenting style factor variables, the family factor variables, and the children's individual factor variables using multiple logistic regression analysis, it was still found that fathers' educational background had no influence on children's development (p-value = .22) (Table 7).

5.2.3 Mothers' educational background

Mothers' educational background was one variable which was assumed to have influence on pre-school children's development. Mothers' educational background had an influence on children's development with statistical significance (p-value < 0.001). The children whose mothers completed only elementary education had 2 times higher chances to have delayed development when compared with the children whose mothers completed higher than elementary education (Table 6). When controlling the parenting style factor variables, the family factor variables, and the children's individual factor variables using multiple logistic regression analysis, it was still found that mothers' educational background had an influence on children's development with statistical significance (p-value < 0.001). The children whose mothers completed only elementary education had 3 times higher chances to have delayed development when compared with the children whose mothers completed higher than elementary education (Table 7).

5.2.4 Fathers' occupation

Fathers' occupation was one variable which was assumed to have influence on pre-school children's development. Fathers' occupation had an influence on children's development with statistical significance (p-value < 0.01). The children whose fathers did not work in the field of agriculture had 2.5 times higher chances to have delayed development when compared with the children whose fathers were agriculturists (Table 6). When controlling the parenting style factor variables, the family factor variables, and the children's individual factor variables using multiple logistic regression analysis, it was still found that fathers' occupation had an influence on children's development with statistical significance (p-value < 0.01). The children who were raised by the fathers who were not agriculturists had 3 times higher chances to have delayed development when compared with the children whose fathers worked in the field of agriculture (Table 7).

5.2.5 Mothers' occupation

Mothers' occupation was one variable which was assumed to have influence on pre-school children's development. Mothers' occupation had an influence on children's development with statistical significance (p-value < 0.01). The children whose mothers did not work in the field of agriculture had 1.9 times higher chances to have delayed development when compared with the children whose mothers were agriculturists (Table 6). However, when controlling the parenting style factor variables, the family factor variables, and the children's individual factor variables using multiple logistic regression analysis, it was discovered that mothers' occupation did not have any influence on children's development (p-value = .98) (Table 7).

5.2.6 Sufficiency of income

When considering the influence of sufficiency of income on pre-school children's development. The sufficiency of income did not have an influence on children's development (p-value = .13) (Table 6). When controlling the parenting style factor variables, the family factor variables, and the children's individual factor variables using multiple logistic regression analysis, it was also found that sufficiency of income had no influence on children's development with statistical significance (p-value = .92) (Table 7).

5.2.7 Relationship in the family

A review of related literature indicated that family relationship was one variable which was assumed to have influence on pre-school children's development, The relationship in the family had an influence on children's development with statistical significance (p-value < 0.01). The children who lived in an unbalanced family had 7.5 times higher chances to have delayed development when compared with the children who lived in a balanced family (Table 6). When controlling the parenting style factor variables, the family factor variables, and the children's individual factor variables using multiple logistic regression analysis, it was still found that family relationship had an influence on children's development with statistical significance (p-value < 0.05). The children who were raised in an unbalanced family had 6.9 times higher chances to have delayed development when compared with the children who lived in a balanced family (Table 7).

5.3 Children's individual factors

5.3.1 Gender

Gender had an influence on children's development with statistical significance (p-value < 0.01). Boys had 2 times higher chances to have delayed development when compared with girls (Table 6). When controlling the parenting style factor variables, the family factor variables, and the children's individual factor variables using multiple logistic regression analysis, it was still found that gender had an influence on children's development with statistical significance (p-value < 0.01). Boys had 2.3 times higher chances of suspected to be delayed development when compared with girls (Table 7).

5.3.2 Number of siblings

The number of siblings had no influence on children's development (p-value = .91) (Table 6). When controlling the parenting style factor variables, the family factor variables, and the children's individual factor variables using multiple logistic regression analysis, it was still found that number of siblings had no influence on children's development (p-value = .18) (Table 7).

5.3.3 Nutritional status

A review of related literature indicated that nutritional status was one variable which was assumed to have influence on pre-school children's development. The nutritional status had an influence on children's development with statistical significance (p-value < 0.05). The children who did not have a normal nutritional status had 1.8 times higher chances to have delayed development when compared with the children who had a normal nutritional status (Table 6). When controlling the parenting style factor variables, the family factor variables, and the children's individual factor variables using multiple logistic regression analysis, it was still found that nutritional status had an influence on children's development with statistical significance (p-value < 0.05). The children who did not have a normal nutritional status had 1.9 times higher chances of suspected to be delayed development when compared with the children who had a normal nutritional status (Table 7).

In conclusion, the findings of the present study revealed that parenting style factors had an influence on pre-school children's development. As for the family factors, the factors which were found to have an influence on pre-school children's development were type of family, fathers' occupation, mothers' educational background, and relationship in the family. Finally, the children's individual factors which had an influence on pre-school children's development were gender and nutritional status.

Table 6 Logistic regression analysis and odd ration (R) of parenting style factors, family factors, and children's individual factors which had an influence on pre-school children's development according to the simple logistic regression

	β	OR	95 % CI
Parenting style factors			
Parenting style [(1)]			
-mixed	.5826**	1.79	(1.1589 – 2.7669)
Family factors			
Type of family [(2)]			
-extended	1.1127**	3.04	(1.9550 – 4.7355)
Fathers' educational background [(3)]			
-elementary	-.3358	.71	(.4648 – 1.0991)
Fathers' occupation [(4)]			
-non-agriculture	.9107**	2.49	(1.6066 - 3.8468)
Mothers'educational background [(5)]			
-elementary	.7252**	2.07	(1.3250 - 3.2191)
Mothers' occupation [(6)]			
-non-agriculture	.6650**	1.94	(1.2635 - 2.9924)
Sufficiency of income [(7)]			
-not sufficient	.3348	1.40	(.9095 - 2.1481)
Relationship in the family [(8)]			
-unbalanced	2.0187**	7.53	(1.6852 - 33.6313)
Children's individual factors			
Gender [(9)]			
-boys	.6983**	2.01	(1.3016 - 3.1047)
Number of siblings [(10)]			
-more than one	-.0265	.97	(.6201 – 1.5293)
Nutritional status [(11)]			
-not normal	.5912*	1.81	(1.1288 – 2.8903)

* Significance level at 0.05 ** Significance level at 0.01

1 reference group = democratic; 2 reference group = nuclear; 3 reference group = higher than elementary; 4 reference group = agriculture; 5 reference group = higher than elementary; 6 reference group = agriculture; 7 reference group = sufficient; 8 reference group = balanced; 9 reference group = girls; 10 reference group = one; 11 reference group = normal

Table 7 Logistic regression analysis and odd ration (R) of parenting style factors, family factors, and children's individual factors which had an influence on pre-school children's development according to the multiple logistic regression

Factors	Model 1		Model 2	
	β	OR (95 % CI)	β	OR (95 % CI)
Parenting style factors				
Parenting style (1) -mixed	.5045*	1.66 (1.0162 – 2.6991)	.6463*	1.91 (1.1450 – 3.1811)
Family factors				
Type of family (2) -extended	1.0354**	2.82 (1.7450 – 4.5457)	1.0026**	2.73 (1.6636 – 4.4646)
Fathers'educational background (3) -elementary	-.3666	.69 (.4033 – 1.1912)	-.3445	.71 (.4063 – 1.2358)
Fathers' occupation (4) -non-agriculture	1.1200**	3.06 (1.4152 – 6.6369)	1.0949**	2.99 (1.3468 – 6.6327)
Mothers'educational background (5) -elementary	1.0537**	2.87 (1.6710 – 4.9228)	1.1009**	3.0 (1.7314 – 5.2219)
Mothers' occupation (6) -non-agriculture	-.1758	.84 (.3824 – 1.8396)	-.0477	.95 (.4235 – 2.1465)
Sufficiency of income (7) -not sufficient	.0987	1.10 (.6663 – 1.8282)	-.0259	.97 (.5716 – 1.6611)
Relationship in the family(8) -unbalanced	1.9847*	7.28 (1.5358 – 34.4801)	1.9339*	6.92 (1.4138 – 33.8382)
Children's individual factors				
Gender (9) -boys			.8164**	2.26 (1.3633 – 3.7542)
Number of siblings (10) -more than one			-.3710	.69 (.4033 – 1.1806)
Nutritional status (11) -not normal			.6542*	1.92 (1.1135 – 3.3232)
-2 log Likelihood	471.34008		471.34008	
Significance	< .001		< .001	
df	8		11	

