FACTORS RELATED TO QUALITY OF LIFE AMONG PRIMARY SCHOOL CHILDREN IN BANGKOK METROPOLIS, THAILAND

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FACTORS RELATED TO QUALITY OF LIFE AMONG PRIMARY SCHOOL CHILDREN IN BANGKOK METROPOLIS, THAILAND

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ABSTRACT

A cross-sectional study was conducted from 30th January to 1st February, 2005 in a primary school in Bang Kaen District, Bangkok Metropolis, Thailand, to identify the Quality of Life among primary school children and related factors. The data was collected from 232 students by simple random sampling. Students' Quality of Life was assessed by students themselves by using self-administered questionnaires. For analyzing the data, descriptive statistics were used to obtain the frequency and number. Chi-square test was applied to assess the association between the studied factors and child's Quality of Life.

The results showed 17.7% of students had a low Quality of Life, 66.8% a moderate Quality of Life and 15.5% with a high Quality of life. The statistical test revealed that acknowledgement in school was significantly associated with student's Quality of Life (p-value =0.32), while other studied factors (student's age, gender, birth order, class grade, nutrition status, academic performance, self-esteem, financial allocation, family crisis, family type, father's occupation, mother's occupation, father's educational level, mother's educational level, rewards from the parents) were not significantly associated with student's Quality of Life (>0.05).

Based on the study results, it is recommended that the school administrator encourage teachers to use praise more often than punishment, and give students more responsibility in the school such as class leader or other leaders of different activities.

KEY WORDS: QUALITY OF LIFE / PRIMARY SCHOOL CHILDREN

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LIST OF ABBREVIATIONS

CDC	: Centers for Disease Control and Prevention
GNP	: Gross National Product
GPA	: Grade Point Average
HIV	: Human Immuno-deficiency virus
QOL	: Quality of Life
MOPH	: Ministry of Public Health,Thailand
PedsQL™	: Pediatric Quality of Life Inventory™
UNESCO	: United National Education, Scientific and Cultural Organization
UNICEF	: United Nations Children's Fund
WHO	: World Health Organization

CHAPTER 1
INTRODUCTION

1.1 Rationale and Justification

The quality of life is familiar word with us because of the frequent use of the phrase in various fields such as in medical, educational field, or advertisements of companies. However, it is difficult for us to explain and define any universally acceptable conceptualization of quality of life. This is mainly due to this seemingly simple phrase "Quality of Life" contains two fundamental and difficult questions which have been asked since the beginning of our human history; "What is the life?" and "What kind of life is good?"(1,2).

While it may be true that definition of quality of life is different from individuals, we can probably agree that quality of life is not simply equal to the level of living standard or economical status. For example, Japanese society which possessing high Gross National Product (GNP) and the longest life expectancy also marks the highest suicide rate in Asia (25 suicide for every 100,000 people) (3,4). As these three different types of figure show, the quantity and quality in life seems not to being progressing simultaneously. It is also not difficult for us to imagine how such an unbalanced situation could affect the child's life negatively. As a matter of fact, child's crimes are on the increase in alarming pace.

Thailand is the country having the population of 60.6 million with rapid economical growth (GNP growth was 6.3% in 2003). (5) Out of the total population in Thailand, 6.4 million is primary school going children aged 7 to 12 years old. (6) The movement towards industrialization and urbanization in the country has resulted in significant changes in their lifestyles including harmful habits. A study in Bangkok revealed that consumption of alcohol and tobacco are on the increase with 22.8% and suicide rates and sex-related crimes have increased in the Bangkok metropolis. (7)

In the rapidly changing society with modernization and urbanization, securing on better environment for children is emerging more and more challenging issue (8) As UNICEF clearly said that “human progress toward world peace and overall development with dignity lie in the progress of children and the realization of their better quality of life.”(9), we can not ignore the child’s quality of life where our future society will be built up. All the professionals who are working for the people’s welfare must pay more attention to child’s quality of life and various approaches to promote it. Moreover, every child in the society has the fundamental human right to cultivate their full potential in physically, mentally and socially. Therefore it is our responsibility to work for the promotion of child’s better quality of life.

While it may be true that there are several approaches to enrich quality of life for the children, one of the possible ways is perhaps through school settings, especially through primary school. This is mainly because of that their ages in primary school is the period of rapid development of their characteristics and behaviors. (10,11) In the society where the number of behavior-related health problems is increasing, conducting effective intervention programme for primary school children will not only make a benefit for the children themselves but also contribute to the realization of securer and healthier society in the consequent. Such a programme may include the development of life skills, health education on personal hygiene and nutrition.

The another reason of selecting primary school as the place of promoting children’s quality of life is that it can cover more students compared to secondary or higher institution if we consider the drop out rate in the school. In fact, programme through primary school settings can cover approximately 80% of its target population whicn means 5,221,335 children in Thailand. (6)

With the reasons mentioned above, the researcher would like to study the current situation regarding quality of life among primary school student in Bangkok metropolis, Thailand and related factors with the hope that this study result would provide some additional information for those working for the primary school children and strive for their quality of life.

1.2 Research Question

What are the factors related to the quality of life among primary school children in Bang Kaen district, Bangkok Metropolis, Thailand?