* Significance level at 0.05 ** Significance level at 0.01

1 reference group = democratic; 2 reference group = nuclear; 3 reference group = higher than elementary; 4 reference group = agriculture; 5 reference group = higher than elementary; 6 reference group = agriculture; 7 reference group = sufficient; 8 reference group = balanced; 9 reference group = girls; 10 reference group = one; 11 reference group = normal

CHAPTER V
DISCUSSION

In this chapter, the discussion of research findings is divided into two parts:

Part I: Discussion of research methodology

Part II: Discussion of research findings

Part I: Discussion of Research Methodology

1. Research design

The present study was a cross-sectional survey research which aimed at investigating the influence of parenting styles on pre-school children's development. It was a study conducted at one point in time involving analyzing information of current situation to shed light on the actual information of the phenomenon of interest. This design was deemed appropriate as it could explain the factors which had an influence on the study variables to answer the research questions. In this study, the duration of parenting style was set at six months or more as it was the period of time in which parenting style had an influence on child development, and it was used as the study criteria. However, for the findings to more clearly reflect the influence of parenting styles on child development, data should be collected since birth. In addition to this, due to time constraints and due to the fact that sometimes some types of parenting practices did not take place all the time, the researcher was unable to conduct an observation of the actual parenting situation and needed to rely on only interview information and information from a brief observation while interviewing the parents.

2. Sample

The subjects in this study were 360 pre-school children aged 3 to 5 years who lived with their parents in Roi Et Province in 2004. They were recruited by means of multi-stage random sampling which began with dividing Roi Et Province into three

zones—northern, central, and southern—based on the geographical criteria and the operation zones of the Roi Et Provincial Public Health Office. After that, random sampling was used to select one district from each zone, and then one Tambon was chosen from each district. Finally, a sampled village was randomly selected from each Tambon, and pre-school children living in these villages were examined to determine their development until the desired sample size was obtained. Thus, the sample was considered truly representative of the population. The reason why the pre-school children aged 3 to 5 years were selected was because this was the period when children undergo all types of development, and the development is rather rapid. Thus, it was assumed that parenting styles should have an influence on these children's development. If the children were suspected to be delayed development, activities could be arranged for them to stimulate their development to be age-appropriate. Also, activities could be organized to promote necessary information on how to raise children to have age-appropriate development among the parents.

3. Research instruments

The present study made use of a set of questionnaires developed by the researcher based on a review of literature and existing research. It was divided into three parts: demographic characteristics of the pre-school children and family questionnaire, the family relationship questionnaire, and pre-school children parenting styles questionnaire. All three parts of the instrument were validated by three thesis advisors and three experts, and they were tried out with 30 subjects residing in another village not selected for the main study and having similar characteristics with the subjects of the main study. The reliability of the family relationship questionnaire was equal to 0.75, while that of the pre-school children parenting style questionnaire was equal to 0.85. It could then be concluded that the questionnaires were valid and reliable, and were suitable for use in data collection. In addition, the Denver II Scale was also employed to examine and assess the development of pre-school children using the standard graph of the Nutrition Division, Department of Health, Ministry of Public Health (14), newly revised version, 2000. The assessment was conducted by graduate students who had already been trained on how to use the instrument, and it took about 30 to 45 minutes each. The Denver II Scale was considered appropriate for

screening the development of the subjects. However, the subjects' nutritional status was assessed by using a spring-type weight measuring scale, which could result in a slight error. Thus, a digital scale should have been used. As for height, a wooden-stand scale, which was a standardized measurement, was used, and it was accepted that this scale could be used to measure the subjects' height.

4. Data collection

Data were collected by the researcher and two research assistants who were graduate students. The researcher had explained research objectives and data collection procedures using the three questionnaires to the research assistants at the same time. The assistants also had to try collecting data from at least five children before they started actual data collection. As regards the assessment of pre-school children's development, the researcher and research assistants carried out the assessment after practicing with at least 30 children. During data collection, which was conducted in the community, the researcher and research assistants explained the research objectives to the parents of the pre-school children who were willing to take part in the study and asked them to sign the informed consent form to indicate their willingness to participate. The data collection process, which involved responding to the three questionnaires and assessment of pre-school children's development, lasted 30 to 45 minutes.

5. Data analysis

First, descriptive statistics were used including frequency, percentage, mean, standard deviation, minimum, and maximum to describe demographic characteristics of the subjects. After that, logistic regression analysis was used as it could explain the research objectives, answer the research questions, and test the research hypotheses because the variables used in this study were dichotomous variables.

Part II: Discussion of Research Findings

The study findings could be discussed in relation to research objectives and research hypotheses as follows:

1. Development of pre-school children in Roi Et Province

The Denver II Scale was used to assess the development of pre-school children who were the subjects of the present study. Of the total 360 subjects, who were living in Roi Et Province with their parents, 180 had normal development, while the other half were suspected to have delayed development. As for each aspect of the suspected to be delayed development, it was found that the largest group, (61.7%) had development regarding fine motor-adaptive, while 24.4% and 3.9% had developmental problems regarding language development and gross motor development, respectively. This may be because the parents did not provide these children with the opportunity to use fine motor-adaptive or to practice using a language to communicate. These findings were congruent with the findings of Suwanapan A. (44), Isaranurug S. et al. (7), and Nanthamongkolchai S. et al. (8) which indicated that developmental problems most frequently found among children were language development and fine motor-adaptive development.

2. Parenting styles of pre-school children

The findings revealed that more than half of the children, (55.3%) were raised with the democratic parenting style, followed by the mixed style, the authoritative style, and the permissive style, which accounted for 41.4%, 1.9%, and 1.4%, respectively. When considering the mixed parenting style in detail, it was discovered that the majority of the parents who used the mixed parenting style, (86.6%) mixed three types of parenting styles—democratic, authoritative, and permissive. On the other hand, the rest mixed two types of parenting styles, with 7.4% of them used democratic together with authoritative parenting styles. One plausible explanation is that in this study, parenting styles were divided into four types, and the findings indicated that parenting styles were factors which had an influence on child development. This is because parenting styles involved training and fostering children's personality and social skills, self-care, and self-confidence, so different parenting styles resulted in different forms of development. Similarly, Harnwachirapong Y. (10), Boonnuan W. (50), Sanepong J. (51), Napapongsuriya T. (53), and Thompson A. et. al. (54) found that the democratic parenting style had an influence of child development regarding personality and social skills, self-care,

self-confidence regarding expressiveness and taking responsibility, and problem-solving skills. Also, it was discovered that the democratic parenting style was an important factor which affected pre-school children's developmental levels as well as the interaction between mother and child.

3. Influence of parenting styles on pre-school children's development

Parenting styles were found to have an influence on pre-school children's development with statistical significance (p-value < 0.05). The children who were raised with a mixed parenting style had 1.9 times more likelihood to have suspected to be delayed development when compared to those who were raised with the democratic parenting style. This can be explained that when parents use the democratic parenting style they give love and warmth to the children, use reasoning with them, and train them to be self-confident and self-reliant. Thus, children have a chance to use their own ability to the fullest potential. Moreover, when parents serve the basic needs of the children, the children will feel that they are loved and cared for; thus, they become ready to take care of themselves and learn. As a consequence, they have more advanced development when compared to the children whose parents help them do everything and do not let them do anything on theasic needs of the children, the children will feel that they are loved and cared for; thus, they become ready to take care of themselves and learn. As a consequence, they have more advanced development when compared to the children the same age whose parents help them do everything and do not let them do anything on their own. This finding agreed with the findings of Mussen (47), Hurlock (20), Prajakjit P. (48), Harnwachirapong Y. (10), Boonyuan W. (50), Sanepong J. (51) and Napapongsuriya T. (53) which found that parents who used the democratic parenting style had love and attention for their children while giving them a chance to learn to take care of themselves, rendering them age-appropriate development. In addition to this, Isaranurug S. et. al. (7) Isaranurug S. et. al. (46) and Nanthamongkolchai S. et. al. (8) conducted a study and discovered that parenting styles had an effect on child development. In fact, children who were raised properly had a chance to have age-appropriate development than those who were not raised properly did.

4. Influence of family factors on pre-school children's development

4.1 Type of family

The findings revealed that type of family had an influence on pre-school children's development with statistical significance (p-value < 0.01). Thus, the children living in an extended family had 2.7 times higher chances to have delayed development when compared to those who lived in a nuclear family. This may be because the children growing up in an extended family were surrounded with a lot of relatives including their grandfathers, grandmothers, uncles, or aunts, who pampered them and helped them all the time. As a result, the children did not have a chance to learn and to do activities by themselves, so they had likelihood to have delayed development. This was in congruence with the findings of Belsky et. al. (58) and Isaranurug S. et. al. (7) who found that type of family was associated with intellectual level with statistical significance (p-value < 0.05). Also, the parents living in an extended family may have more responsibilities to others than those living in a nuclear family, so they did not have much time to give close care and pay close attention to their children, causing them to have delayed development. However, this was contradictory to the finding of Isaranurug S. (57) which indicated that having older relatives in the family was related to increased developmental scores. More specifically, having older relatives increased the average scores of overall development, language development, hearing development, and development of gross motor. In contrast, Nukong A. (59) and Kumyu A. et. al. (60) found that family type did not affect children's development. In other words, children had the same developmental stage regardless of the type of family they had.

4.2 Fathers' educational background

According to the study findings, fathers' educational background had no effect on pre-school children's development (p-value = .22). This may be because the fathers of most of the subjects in this study had the same level of education, which was elementary education. Thus, there was no obvious difference among them, and it could be expected that they raised their children in the same way. Agreement could be found in the studies of Supanvanich S. (62), Suwanapan A. (44), Health Promoting

Office (6) and Isaranurug S. et. al. (7) which reported that most of the fathers had the same level of education, which was elementary education and that they raised their children in the same way, so their children had similar developmental levels. However, this finding was in contrast to the findings of Harnwachirapong Y. (10), Nukong A. (59), and Khumyu A. et. al. (60).

4.3 Mothers' educational background

The analysis pointed out that mothers' educational background had an influence on pre-school children's development with statistical significance (p-value < 0.001). Children whose mothers completed only elementary education had 3 times higher chances to have suspected to be delayed development when compared with those who were raised by the mothers whose education was higher than elementary education. This may be because most of the times the mothers were the ones who mainly took care of the children, so those with higher education would be more knowledgeable about how to raise their children to promote the children's growth and development, enabling the children to have age-appropriate development. Likewise, Saingam W. (11), Kotchabhakdi N. et. al. (63), Isaranurug S. et. al. (7) and Nanthamongkolchai S. et. al. (8) found that mothers' education had an influence on child development and that the children whose mothers were more highly educated than elementary education had more chances to have normal development.

4.4 Fathers' occupation

According to the findings, fathers' occupation had an influence on pre-school children's development with statistical significance (p-value < 0.01). Children whose fathers were not in the field of agriculture had 3 times higher chances to have suspected to be delayed development than those whose fathers were agriculturists. This can be explained that fathers who had other occupations did not have as much time to pay close attention to their children or to help them learn and grow, so the children were more likely to have suspected to be delayed development. This yielded support to the findings of Suwanapan A. (44) that one factor which had a statistically significant relationship with development (p-value < 0.05) was fathers' occupation. However, it was in disagreement with the findings of Isaranurug S. (57) and

Khumyu A. et. al. (60) that the main occupation of the family did not have any relationship of any sort with child development.

4.5 Mothers' occupation

It was discovered that mothers' occupation did not have an influence on pre-school children's development (p-value = .97). One explanation is that most of the mothers were agriculturists and they had time to promote their children's learning, but they did not do it in a correct way, so the children did not learn differently and their development levels were similar. This finding was similar to the finding of Harnwachirapong Y. (10), Isaranurug S. (57), Nukong A. (59), and Khumyu A. et. al. (60) which indicated that mothers' main occupation did not relate to child development. However, it provided support to the findings of Binsomprasong W. (64) and Suwanapan A. (44) which found that one factor related to child development was mothers' occupation.

4.6 Sufficiency of income

The findings revealed that sufficiency of income did not have any influence on child development (p-value = .92). This may be because the subjects lived in the families which had similar economic status, and they had similar upbringing, so they had similar development. This finding was congruent with the findings of Laungurangsee S. (66), Harnwachirapong Y. (10), Huntrakul S. et. al. (67), Nukong A. (59), and Wacharasin J. et. al. (68) which revealed that economic factor of the family did not have a direct effect on child development. In contrast, the finding supported those of Phongchoke P. (65), Supavanich S. (62), Health Promoting Office (6), Suwanapan A. (44), Isranurug S. et. al. (7), Tiller et. al. (55), and Mosuwan L. et. al. (13) which found that family income was associated with child development.

4.7 Relationship in the family

According to the finding of the study, relationship in the family had an influence on child development with statistical significance (p-value < 0.05). Children who lived in an unbalanced family had 6.9 times higher chances to have suspected to be delayed development when compared to those who had a balanced family. This

may be because relationship is one of the factors which determine the stability in the family. When the parents have a good relationship with each other, the family can live with harmony and happiness. Parents would be responsible for taking care of the children, shower their children with love and attention, and use reasons rather than emotion to deal with them. Thus, children who have a balanced family should have more likelihood to have normal and age-appropriate development. The finding supported the findings of Harnwachirapong Y. (10), Saingam W. (11), Sanepong J. (51), and Isaranurug S. et. al. (7) which found that one factor which was associated with child development was family relationship.

5. Influence of children's individual factors on pre-school children's development

5.1 Gender

Gender was found to have an influence on pre-school children's development with statistical significance (p-value < 0.01). Boys had 2.3 times higher chances to have suspected to be delayed development when compared with girls. One explanation is that children of different gender may be raised and taken care of differently. Girls received more attention and care than boys did, so they had faster development. In addition, society generally defines the roles of boys and girls differently. Girls are trained to give more importance to family matters and to be more self-reliant, and they tend to be less clingy to their mothers, so they develop more rapidly. Similar findings could be found in the studies of Harnwachirapong Y. (10), Nukong A. (59), Berndt et. al. (69) and Suwanapan A. (44), while contradictory findings could be found in the studies of Kotchabhakdi N. et. al. (63) and Khumyu A. et. al. (60) that boys and girls had the same development.