1.3 Research Objectives

1.3.1 General Objective

To identify the factors related to the quality of life among primary school children in Bang Kaen district, Bangkok Metropolis, Thailand

1.3.2 Specific Objectives

1. To assess the quality of life among primary school children in Bang Kaen District, Bangkok Metropolis.

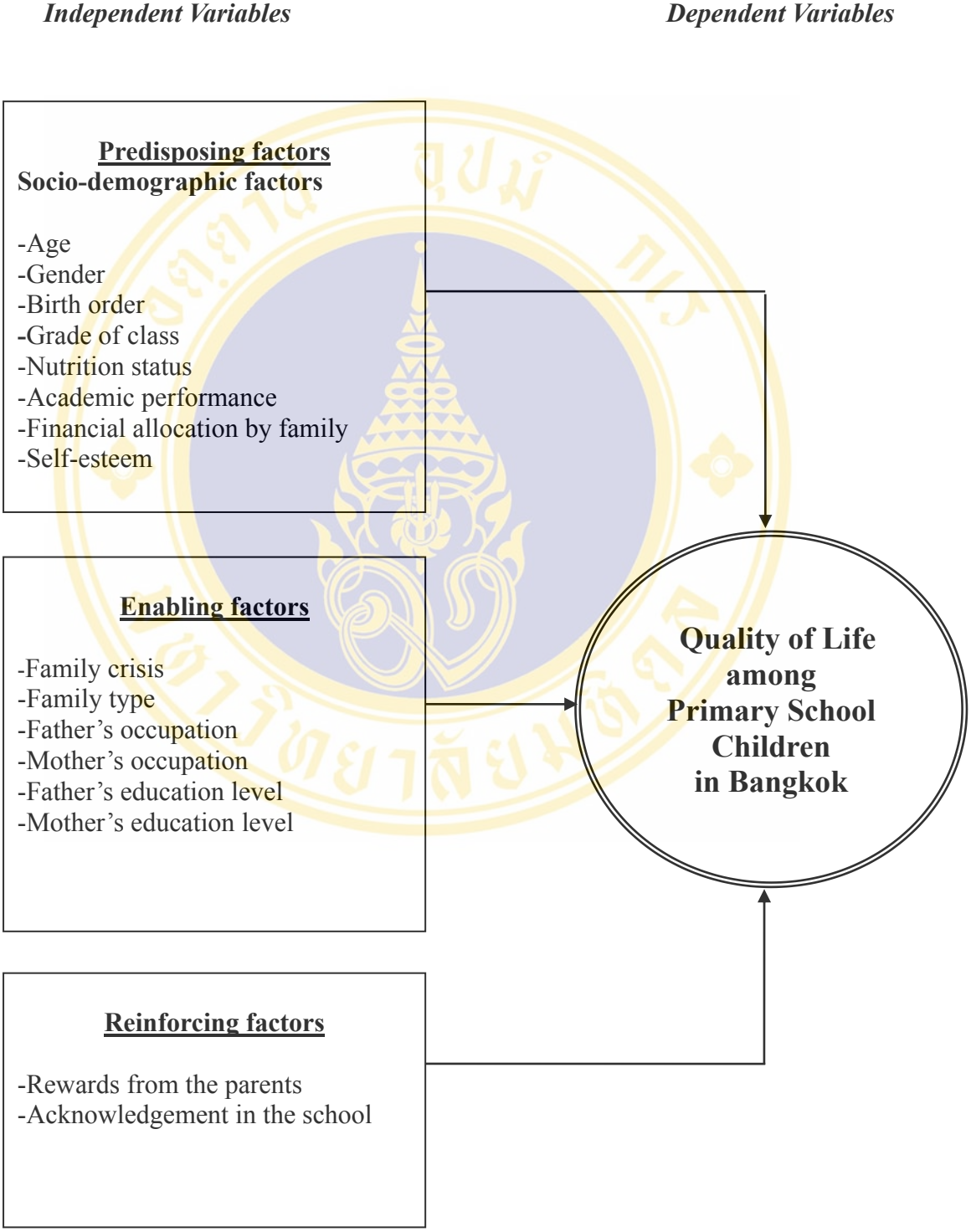
2. To describe the Predisposing factors (age, gender, birth order ,grade of class,nutrition status, academic performance, self-esteem ,financial allocation by family) and Enabling factors (family crisis, family type , father's occupation, mother's occupation, father's educational level, mother's educational level) and Reinforcing factors(rewards from the parents, acknowledgement in the school) among primary school children in Bang Kaen District, Bangkok Metropolis Thailand.

3. To identify the relationships between the Predisposing factors and the quality of life among primary school children in Bang Kaen District, Bangkok Metropolis Thailand.

4. To identify the relationships between Enabling factors and the quality of life among primary school children in Bang Kaen District, Bangkok Metropolis Thailand.

5. To identify the relationships between the Reinforcing factors and the quality of life among primary school children in Bang Kaen District, Bangkok Metropolis Thailand.

1.4 Conceptual framework



1.5 Research Hypothesis

1. There is an association between the Predisposing factors (age, gender, birth order , grade of class,nutrition status, academic performance, financial allocation by family, self-esteem) and the quality of life among primary school children in Bang Kaen District, Bangkok Metropolis Thailand.

2. There is an association between the Enabling factors (family crisis, family type, father's occupation, mother's occupation, father's education level, mother's education level,) and the quality of life among primary school children in Bang Kaen District, Bangkok Metropolis Thailand.

3. There is an association between the Reinforcing factors (rewards from the parents, acknowledgement in the school and the quality of life among primary school children in Bang Kaen District, Bangkok Metropolis Thailand.