5.2 Number of siblings

The number of siblings did not have an influence on child development (p-value = .18). Most of the families in this study were a nuclear family with two children, so parents had enough chance and time to give love, care, and attention to their children. Also, parents had a chance to have family interaction with all their children, so the children had the same development. On the other hand, the more

children the family has, the less chance the children have to receive close care and attention from their parents. Besides, families with different number of children tend to have different ways to raise their children, and this could result in difference in the children's development. The finding of the present study was incongruent with the findings of Belsky et al. (58) and Nukong A. (59).

5.3 Nutritional status

According to the findings, nutritional status had an influence on pre-school children's development with statistical significance (p-value < 0.05). Children who did not have a normal nutritional status had 1.9 times higher chances to have suspected to be delayed development when compared to those who had a normal nutritional status. One explanation is that the criteria used to determine the nutritional status of the subjects were a comparison of weight and height to age, which was an index indicating the children's current nutritional status. The non-normal nutritional status may have an effect on children's development as the children may have slower brain development and development in other areas than the children who have a normal nutritional status. This finding supported the previous findings of Kotchabhakdi N. (70), Vera NA. Et. al. (71), Supavanich S. (62), Kotchabhakdi N. et. al. (63), Health Promoting Office (6), Ivanovic DM. et. al. (72), and Isaranurug S. et. al. (46) which suggested that one of the factors which caused delayed development in children was malnutrition and that malnutrition at an early age adversely affected children's brain and intellectual development.

CHAPTER VI
CONCLUSION AND RECOMMENDATIONS

The present study was a cross-sectional survey research which aimed at investigating the influences of parenting styles of development of pre-school children in Roi Et Province. The subjects of the study were 360 pre-school children who lived with their parents. These subjects were recruited by means of multi-stage random sampling. Data were collected using questionnaire interviews, and the subjects' development was assessed using Denver II. Also, the subjects' weight and height were measured to determine their nutritional status. Data collection took place from July 24 to August 31, 2004, and data analysis was conducted in terms of frequency distribution (percentage, mean, standard deviation, maximum, and minimum), simple logistic regression, and multiple logistic regression. In this chapter, the findings of the study are summarized based on the research objectives and research hypotheses.

1. General characteristics of pre-school children

The subjects comprised 360 pre-school children. Of these, 55.6% were female, while 44.4% were male. As for age, 35.3% were four years old, whereas 34.7% were five years of age, with the mean age of 4 years. The largest group of subjects, (41.7%) were the second child in the family, and 33.3% were the first-born child. Finally, more than half, (55%) had two siblings, while 33.3% had only one sister or brother.

2. Demographic characteristics of Family

The findings revealed that the majority of the pre-school subjects, (87.8%) had the mother who played the major role in raising them. In addition, 58.9% had the fathers who were between 31 and 40 years old, with the mean age of the fathers of 34.29 years. More than half, (54.4%) of the fathers completed only elementary education, and about half, (49.7%) had the fathers whose occupation was agriculture. As regards mothers, 47.2% had the mothers who were between 31 and 40 years of age, with the mean age of 31.2 years. Also, close to two-thirds of the mothers, (61.9%)

completed elementary education, while 72.5% of the mothers worked in the field of agriculture. For more than half of the subjects, (58.3%) there was no traumatic event in their lives in the previous year. Finally, 56.4% had balanced family relationship, while 39.2% had rather balanced family relationship.

3. Pre-school child development

The subjects in this study were 360 pre-school children, half of whom (180 subjects) had normal development while the other had suspected to be delayed development. When considering each aspect, it was found that most of the children with suspected to be delayed development had problems with fine motor-adaptive development, followed by language development, and gross motor development, accounting for 61.7%, 24.4%, and 3.9%, respectively. With regard to nutritional status, the findings revealed that two-thirds of the subjects, (68.6%) had age-appropriate weight, 83.6% had age-appropriate height, and 69.7% had well-proportioned build.

4. Parenting styles

The findings indicated that more than half, (55.3%) had democratic parenting styles, while 41.4% had mixed parenting style. When considering the mixed parenting style, it was found that 86.6% had three-type mixed parenting style of democratic, authoritative, and permissive styles, while 7.4% had two-type mixed parenting style of democratic and authoritative styles.

5. Influence of parenting styles on pre-school child development

The findings revealed that parenting style had an influence on pre-school child development with statistical significance (p-value < 0.05). Thus, children who were raised with the mixed parenting style had 1.9 times more likelihood to have suspected to be delayed development when compared to children who were raised with the democratic parenting style.

6. Influence of family factors on pre-school child development

6.1 Family type

The findings suggested that family type had an influence on pre-school child development with statistical significance (p-value < 0.01). Therefore, children living in an extended family had 2.7 times more likelihood to have suspected to be delayed development when compared to those growing up in a nuclear family.

6.2 Mothers' educational background

According to the study findings, mothers' educational background had an influence on pre-school child development with statistical significance (p-value < 0.01). Children whose mothers completed only elementary education had 3 times higher chances to have suspected to be delayed development when compared to those whose mothers had a higher level of education.

6.3 Fathers' occupation

Fathers' occupation was found to have an influence on pre-school child development with statistical significance (p-value < 0.01). The children whose fathers were not in the field of agriculture had 3 times higher chances to have suspected to be delayed development when compared to those whose fathers were agriculturists.

6.4 Family relationship

The findings pointed out that family relationship had an influence on pre-school child development with statistical significance (p-value < 0.05). Thus, children living in an unbalanced family had 6.9 times more likelihood to have suspected to be delayed development when compared to those who grew up in a balanced family.

However, it was discovered that the family factors which did not influence pre-school child development were fathers' educational background, mothers' occupation, and sufficiency of family income.

7. Influence of children's individual factors on pre-school child development

7.1 Gender

It was found that gender had an influence on pre-school child development with statistical significance (p-value < 0.01). Thus, boys had 2.3 times higher chances to have suspected to be delayed development when compared to girls.

7.2 Nutritional status

According to the study findings, nutritional status had an influence on pre-school child development with statistical significance (p-value < 0.05). As a result, children with abnormal nutritional status had 1.9 times more likelihood to have suspected to be delayed development when compared to those with normal nutritional status.

However, the children' individual factor which did not have an influence on child development was number of siblings.

Recommendations of application from the study

The findings revealed that the factors which had an influence on the development of pre-school children were parenting styles, types of family, fathers' occupation, mothers' educational background, family relationships, gender, and nutritional status. Thus, they clearly indicated that these factors are crucial for children to have normal development. Based on these findings, the following implications are made:

1. Families should be encouraged to use the democratic parenting style in raising children. Fathers and mothers should be a role model to their children by treating them nicely, with patience, and not being too strict or too lenient. In addition, children should receive adequate love, warmth, and affection from their parents, and parents should use reasoning with them. Also, children should be provided with a chance to learn, observe, and practice things that will lead to age appropriate development consistently and continuously.

2. Good relationships among family members should be promoted, and children should be given a chance to participate in decision making in the family. They should also have an opportunity to exchange ideas, solve problems, and take charge of family matters with other members of the family.

3. The government should disseminate education among mothers by organizing short courses on how to correctly raise a child and promote the democratic parenting style. In the long run, the government should increase mothers' chance to have a higher level of education such as by providing free education to cover the wider groups of population.

4. Those living in an extended family should be taught the significance of paying a close attention to children as well as the necessity to promote child development including use of fine motor-adaptive, gross motor, and language development.

5. Information and knowledge should be disseminated among parents to raise their awareness about child nutritional status, which can be assessed from the growth graph in mother and child's health booklet Public health officials should provide information regarding age appropriate nutrition among parents as well.

Recommendations for Future studies

1. Longitudinal studies should be conducted to compare the development of children raised with different parenting styles to determine if parenting styles have different effects on these children's physical, mental, emotional, social, and intellectual well being.

2. Quantitative and qualitative studies should be carried out to further develop the instruments which can be used to assess parents' parenting styles which are appropriate to the Thai context.

3. Experimental studies should also be conducted among the children who are suspected to have slow development by using activities whose emphases are on using the democratic parenting style and on establishing good relationships in the family to more effectively find ways to handle the problems of children with suspected to be delayed development.

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APPENDIX

NO. 75/2004

Documentary Proof of Ethical Clearance
The Committee on Human Rights Related to
Human Experimentation
Mahidol University, Bangkok

.....

Title of Project: The Influence of Parenting Styles on Pre-School Children Development in Roi-Et Province

Principle Investigator: Miss Chutima Ngaosusit

Name of Institution: Faculty of Public Health

Approved by the Committee on Human Rights Related to Human Experimentation

Signature of Chairman: _____
(Professor Dr. Srisin Khusmith)

Signature of Head of Institute: _____
(Professor Dr. Pornchai Matangkasombut)

Date of Approval: 22 JUL 2004

ใบยินยอมให้ทำการวิจัยโดยได้รับการบอกกล่าวและเต็มใจ

การวิจัยเรื่อง อิทธิพลของการอบรมเลี้ยงดูต่อพัฒนาการเด็กปฐมวัยในจังหวัดร้อยเอ็ด

วันให้คำยินยอม วันที่.....เดือน.....พ.ศ. 2547

ก่อนที่จะลงนามในใบยินยอมให้ทำการวิจัยนี้ข้าพเจ้าได้รับการอธิบายจากผู้วิจัยถึงวัตถุประสงค์ของการวิจัย วิธีการวิจัย อันตราย หรืออาการที่อาจเกิดขึ้นจากการวิจัยหรือจากยาที่ใช้ รวมทั้งประโยชน์ที่จะเกิดขึ้นจากการวิจัยอย่างละเอียด และมีความเข้าใจดีแล้ว

ผู้วิจัยรับรองว่าจะตอบคำถามต่างๆ ที่ข้าพเจ้าสงสัยด้วยความเต็มใจ ไม่บิดบัง ซ่อนเร้น จนข้าพเจ้าพอใจ

ข้าพเจ้ามีสิทธิ์ที่จะบอกเลิกการเข้าร่วมในโครงการวิจัยนี้เมื่อใดก็ได้ และเข้าร่วมโครงการวิจัยนี้โดยสมัครใจ และการบอกเลิกการเข้าร่วมการวิจัยนี้จะไม่มีผลต่อการรักษาโรคที่ข้าพเจ้าพึงจะได้รับต่อไป

ผู้วิจัยรับรองว่าจะเก็บข้อมูลเฉพาะเกี่ยวกับตัวข้าพเจ้าเป็นความลับ และจะเปิดเผยได้เฉพาะในรูปที่เป็นสรุปผลการวิจัย การเปิดเผยข้อมูลเกี่ยวกับตัวข้าพเจ้าต่อหน่วยงานต่างๆ ที่เกี่ยวข้องกระทำได้เฉพาะกรณีจำเป็นด้วยเหตุผลทางวิชาการเท่านั้น

ผู้วิจัยรับรองว่าหากเกิดอันตรายใดๆ อันเนื่องจากการวิจัยดังกล่าว ข้าพเจ้าจะได้รับการรักษาพยาบาลโดยไม่คิดมูลค่าตามมาตรฐานวิชาชีพ และได้รับการชดเชยรายได้ที่สูญเสียไประหว่างการรักษาพยาบาลดังกล่าว ตลอดจนเงินทดแทนความพิการที่อาจเกิดขึ้น

ผู้วิจัยรับรองว่าหากมีคุณสมบัติเพิ่มเติมที่ส่งผลกระทบต่อการวิจัย ข้าพเจ้าจะได้รับการแจ้งให้ทราบโดยไม่ปิดบัง ซ่อนเร้น

ข้าพเจ้าได้อ่านข้อความข้างต้นแล้ว และมีความเข้าใจดีทุกประการและได้ลงนามในใบยินยอมนี้ ด้วยความเต็มใจ

ลงนาม.....ผู้ยินยอม

ลงนาม.....พยาน

ลงนาม..... พยาน

ในกรณีที่ผู้ยินยอมตนให้ทำการวิจัยยังไม่บรรลุนิติภาวะ จะต้องได้รับการยินยอมจากผู้ปกครองหรือผู้อุปการะโดยชอบด้วยกฎหมาย

ลงนาม.....ผู้ปกครอง / ผู้อุปการะ
โดยชอบด้วยกฎหมาย

ลงนาม.....พยาน

ลงนาม.....พยาน

ในกรณีที่ผู้ยินยอมตนให้ทำการวิจัยไม่สามารถอ่านและเขียนหนังสือได้ จะต้องได้รับการยินยอมในขณะที่ยังมีสติสัมปชัญญะ และระบุข้อความไว้ตามนี้ ข้าพเจ้าไม่สามารถอ่านหนังสือได้แต่ผู้วิจัยได้อ่านข้อความในใบยินยอมนี้ให้แก่ข้าพเจ้าฟังจนเข้าใจดีแล้ว ข้าพเจ้าจึงลงนามหรือประทับลายนิ้วหัวแม่มือของข้าพเจ้าในใบยินยอมนี้ด้วยความเต็มใจ

ลงนาม.....ผู้ยินยอม (หรือประทับลายนิ้วหัวแม่มือ)

ลงนาม..... พยาน

ลงนาม..... พยาน

เครื่องมือสำหรับการวิจัย

เรื่อง อิทธิพลของรูปแบบการอบรมเลี้ยงดูต่อพัฒนาการเด็กปฐมวัยในจังหวัดร้อยเอ็ด

1. แบบสอบถาม

คำชี้แจงในการตอบแบบสอบถาม

1.แบบสอบถามชุดนี้มีจุดมุ่งหมายเพื่อการศึกษาเท่านั้น ซึ่งเป็นส่วนหนึ่งของการศึกษาหลักสูตรวิทยาศาสตรมหาบัณฑิต (สาธารณสุขศาสตร์) สาขาวิชาอนามัยครอบครัว บัณฑิตวิทยาลัย มหาวิทยาลัยมหิดล

2. กรุณาอ่านคำชี้แจงในการตอบแบบสอบถามแต่ละส่วนให้เข้าใจก่อนตอบ

3. กรุณาตอบแบบสอบถามตามความเป็นจริง ผู้วิจัยจะเก็บคำตอบของท่านเป็นความลับและนำเสนอผลการวิจัยเป็นภาพรวม ซึ่งจะไม่ส่งผลกระทบต่อตัวท่านแต่อย่างใด ผลการวิจัยจะเป็นประโยชน์ต่อตัวท่าน และผู้ที่เกี่ยวข้องในอนาคต

รายละเอียดของแบบสอบถาม

แบบสอบถามฉบับนี้แบ่งออกเป็น 3 ส่วน คือ

ส่วนที่ 1 แบบสอบถามเกี่ยวกับข้อมูลส่วนตัวของเด็กและลักษณะทางครอบครัว

ส่วนที่ 2 แบบสอบถามสัมพันธภาพในครอบครัว

ส่วนที่ 3 แบบสอบถามเกี่ยวกับการอบรมเลี้ยงดูเด็กปฐมวัย

2. การประเมินพัฒนาการเด็กปฐมวัยอายุ 3-5 ปี

ประเมินพัฒนาการเด็กปฐมวัยอายุ 3-5 ปี ประกอบด้วย

- ประเมินพัฒนาการเด็กปฐมวัยด้วยแบบประเมินพัฒนาการ Denver II
- การชั่งน้ำหนักและการวัดส่วนสูงเพื่อประเมินภาวะโภชนาการ

ผู้วิจัยขอขอบคุณผู้ให้ข้อมูลทุกท่านที่ตอบแบบสอบถาม / ยินยอมให้ประเมินพัฒนาการเด็กและให้ความช่วยเหลือในการวิจัยครั้งนี้เป็นอย่างดียิ่งมา ณ โอกาสนี้ด้วย

นางสาวชุติมา เหง้าสุสิทธิ์
นักศึกษาปริญญาโท ภาควิชาอนามัยครอบครัว
คณะสาธารณสุขศาสตร์ มหาวิทยาลัยมหิดล

แบบสอบถามบิดามารดาปัจจัยด้านตัวเด็กและครอบครัว

สำหรับผู้วิจัย

แบบสอบถามเลขที่…….. [ ][ ][ ]

วันที่สัมภาษณ์……ชื่อผู้สัมภาษณ์……..