1.6 Operational Definition

Quality of life of primary school children refers to the degree which represents the individual's evaluation of the impact of a physical and psychosocial condition and its treatment on individual's daily life. The degree of quality of life is measured according to the score which children evaluate by themselves using the standardized instrument, **PedsQL** ^{TM} (12), for measuring quality of life. The instrument are composed by four parts of the questionnaire; 1)Physical functioning, 2) Emotional functioning, 3) Social functioning and 4) School functioning. Total number of question is 23 questions. All the questions are in the forms of negative questions such as "I can not carry heavy things". Child responds to the question by selecting one answer among 5 choices; **1) Never, 2) Almost never, 3) Sometimes, 4) Always, and 5)Almost always**. Each response is scored according to the guidelines made by the developer of the instrument. ('**Never'**=100 points, '**Almost never'**=75, '**Sometimes'**=50points, '**Almost always'**=25 points and '**Always'**=0 points.) These scores are summed up and divided by the number of items answered by child. So that higher quality of life marks higher average of scores. Finally students are divided into

three groups based on the standard deviation and mean as 1) low Quality of life (<mean -1SD), 2) moderate Quality of life (-1SD to +1SD) and 3) high Quality of life (>mean+1SD).

Primary school children refers to students aged 9 to 12 years old who attend grade 4,5,or 6 in public primary school at Bang Kaen District, Bangkok, Thailand.

Predisposing Factors refers to any characteristics of a person or population that motivates behavior prior to the occurrence of those behaviors such as age, gender, birth order, grade of class, nutritious status, academic performance, financial allocation by family and self-esteem.

Age refers to the age of the student as of last birthday. The students write their age, and these responses were categorized into 3 groups for the statistical analysis as 1) equal to or less than 10 years old, 2) 11 years old, and 3) 12 years old.

Gender refers to sex of the student and categorized into two groups as 1) male or 2) female.

Birth Order refers to which order the child was born among the siblings. The replies are categorized into three groups as 1) 1st born , 2) 2nd born , 3) Equal or later than 3rd born.

Grade of the class refers to the grade of the class which child attends. There are three categories according to the study population as 1) grade 4, 2) grade 5 and 3) grade 6.

Nutritional status refers to the physical status of the child in weigh and height. The data were obtained by school record after permission from the school. The classification is based on the study on National Center for Health Statistics (NCHS) growth standard chart (13). It is a comparison of observed weight of child expressed as the expected weight of a child of that height by 6 groups. These groups were re-categorized into 3 groups for the statistical test as 1) thin: <-2SD to -1SD , 2) normal: >-1SD to +1SD, and 3)obese: >+1SD to +2SD. Height for age of students

were also obtained for the reference and categorized into 3 groups according to the classification of NCHS as 1) Short : <-2SD to -1.5SD, 3) normal: >-1.5SD to +1.5SD, 4) tall: >+1.5SD to +2SD.

Academic performance refers to the academic achievement in the school described as a latest GPA. The GPA was obtained after permission from the school. Children were divided into three groups according to their GPA score as. 1) low (≤ 2.0), 2) average (2.01-2.99) and 3) high(≥ 3.00).

Financial Allocation by the family refers to the dairy money allocation given by family members of the child. The results are categorized into two groups with different amounts of financial allocation per week as 1) lower than average and 2) equal to or more than average.

Self esteem refers to the evaluation one makes of the self-concept description and to the degree to which one is satisfied or dissatisfied with it, in whole or in part (14). Self-esteem is assessed by 10 items of self-administered questionnaire (15). Each question was replied by selecting one response among four rating scales (Strongly Agree, Agree, Disagree or Strongly Disagree). For the **positive questions (Q1, Q3, Q5, Q7, Q9)**, strongly was marked for 4point, agree for 3points, disagree for 2 points and strongly disagree marked 1 points. For the **negative questions (Q2,Q4,Q6,Q8,Q10)**, the scoring method is opposite to the positive questions (Strongly agree = 1 point, Agree = 2 points, Disagree = 3 points and Strongly disagree = 4 points) so that higher score represent higher self-esteem in total. The total score varies from 10 to 40. For the statistical analysis, students are divided into three groups according to their levels of self-esteem based on the mean and standard deviation as 1) low self-esteem: <mean -1SD, 2)moderate: mean $\pm$ 1SD, and 3) high self-esteem: >mean +1SD.

Enabling Factors refers to characteristic of the environment that facilitate action and any skill or resource required to attain specific behavior such as family crisis, family type, father's occupation, mother's occupation, father's educational level, mother's educational level

Family Crisis refers to the family problems encountered by student in the past one year (Jan1st 2004 to Dec 31st 2004). 10 types of the crisis were asked. e.g. divorce, sickness of family member, severe accidents, debts. The children mark all types of crisis encountered by their family and finally they are divided into three groups based on the number of crisis encountered by their family as 1) no crisis, 2) one crisis and 3) more than one crisis.

Family type refers to the types of family child living with. Students were divided into two groups according to their types of the family as 1) nuclear or 2) extended. Nuclear family means the family consists of the child, siblings, and parents. Extended family means the family consists of other persons besides the child and the parents, relative or grandparents of the child. If the relative lives in next to the child's family, it was also considered as an extended family.

Father's Occupation refers to the job of father to earn the income. It is mainly categorizes into five categories as 1) government employee, 3) private/company employee, 3) labor, farmer 4) vendor or 5) unemployed. After that, for the statistical analysis, these five groups were regrouped into two as 1) Skilled occupation and 2) non skilled occupation.

Mother's occupation refers to the job of mother to earn the income. It is mainly categorizes into five categories as 1) government employee, 3) private/company employee, 3) labour or farmer, 4) vendor, 5) unemployed or house wife. These groups are reorganized into three for the statistical purpose as 1) housewife, 2) skilled occupation and 3) non skilled occupation.

Father's education level is defined as the father's accepted education level. They are divided into six categories as follows:1) Illiterate: Not schooling or not finish six years of compulsory education, 2) Primary: Finish six years of compulsory education, 3) Grade 7-9 or Mathayom1-3(secondary school): Finish three years of compulsory education ,4) High school education or Mathayom 4-6: Complete three years after secondary school, 5)Vocational school and 6) Graduate or higher than Graduate. After collecting the data, these education levels are regrouped into two as 1)

Less or equal to primary and 2) Higher than primary education.

Mother's education level is defined as the mother's accepted education level. They are divided into 6 categories:1) Illiterate : Not schooling or not finish six years of compulsory education, 2) Primary : Finish six years of compulsory education, 3) Grade 7-9 or Mathayom1-3 (secondary school): Finish three years of compulsory education ,4) High school education or Mathayom 4-6: Complete three years after secondary school, 5) Vocational school, and 6) Graduate or higher than Graduate: Graduate at university level or higher. After collecting the data, these education levels are regrouped into two as 1) Less or equal to primary and 2) Higher than primary education.

Reinforcing Factors refers to rewards or punishments following or anticipated as a consequence of a behavior. They serve to strengthen the motivation for behavior such as rewards from the parents, acknowledgement in the school.

Rewards from the parents refer to any rewards given to the child because of his/her good performance or behavior. Such rewards act as the motivator for a positive attitude of the child. The rewards from the parents were assessed by three questions and child selected his response from 5 rating scales (1 mark for Never, 2 for Almost Never, 3 for Sometimes, 4 for Almost Always, 5 for Always). The total score is 15. The children are divided into three groups with their marks by mean and standard deviation for the statistical analysis as 1) low level of rewards from parents: <mean-1SD, 2) moderate: mean ± 1SD and 3) high: >mean +1SD.

Acknowledgement in the school refers to the any types of acknowledgement towards the child due to his/her positive attitude or behavior. e.g. class leader, prize given by the class/teacher/school It was assessed by three questions responded by the children themselves. The child selects his response from 5 rating scales (1 mark for Never, 2 for Almost Never, 3 for Sometimes, 4 for Almost Always, 5 for Always). The total score is 15. The children are divided into three groups with their marks by mean and standard deviation as 1) low level of acknowledgement in school: <mean-1SD, 2) moderate: mean ± 1SD and 3) high: >mean +1SD.

1.7 Limitation of the Study

This study is conducted only one public primary school located in Bang Kaen District of Bangkok Metropolis. Therefore, this study is not fully representative for all children who attend to the public primary school in Thailand.

CHAPTER 2
LITERATURE REVIEW

In this chapter we shall review the literature to provide the theoretical background to understand the concept of the study on quality of life of primary school children. The literature review consists following parts.

2.1 Concept of Quality of life
- Definition of Quality of Life
- Measurement of Quality of Life

2.2 Health Status of Primary School Children

2.3 Precede-Proceed Model

2.4 Literature regarding the studied variables

2.1 Concept of Quality of Life

The quality of life is familiar word with us because of the frequent use of the phrase in various places such as in medical, educational field, or advertisements of companies. Unlike the old age when the concept of quality of life was used on individual basis or human relationships, in the contemporary world the term has been used in various public projects and social activity. Therefore, the efforts are urgently required to describe and clarify the meaning of quality of life and its assessment methods. In this section, the researcher would like to describe the various definitions of quality of life and assessment methods from the studies of different authors and organizations.

2.1.1 Definition of Quality of Life

Quality of life has been studied worldwide for several decades. Researchers have tried to define the term. Zhan defined quality of life as the degree to which a person's life experiences are satisfying, and mentioned four aspects of the Quality of

life as follows (16):

1. Life satisfaction which lay between the desire and achievement
2. Self concept: self-believe and feeling in a certain period of time
3. Health and body functions
4. Socio-economic factors: career, education, income etc

Cummins.R.A, School of Psychology in Deakin University, defines the quality of life as following:

> *Quality of life is both objective and subjective, each axis being the aggregate of seven domains: material well-being, health, productivity, intimacy, safety, community, and emotional well-being. Objective domains comprise culturally-relevant measures of objective well-being. Subjective domains comprise domain satisfaction weighted by their importance to the individual. (17)*

According to the Quality of Life Research Unit at the Centre for Health Promotion, University of Toronto, Quality of life is "the degree to which a person enjoys the important possibilities of his or her life." Possibilities here result from the opportunities and limitations each person has in his/her life and reflect the interaction of personal and environmental factors (18).