บ้านเลขที่……หมู่ที่……ตำบล……..อำเภอ……จังหวัดร้อยเอ็ด [ ][ ]

แบบสอบถาม
เรื่อง
อิทธิพลของการอบรมเลี้ยงดูต่อพัฒนาการเด็กปฐมวัยในจังหวัดร้อยเอ็ด

หมวดที่ 1 แบบสอบถามเกี่ยวกับข้อมูลส่วนตัวของเด็กและลักษณะทางครอบครัว

<u>คำชี้แจง</u> แบบสอบถามนี้เป็นแบบสอบถามเกี่ยวกับข้อมูลส่วนตัวของเด็กและลักษณะทางครอบครัว

1. ชื่อผู้ให้ข้อมูล ……ความเกี่ยวข้องกับเด็ก ☐ 1) มารดา ☐ 2) บิดา [ ]
   บุคคลที่มีบทบาทหลักในการอบรมเลี้ยงดูบุตรมากที่สุด คือ☐ 1) มารดา ☐ 2) บิดา [ ]
2. ชื่อ-นามสกุลเด็ก…….
   เพศ ☐ 1) ชาย ☐ 2) หญิง [ ]
3. วัน เดือน ปี เกิด……รวมอายุ……ปี……..เดือน [ ][ ][ ][ ]
4. การฝากครรภ์ของบุตรคนนี้ (ดูจากสมุดฝากครรภ์) [ ]
   ☐ 1)ไม่ฝากครรภ์
   ☐ 2) ฝากครรภ์ไม่ครบ 4 ครั้งคุณภาพ
   ☐ 3) ฝากครรภ์ครบ 4 ครั้งคุณภาพ
5. ลักษณะการคลอด ☐ 1) ครบกำหนด ☐ 2)ก่อนกำหนด ☐ 3) เกินกำหนด [ ]
   (ดูจากสมุดฝากครรภ์)
6. วิธีการคลอด ☐ 1) คลอดปกติ ☐ 2)คลอดผิดปกติ ระบุ ……[ ]
7. น้ำหนักแรกคลอด……กรัม (ดูจากสมุดฝากครรภ์) [ ]
8. น้ำหนักปัจจุบัน ……กิโลกรัม (ผู้วิจัยลงข้อมูลเอง) [ ]
9. ส่วนสูง……..เซนติเมตร (ผู้วิจัยลงข้อมูลเอง) [ ]

10. จำนวนพี่น้อง [ ] [ ]

☐ 1) เป็นบุตรคนเดียว

☐ 2) บุตรหลายคนเป็นคนที่……..ในจำนวนบุตรที่มีชีวิตพ่อแม่เดียวกัน……คน (รวมตัวเด็กด้วย)

11. ผลการทดสอบพัฒนาการด้วย Denver II (ผู้วิจัยกรอกข้อมูลเอง)

☐ 1) ปกติ [ ]

☐ 2)สงสัยล่าช้า [ ]

ด้านที่สงสัยล่าช้า ☐2.1) พัฒนาการด้านสังคมและการช่วยตนเอง……... [ ]

☐2.2)พัฒนาการด้านการใช้กล้ามเนื้อเล็กและปรับตัว…… …… [ ]

☐2.3) พัฒนาการด้านภาษา…….. [ ]

☐2.4) พัฒนาการทางด้านใช้กล้ามเนื้อใหญ่……..... [ ]

12. ภาวะโภชนาการ (ผู้วิจัยกรอกข้อมูลเอง)

1) น้ำหนักต่ออายุ [ ]

☐1) น้ำหนักน้อยกว่าเกณฑ์ (= น้ำหนักตามเกณฑ์อายุอยู่ต่ำกว่าเส้น – 1.5 S.D.)

☐2) น้ำหนักตามเกณฑ์ (= น้ำหนักตามเกณฑ์อายุอยู่ระหว่างเส้น -1.5 S.D.ถึง+ 1.5 S.D.)

☐3) น้ำหนักมากเกินเกณฑ์ (= น้ำหนักตามเกณฑ์อายุอยู่เหนือเส้น + 1.5 S.D.)

2) ส่วนสูงต่ออายุ [ ]

☐1) เตี้ย (= ส่วนสูงตามเกณฑ์อายุอยู่ต่ำกว่าเส้น – 1.5 S.D.)

☐2) ตามเกณฑ์ (= ส่วนสูงตามเกณฑ์อายุอยู่ระหว่างเส้น - 1.5 ถึง + 1.5 S.D.)

☐3) สูง (= ส่วนสูงตามเกณฑ์อายุอยู่เหนือเส้น + 1.5 S.D.)

3) น้ำหนักต่อส่วนสูง [ ]

☐1) ผอม (= น้ำหนักตามเกณฑ์ส่วนสูงอยู่ต่ำกว่าเส้น – 1.5 S.D.)

☐2) สมส่วน (= น้ำหนักตามเกณฑ์ส่วนสูงอยู่ระหว่างเส้น - 1.5 ถึง + 1.5 S.D.)

☐3) อ้วน (= น้ำหนักตามเกณฑ์ส่วนสูงอยู่เหนือเส้น + 1.5 S.D.)

13. โรคประจำตัวเด็กที่แพทย์วินิจฉัย เช่น หอบหืด, โรคหัวใจ, พิการ, โรคทางพันธุกรรม เป็นต้น

☐ 1) ไม่มี ☐ 2) มี ระบุ…….. [ ]

14. ใน**<u>รอบ 6 เดือนที่ผ่านมา</u>** เคยเจ็บป่วยรุนแรงจนต้องเข้ารับการรักษาเป็นผู้ป่วยในของโรงพยาบาล ☐ 1) ไม่เคย ☐ 2) เคย ด้วยโรค…..……[ ]

15. ใน**<u>รอบ 6 เดือนที่ผ่านมา</u>** เด็กเคยได้รับอุบัติเหตุหรือไม่

☐ 1) ไม่มี ☐ 2) มี ระบุ…….……[ ]

16. อายุบิดา……ปี [ ]

17. อายุมารดา……ปี [ ]

18. ระดับการศึกษาสูงสุดของบิดา [ ]

☐ 1) ไม่ได้เรียน ☐ 4) มัธยมศึกษาตอนปลาย , ปวช

☐ 2) ประถมศึกษา ☐ 5) ปวท., ปวส., อนุปริญญา

☐ 3) มัธยมศึกษาตอนต้น ☐ 6) ปริญญาตรี, สูงกว่าปริญญาตรี

19. ระดับการศึกษาสูงสุดของมารดา [ ]

☐ 1) ไม่ได้เรียน ☐ 4) มัธยมศึกษาตอนปลาย , ปวช

☐ 2) ประถมศึกษา ☐ 5) ปวท., ปวส., อนุปริญญา

☐ 3) มัธยมศึกษาตอนต้น ☐ 6) ปริญญาตรี, สูงกว่าปริญญาตรี

20. อาชีพหลักของบิดา [ ]

☐ 1) ทำนา/ทำสวน/ทำไร่ ☐ 5) รับราชการ / รัฐวิสาหกิจ

☐ 2) เลี้ยงสัตว์ ☐ 6) เจ้าของกิจการ

☐ 3) ค้าขาย ☐ 7) ลูกจ้างเอกชน……

☐ 4) รับจ้าง ☐ 8) อื่นๆ ระบุ……..…

21. อาชีพหลักของมารดา [ ]

☐ 1) ทำนา/ทำสวน/ทำไร่ ☐ 5) รับราชการ / รัฐวิสาหกิจ

☐ 2) เลี้ยงสัตว์ ☐ 6) เจ้าของกิจการ

☐ 3) ค้าขาย ☐ 7) ลูกจ้างเอกชน……

☐ 4) รับจ้าง ☐ 8) อื่นๆ ระบุ…….