Bloom D.E et al describe quality of life as a concept of human welfare with many influences that vary in importance over time and across different cultures, rather than just a technical term in the social sciences. In their analysis, "Quality of life is viewed broadly as having multiple sets of components" (19) such as "Health, Nutrition", "Education", "Income", "Gender equality", "Fertility", "Political, civil, and economic freedom", "Environmental quality", "Access to infrastructure", "Access to information"

All these components contribute to the quality of human life since our life does not exist by itself in vacuum. Quality of life is the concept incorporating all the factors that might impact on individual's life. In health service research, it is more usual to consider health-related quality of life, which includes only those factors that

affect an individual's health, however, there is still no general agreement regarding the identification of such factors.

Varni .J.W, the author of the Pediatric Quality of Life Inventory defined health related quality life as an individual's evaluation of the impact of a health condition and its treatment on daily life. (12) According to the instrument, there are four dimensions to measure health-related quality of life in healthy children and adolescent as follows.

1. Physical functioning
2. Emotional functioning
3. Social functioning
4. School functioning

The reason of measuring school functioning as one domain is because of schooling children and adolescent spent a lot of time in the school per day. In fact, the school is a society for the school children where are full of interaction, activities and conflict with other student or teachers. Therefore it is essential to consider school functioning as a one key component of their quality of life.

In conclusion, based on the all of the literatures described above, the quality of life among primary school children is defined as the degree to which represents the child's evaluation of the impact of a physical and psychosocial condition and its treatment on individual's daily life. Considering the multiple dimension of quality of life in social, physical and psychological perspectives, the researcher uses the term "Quality of Life" instead of "Health-related Quality of Life".

2.1.2 Quality of Life Measurement

There are several instruments in order to measure quality of life according to the subject and object of the study. The Quality of Life Instruments Database developed by Mapi Research Institute, Lyon, France describes 461 instruments to measure Quality of life as of November 2004 (21). Among them, certain scales are specific to a disease, while others are generic such as the 36 item Short Form Health Survey, the Sickness Impact Profile and the Nottingham Health Profile. In the next part, we shall see more details about these popular instruments.

2.1.2.1 Quality of Life Measurement for general population

Short form 36 health survey (SF-36)

The SF-36 was developed by Ware et al in order to evaluate general health status (22). Fayers.M.P mentions the instrument as "It is designed to provide assessments involving generic health concepts that are not specific to an age, disease or treatment group" (23). As the name implies, there are 36 questions on eight health concepts as follows.

Physical Health	**Mental Health**
• Physical functioning(10items) • Role-physical(4items) • Bodily pain (2items) • General health(5items)	• Vitality (4items) • Social functioning (2items) • Role-emotional (3items) • Mental health (5items)

In addition, there is a general health transition question and a global question about the respondent's perception of his/her health: "In general, would you say your health is: (excellent, very good, good, fair, and poor)?" Items can be scored according to the standard scoring method.

Sickness Impact Profile (SIP)

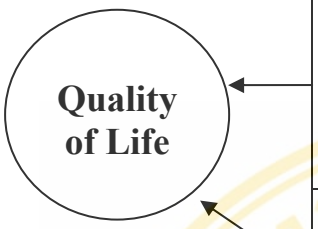
The SIP was developed by Bergner et al and consists of 136 items of question. The SIP emphasis the impact of heath upon activities and behavior, including social functioning, rather than on feelings and perceptions, although there are some items relating to emotional well-being (16,24). The standard scoring method is used for each scales.

Nottingham Health Profile (NHP)

The NHP was developed by Hunt et al, which measures emotional, social and physical distress. The NHP was influenced by the SIP but is short compared to it and typical difference is that NHP asks about feelings and emotions directly. The version 2 contains 38 items in six sections, covering sleep, pain, emotional reactions, social isolation, physical mobility and energy level. Each question takes a yes/no answer. NHP has been used in both of the non-medical and medical settings including clinical trials (16,24).

The Quality of Life Profile developed by University of Toronto

The Quality of Life Profile was developed to provide a measure that considers both the components and determinants of health and well-being. It draws upon a conceptual model that is consistent with definitions of health and health promotion as provided by the World Health Organization. The profile emphasizes individuals' physical, psychological, and spiritual functioning; their connections with their environments; and opportunities for maintaining and enhancing skills (18). The conceptual framework has three life domains, each of which has three sub-domains as shown below, and these domains are indicated by the Control and Opportunities scores. Importance and Satisfaction scores range from: 1 (Not at All Important or Not at All Satisfied) to 5 (Extremely Important or Extremely Satisfied).



Being-	Who one is	Physical being
		Psychological being
		Spiritual being
Belonging-	Connections with one's environments	Physical belonging
		Social belonging
		Community belonging
Becoming-	Achieving personal goals, hopes and aspirations	Practical becoming
		Leisure becoming
		Growth becoming

Figure 1 Concept of Quality of Life, University of Toronto model (18)

Quality of life scale developed by World Health Organization

World Health Organization has developed the Quality of life scale (WHOQOL) for use in different culture since 1992. The standard version consisted of 100 items. Later, WHO has developed a shorter 26-item version (WHOQOL-BREF) which has four components: physical health, psychological health, social relationship and environment (25).

Health-Related Quality-of-Life 14-Item Measure by CDC

Centers for Disease Control and Prevention(CDC) developed Health-Related Quality-of-Life 14-Item Measure (HRQOL-14) which is composed by three modules; Healthy Days Core Module, Activity Limitations Module and Health Days Symptoms Module (26). These modules are used in various surveys in USA such as the State-based Behavioral Risk Factor Surveillance System (BRFSS), the National Health and Nutrition Examination Survey (NHANES) for persons aged 12 and older, and the Medicare Health Outcome Survey (HOS).

- Healthy Days Core Module (4 questions)
- Activity Limitations Module (5 questions)
- Healthy Days Symptoms Module (5 questions)

2.1.2.2 Quality of Life Measurement for children

Basically, there are three approaches to quality of life assessment in children: The first approach is to concern the specificity of assessment intended. Disease-specific assessments for children suffering from specific chronic conditions or Generic assessment focuses on relevant dimensions of children's perceived quality of life, independent of the actual medical or economical condition of the child.

A second approach concerns the method of assessment intended such as the questionnaires or interviews, or observational methods. The questionnaire method is usually favored because it is less costly to use as well as the psychometric quality criteria which include reliability, validity and sensitivity.

The last approach but most critical question, is who assesses the quality of life of children. In general, expert ratings, rather than parents or clinical ratings of children's quality of life have been favored; however, the essence of the quality of life is the self-rating method. The question of whether, and at which age, children are able to report on their feelings is currently under discussion; most author feel that a self report even in younger age is achievable, providing that an assessment corresponding to the child abilities can be chosen.

As a result, in this study, the researcher will focus on .the quality of life instruments for the children, with 3 approaches: 1) Genetic assessment, 2) assessment by using questionnaire and 3) student self-scoring assessment. According to the Quality of Life Instruments Database developed by Mapi Research Institute in France, there are 31 different instruments for measuring quality of life of primary school aged children out of 461 instruments (21). As the number shows, there are not many kinds of instruments for the primary school aged children. Moreover, if limited these 31 instruments by age and non-specific disease, only few tools are found to be appropriate for the research. As following Table 1 describes, the target age and number of questions is different according to the instruments. Compared to other age group such as adolescent and the adults, the quality of life instruments popularly used for the primary school aged children are very limited. In this section, the discussion is focus on the instruments which is used commonly for the primary school aged children such as Child Health and Illness Profile-Child Edition and Pediatric Quality of Life Inventory^{TM} .

Table 1 Quality of life instrument for children by its target age and number of questions

Name of instrument	Age	Items
Pictured Child's Quality of Life Self Questionnaire (AUQUEI)	NA	27
Child Health and Illness Profile - Child Edition (CHIP)	6~18	45
Child Health Questionnaire (CHQ)	5~17	50
KINDL	NA	12-24
Matching Assistive Technology and Child (MATCH)	NA	63
Pediatric Quality of Life Inventory™ (PedsQL™)	8-12	23
Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q)	NA	NA
TNO AZL Children's Quality of Life questionnaire (TACQOL)	NA	NA
Quality of Life measure for children aged 3-8 years (TedQL)	3~8	NA
Vineland Adaptative Behaviour Scales (VABS)	NA	NA
Warwick Child Health and Morbidity Profile (WCHMP)	NA	NA

Source: Quality of Life Instruments Database developed by Mapi Research Institute

Note: NA=information not available (21)

Child Health and Illness Profile-Child Edition (CHIP)

The Child Health and Illness Profile is generic health status survey developed to assess the overall health of children and adolescents. The CHIP was developed by a team of researchers at Bloomberg School of Public Health, Johns Hopkins University, There is a CHIP for two age groups: 1) CHIP-CE: Children ages 6-11, 2)CHIIP-AE: Adolescents 11-17 (27).

The CHIP-CE instrument was developed by Anne W Riley et al. It provides an assessment of health status by 45 questions answered both by children and by their parent. It describes aspects of health as following five domains that can be influenced by health systems and school health systems.

- Satisfaction
- Comfort
- Resilience

- Risk Avoidance
- Achievement

The majority of items assess frequency of events, typically over the past 4 weeks, using a five-point response format. Items are illustrated with cartoon-type characters. The scenes feature a race-, age-, and gender-neutral character. Figure 2 shows the example of illustration which is used in the questionnaire.

According to the team developed the questionnaire, student usually completes the form in approximately 20 minutes. Besides 5 domains of health, optional modules can also be used to describe the child and family socio demographics and the child's disorders and medical conditions. Score is calculated by the format provided with instrument and divide outcome in three categories: 1) Excellent health-57 or higher; 2) Average /good health -44 ~ 56 points; 3) Poor health: 43 or below

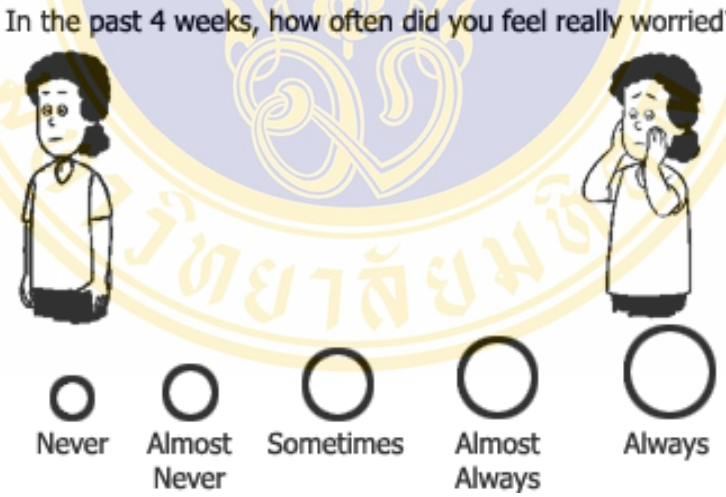


Figure 2 Example of the Comfort Domain

Source: Bloomberg School of Public Health, Johns Hopkins University (27)