22. รายได้ครอบครัวต่อเดือน

รายได้เฉลี่ย……บาท [ ]

23. ความเพียงพอของรายได้ [ ]

☐ 1) พอและเหลือเก็บ ☐ 3) ไม่เพียงพอแต่ไม่มีหนี้สิน

☐2) พอแต่ไม่เหลือเก็บ ☐ 4) ไม่เพียงพอมีหนี้สิน

24. ประเภทครอบครัว [ ][ ]

☐ 1) ครอบครัวเดี่ยว (มีเฉพาะ พ่อ-แม่-ลูก)

☐ 2) ครอบครัวขยาย (มีบุคคลอื่นอยู่ด้วยนอกจากพ่อ-แม่ กับเด็ก เช่น ปู่, ย่า,ตา, ยาย เป็นต้น)

25. จำนวนสมาชิกในครอบครัว……คน [ ]

26. สภาพการครอบครองที่อยู่อาศัย [ ]

☐ 1) เจ้าของบ้านและที่ดิน

☐ 2) เจ้าของบ้านแต่เช่าที่ดิน

☐ 3) บ้านเช่า

☐ 4) บ้านญาติ โดยไม่ต้องจ่ายค่าเช่า

☐ 5) บ้านพักราชการ/รัฐวิสาหกิจ

☐ 6) อื่นๆ ระบุ……..……

27. ในช่วง 1 ปีที่ผ่านมาครอบครัวของท่านเกิดเหตุการณ์สะเทือนอารมณ์เหล่านี้หรือไม่

27.1) มีคนในบ้านเสียชีวิต

☐ 1. ไม่มี ☐ 2. มี [ ]

27.2) มีคนเจ็บป่วยหนักจนต้องเข้ารับการรักษาในโรงพยาบาล

☐ 1. ไม่มี ☐ 2. มี [ ]

27.3) มีคนตกงานหรือไม่มีงานทำหรือถูกเลิกจ้าง

☐ 1. ไม่มี ☐ 2. มี [ ]

27.4) เหตุการณ์อื่นๆ

☐ 1. ไม่มี ☐ 2. มี ระบุ…… [ ]

หมวดที่ 2 แบบสอบถามสัมพันธภาพในครอบครัว

<u>คำชี้แจง</u> แบบสอบถามชุดนี้ ประกอบด้วยข้อคำถาม 16 ข้อ คำตอบแต่ละข้อมี 3 ระดับ คือ ไม่เคยเกิดขึ้น เกิดขึ้นบางครั้ง และเกิดขึ้นประจำ

ข้อความ	ไม่มี/ ไม่เคย/ ไม่ใช่	บางครั้ง	เป็น ประจำ
1. คนในบ้านสามารถแสดงความคิดเห็นได้เต็มที่			
2. ฉันมักจะพูดคุยปัญหากับคนอื่นมากกว่าคนในบ้าน			
3. คนในบ้านมีส่วนร่วม/ช่วยกันในการตัดสินใจเรื่องที่สำคัญของครอบครัว เช่น การกู้ยืมเงิน, การเรียน, การขายพืชผล, การซื้อของที่มีราคาสูง เป็นต้น			
4. เมื่อมีปัญหา คนในบ้านจะพูดคุยกันและได้ทางออกที่น่าพอใจ			
5. คนในบ้านต่างคนต่างทำตามความพอใจของตนเอง โดยไม่สนใจความรู้สึกของคนอื่น			
6. ในการแก้ปัญหาต่างๆ คนในบ้านจะปรึกษากันก่อนเสมอ			
7. เป็นเรื่องลำบากใจ เวลาคิดจะทำอะไรพร้อมกันทั้งครอบครัว			
8. ข้อตกลงร่วมกันของบ้านเป็นที่ยอมรับของคนในบ้าน เช่น จะไปไหนและกลับผิดเวลาต้องบอก, ต้องกินข้าวเย็นพร้อมกัน			
9. คนในบ้านรู้สึกสนิทกับคนนอกบ้านมากกว่า			
10. คนในบ้านช่วยกันหาวิธีใหม่ๆ ในการแก้ปัญหาที่เกิดขึ้น			
11. คนในบ้านร่วมกันรับผิดชอบงานของครอบครัว เช่น การเลี้ยงลูก, งานบ้าน			
12. เป็นเรื่องยากที่จะเปลี่ยนแปลงกฎระเบียบ / ข้อตกลงในบ้าน			
13. คนในบ้านไม่สนใจกัน			
14. เมื่อมีปัญหาเกิดขึ้น คนในบ้านจะประนีประนอมหรือตกลงกันได้			
15. คนในบ้านไม่กล้าหรือลำบากใจที่จะพูดถึงสิ่งที่อยู่ในใจตน			
16. คนในบ้านมักคัดค้านกันเองมากกว่าจะร่วมกันทำกิจกรรมทั้งครอบครัว			

หมวดที่ 3 แบบสอบถามเกี่ยวกับการอบรมเลี้ยงดูเด็กปฐมวัย

<u>คำชี้แจง</u> แบบสอบถามชุดนี้มี 45 ข้อ เป็นแบบสอบถามเกี่ยวกับการอบรมเลี้ยงดูเด็กปฐมวัย บุตรของท่านตามสภาพที่เป็นจริง ให้ท่านเลือกกาเครื่องหมายถูก (✓) ลงในช่องที่ตรงกับความเป็นจริงของท่านที่สุดเพียงตัวเลือกเดียว โดยมีคำตอบให้ท่านเลือก 4 ตัวเลือกคือ

พฤติกรรมที่ท่านแสดงต่อลูก	ไม่จริงเลย	ไม่ค่อยจริง	ส่วนมากจริง	จริงที่สุด
0. ท่านมีงานยุ่งมาก จนไม่มีเวลาพูดคุยหยอกล้อกับลูก	✓			
00. เมื่อลูกรับประทานอาหารได้เองท่านจะชมเชยลูก			✓	

ไม่จริงเลย หมายถึง พฤติกรรมนั้นท่านไม่เคยทำต่อลูกเลย
ไม่ค่อยจริง หมายถึง พฤติกรรมนั้นท่านทำต่อลูกนานๆ ครั้ง (ไม่ทำมากกว่าทำ)
ส่วนมากจริง หมายถึง พฤติกรรมนั้นท่านทำต่อลูกโดยบางครั้งทำ (ทำมากกว่าไม่ทำ)
จริงที่สุด หมายถึง พฤติกรรมนั้นท่านทำต่อลูกเป็นประจำสม่ำเสมอ