Pediatric Quality of Life Inventry^{TM} (PedsQL^{TM})

The PedsQL^{TM} Measurement Model developed by Varni.J.W is a modular approach to measuring health-related quality of life in healthy children and adolescents and also those with acute and chronic health conditions. The PedsQL^{TM} Measurement Model integrates seamlessly both generic core scales and

disease-specific modules into one measurement system. (12)

The 23-item PedsQL™ Generic Core Scales were designed to measure the core dimensions of health as delineated by the World Health Organization, as well as role (school) functioning. Questionnaire is composed by the 23 items in 4 domains encompassing: 1) Physical Functioning (8items), 2) Emotional Functioning (5items), 3) Social Functioning (5items),and 4) School Functioning (5items). .From these 23 items, we are able to obtain three kinds of summary scores regarding Quality of life of the respondent. First one is Physical Health Summary Score which is calculated by 8 items of Physical functioning. Second type is Psychosocial Health Summary Score which is obtained by 15 items from remaining three functions: Emotional, Social and School Functioning. Finally, Quality of life total scale score will be calculated from all of 23 items.

The each item has a negative form of questioning such as ":I have trouble sleeping,", then student chose one reply among 5 ways according to his/her experience in past one month. 5 ways of replies are such as 1) Never, 2) Almost Never, 3) Sometimes, 4) Often and 5) Almost Always. On the PedsQL™ Generic Core Scales, for the ease of interpretability, items are reversed scored and linearly transformed to a 0-100 scale, so that higher scores indicate better Quality of Life. To reverse answer, transform the 0-4 scale items to 0-100points as follows: Never=100, Almost Never=75, Sometimes=50, Often=25 and then , 4=0, so that higher scores indicate better Quality of Life.(12)

To create the **Total Scale Score**, the mean is computed as the sum of all the items over the number of items answered. To create the **Psychosocial Health Summary Score**, the mean is computed as the sum of the items over the number of items answered in the Emotional, Social, and School Functioning Scales. The **Physical Health Summary Score** is the same as the Physical Functioning Scale Score.

There are 2 kinds of questionnaires. One is for children's self-administered questionnaire and the other is for their parents asking how they feel their child's health. The contents and number of questions for each is same so that it enables researcher to know the difference or similarities of their perception of quality of life.

Quality of life (23items)	Physical Health in Quality of life (8items)	
	Psychosocial Health in Quality of life (15items)	*Emotional Functioning (5items)* *Social Functioning (5items)* *School Functioning (5items)*

Figure 3 Dimensions in Quality of life questionnaire (number of items/questions)

The validity of the PedsQL™ Generic Core scales (23items) was demonstrated through groups' comparisons and correlations with other measures of disease burden. The Varni.J.W shows in his field test that it can distinguish between children with and without a chronic health condition (28). Reliability of the PedsQL™ was also excellent for both groups with alphas for the full 23-item scale approaching 0.90 (28).

As a conclusion for this section, there are several different types of measurement to describe quality of life of primary school children, though, the researcher selected PedsQL™ for this study with following 9 reasons.

1. Brief ; 23 items of questions
2. Easy to answer; 5miniutes to complete
3. Used in different countries and culture
4. Flexible; Designed for use with school, community and clinical pediatric populations
5. Designed for child ages 8-12 years old
6. Reliable; Child Self-report-0.88 (28)
7. Valid; Distinguishes between healthy children and children with acute/chronic health conditions
8. Translated into multiple languages including Thai language
9. Free for not funded academic research

2.2 Health Situation of Primary School-aged Children

The middle childhood, 6 to 12 years old, is a period of steady physical growth. The average gain in weight during this period is about 3 to 3.5 kg per year and in height approximately 6 cm added each year (15).

This age is also the period of major cognitive development. Their brain reaches nearly adult size by the end of primary-school-age (30). During this period, life patterns and habits are established and it will become the ground where the quality of life is going to be grown.

According to the report of Ministry of Public Health of Thailand, among school-aged children, external causes i.e. accidents, especially road traffic accidents were the number one killer, followed by infectious diseases, mainly dengue hemorrhagic fever and HIV/AIDS (31).

2.2.1 Nutrition Status

Nutrition plays a vital role in children's survival and development (32). A survey which weighed elementary school students nationwide in the 2001 school year found that 11.5 per cent of them were underweight for their age. An estimate from this data shows that there are approximately 2 million children aged 5 - 14 whose weight is below the standard weight for age (31). The figure 3 also shows the slightly increase of underweight rate during the economic crisis.

Obesity is also the nutrition problem in Thailand. The problem is particularly worrying in Bangkok, where 11.8 percent of children under the age of 18 are now deemed to be overweight, a figure of 1.8 times higher than in rural areas (31, 33). The obesity epidemic on economic growth, which had resulted in rapidly changing lifestyle patterns in urban areas. Rather than playing outside in their spare time, the urban children of today were spending their time watching television, listening to music, doing their homework or attending special tutoring classes. The obesity crisis on the increasing tendency among urban children also attributes to their eating habit which consuming fast food containing high quantities of sugar and fat.