พฤติกรรมที่ท่านแสดงต่อลูก	ไม่จริงเลย	ไม่ค่อยจริง	ส่วนมากจริง	จริงที่สุด
1. เมื่อลูกหยิบสิ่งของของผู้อื่นโดยที่ยังไม่ได้รับอนุญาตจากเจ้าของ ท่านจะเตือนลูก ……..…….				
2. เมื่อลูกทำผิด ท่านมักจะลงโทษลูกทันที โดยไม่ถามเหตุผลของลูกก่อน…….....				
3. หลังจากลูกเล่นของเล่นเสร็จแล้ว ท่านจะเป็นคนเก็บของเล่นเข้าที่เอง…..……...				
4. ท่านมักจะแสดงความรัก พูดคุย ดูแลเอาใจใส่ใกล้ชิดกับลูก…….				
5. ท่านคอยดูแลให้ลูกใส่เสื้อผ้าที่สะอาดอยู่เสมอ ถ้าเปื้อนท่านจะเปลี่ยนให้ลูกทันที ……..……				
6. เมื่อลูกแย่งขนมเด็กอื่น ถือเป็นเรื่องปกติเพราะเด็กยังไร้เดียงสา…….….....				
7. เมื่อลูกรังแกเด็กอื่น ท่านจะห้ามปรามลูก พร้อมกับอธิบายเหตุผล...……...…				
8. ท่านมักกำหนดให้ลูกอาบน้ำตรงเวลาทุกวัน……...				
9. เมื่อลูกของท่านเล่นจนเนื้อตัวสกปรกมอมแมมและไม่ยอมอาบน้ำท่านจะตามใจลูกให้เล่นต่อไปอย่างอิสระ…….……				
10. เมื่อลูกมีข้อสงสัยและซักถามบ่อยครั้งท่านจะสนใจรับฟังและให้คำอธิบายแก่ลูก……				
11. ท่านมักเลือกซื้อสิ่งของเครื่องใช้ให้ลูกตามที่ท่านเห็นว่าดี……				
12. ท่านเห็นว่าการที่ลูกด่าว่าเด็กอื่น เป็น พฤติกรรมปกติของเด็กในวัยนี้……..…..				

พฤติกรรมที่ท่านแสดงต่อลูก	ไม่จริงเลย	ไม่ค่อยจริง	ส่วนมากจริง	จริงที่สุด
13.ในการลงโทษเมื่อลูกทำผิด ท่านมีสติไม่โกรธพร้อมทั้งอธิบายเหตุผลด้วย……...……				
14. เมื่อท่านต้องการเคลื่อนย้ายข้าวของของลูก ท่านจะทำทันทีโดยไม่ปรึกษาลูกก่อน……...				
15. เมื่อถึงเวลารับประทานอาหาร และลูกยังไม่ยอมรับประทาน ท่านจะปล่อยตามใจลูก…….....				
16. เมื่อลูกต้องการสวมเสื้อผ้าเอง ท่านยินดีให้ลูกลองทำเอง……...				
17. เมื่อถึงเวลาแปรงฟันก่อนเข้านอน แต่ลูกของท่านยังไม่ยอมทำ ท่านจะปล่อยตามใจลูก……..…				
18. เมื่อลูกทำข้าวของเสียหาย ท่านจะไม่ลงโทษเพราะลูกยังเล็ก …….....				
19. เมื่อลูกของท่านทำผิด ท่านจะสอบถามเหตุผลของลูกก่อนเสมอ……..				
20. เมื่อลูกทำสิ่งของเลอะเทอะ ท่านมักจะตำหนิลูก ……..….				
21. ท่านมักจะไม่จำกัดเวลาการดูโทรทัศน์ของลูก….				
22. ท่านบอกให้ลูกแบ่งปันขนมให้เพื่อน…….....				
23. ท่านให้ลูกเล่นกับเพื่อนที่ท่านเลือกให้เท่านั้น….....				
24. เวลาซื้อเสื้อผ้าให้ลูก ท่านจะซื้อเฉพาะสีและแบบที่ลูกชอบ……..…….....				
25. ภายหลังจากการเล่นของเล่นเสร็จแล้ว ท่านสอนให้ลูกเก็บของเล่นเข้าที่……...……..				

พฤติกรรมที่ท่านแสดงต่อลูก	ไม่จริงเลย	ไม่ค่อยจริง	ส่วนมากจริง	จริงที่สุด
26. เมื่อลูกเล่นไม้ขีดไฟ / ปลั๊กไฟท่านจะดุด่าและตีทันทีเพื่อให้ลูกจดจำและไม่ทำอีก…..……..				
27. ท่านมักไม่ค่อยได้ลงโทษลูกของท่าน ……..……				
28. ท่านให้ลูกมีส่วนในการช่วยเหลืองานบ้านตามความสามารถ เช่น ทำความสะอาดบ้าน, เก็บของเข้าที่, รดน้ำต้นไม้ เป็นต้น…….…….….				
29. ท่านจะห้ามปราม เมื่อลูกทำในสิ่งที่ท่านไม่ชอบ …….....				
30.เมื่อลูกต้องการขี่จักรยานสามล้อของเด็กอื่น ท่านจะตามใจลูก…….				
31. ท่านจะสอนให้ลูกดูแลทำความสะอาดข้าวของเครื่องใช้ส่วนตัวของลูกเองตามความสามารถของลูก …….……..				
32. เมื่อลูกพยายามวาดรูปวงกลมหรือรูปสี่เหลี่ยมตามแบบ แล้วทำไม่สำเร็จ ท่านมักจะตำหนิลูก…….				
33.ท่านมักจะปล่อยให้ลูกอยู่ตามลำพัง เมื่อท่านออกไปทำธุระนอกบ้าน…….				
34. ท่านพูดคุยกับลูกถึงประโยชน์และโทษของของเล่นก่อนตัดสินใจซื้อ ……..				
35. เมื่อท่านอบรมสั่งสอนลูก ท่านชอบที่จะให้ลูกเชื่อฟังท่านทุกอย่างโดยไม่มีข้อโต้แย้ง …….				
36. เมื่อลูกต้องการซื้อขนม / ของเล่น แม้ท่านเห็นว่าไม่ดี แต่ก็ซื้อให้ลูก ……..……				

พฤติกรรมที่ท่านแสดงต่อลูก	ไม่จริงเลย	ไม่ค่อยจริง	ส่วนมากจริง	จริงที่สุด
37. เมื่อลูกพยายามวาดรูปหรือเขียนตัวอักษรแล้วไม่สำเร็จหรือทำได้ไม่ดี ท่านจะให้กำลังใจและบอกให้ลองทำใหม่……..…				
38. เมื่อถึงเวลาตื่นนอนของลูก ท่านจะปลุกลูกให้ตื่นทันที แม้ว่าจะเป็นวันหยุดก็ตาม …….				
39. เมื่อลูกร้องไห้ต้องการอะไร ท่านจะให้สิ่งที่ลูกต้องการทันที……...…				
40. ท่านจะให้โอกาสลูกในการแสดงความคิดเห็นในเรื่องการดูโทรทัศน์ หรือการเล่น…….……				
41. ท่านจะให้ลูกรับประทานอาหารทันทีที่ถึงเวลาแม้ว่าลูกจะยังไม่อยากรับประทาน……... ….				
42. ท่านจะเป็นผู้ทำความสะอาดข้าวของส่วนตัวของลูก, เก็บเสื้อผ้า, พับผ้าห่ม โดยที่ท่านไม่ได้บอกให้ลูกช่วยทำ……..…				
43. เมื่อลูกทำสิ่งของเลอะเทอะ ท่านจะบอกให้ลูกเก็บสิ่งของที่ลูกทำเลอะเทอะเอง ……..				
44. เวลาแต่งตัวลูกในแต่ละวัน ท่านจะแต่งตัวให้โดยไม่สอนให้ทำเอง เพราะลูกทำช้า…….…...…				
45. เมื่อท่านพาลูกออกไปนอกบ้านในวันหยุด ท่านจะให้ลูกเป็นคนเลือกสถานที่ที่อยากจะไป…….				

BIOGRAPHY

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