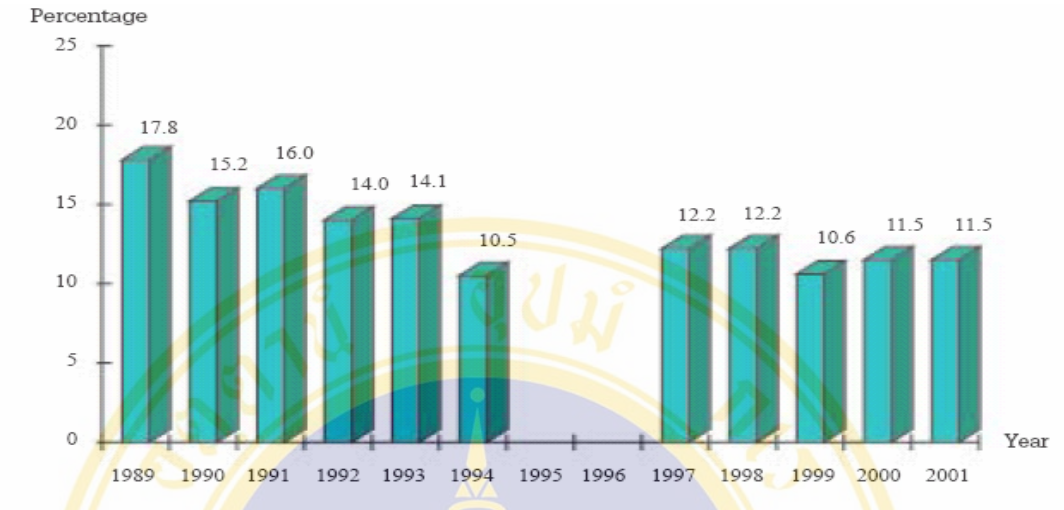


Figure 4 Rate of Underweight Schoolchildren

Source: Department of Health, Ministry of Public Health

Note: No weight measurement survey in the year 1995 and 1996 (31)

2.2.2 Attention-Deficit/Hyperactivity Disorder

Attention-Deficit/Hyperactivity Disorder (AD/HD) is a neurobehavioral disorder that affects an estimated 3-7 percent of the school age population. Any report regarding the AD/HD of Thai children was not found through the internet media (as of March 2005), however, it recently collects keen attentions from the parents who are worried about their child's some specific behaviors. The Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV), published by the American Psychiatric Association, describes three subtypes of AD/HD (34).

- Inattentive ▪ can't seem to get focused or stay focused on a task or activity
- Hyperactive-impulsive ▪ very active and often acts without thinking
- Combined ▪ inattentive, impulsive, and too active

Currently, there are no medical tests, such as blood tests that diagnose AD/HD. However, research in this area is being conducted with the hope that making the diagnosis can be more precise in the near future. At this time, behavior criteria are used to make the determination of AD/HD and information from all of the sources is needed to being reviewed carefully. Baumel.J, licensed Educational Psychologist, mentions some of the symptoms of AD/HD as following (35).

- Doesn't pay close attention to details
- Doesn't seem to listen when spoken to directly
- Is easily distracted
- Has difficulty organizing and finishing tasks
- Fidgets with hands and feet; has difficulty remaining seated
- Runs about or climbs excessively when inappropriate (seems "motor-driven")
- Talks continually
- Interrupts conversations and intrudes upon other kids' games
- Avoids tasks that require sustained mental effort (e.g. schoolwork, homework, games)
- Does things that are dangerous without thinking about possible outcomes

Behaviors generally started to being observed before age 7. Symptoms need to be present in at least two places, e.g., at school, home, community, childcare setting, and for at least 6 months. They should occur more often and be more severe than for other kids of the same age or developmental level.

2.2.3 Road Accidents

Each year there were 60,000-70,000 accidents with 11,000-12,000 deaths or a mortality rate of 18.8-19.5 per 100,000 populations. (31). Since the primary school aged children are physically glowing steady in height, weight and body strength, these child acts vividly outside with their friends. It is necessary for the school to conduct the class to teach students what kind of rule they should follow to avoid the road accidents especially during the way between the school and the house. The Table2 presents the number and percentage of mortality among Thai children due to road traffic accidents.

Table 2 Number and Percentage of Mortality from Road Traffic Accidents

Age group	1999		2000		2001	
	No.	%	No.	%	No.	%
0-4	254	2.2	287	2.2	243	1.9
5-9	261	2.3	287	2.2	256	2.0
10-14	300	2.6	387	2.9	356	2.7

Source: Department of Local Administration, Ministry of Interior 2001 (36)

2.3 Precede – Proceed Model

The PRECEDE-PROCEED Model is a planning model designed by Lawrence Green and Marshall Kreuter for health education and health promotion programmes. (34) The name of the model, PRECEDE-PROCEED is respond to the 9 phases of the framework. PRECEDE means "come before" and an acronym for Predisposing, Reinforcing, Enabling, Causes in, Educational Diagnosis and Evaluation, whereas PROCEED means "continue after" and is an acronym for Policy, Regulatory, Organizational Constructs in Educational and Environmental Development. The goals of the model are to explain health-related behaviors and environments, and to design and evaluate the interventions to influence both the behaviors and the living conditions. This model has been applied, tested, studied, extended, and verified in over 900 published researches in community, school, clinical, and workplace settings over the last decade (37).

The Nine Phases of PRECEDE-PROCEED Model

PRECEDE-PROCEED Model is composed by 9 major phrases. The first 5 steps、PRECEDE part, involve assessment of the health, social and environmental issues and last 4 steps、PROCEED part, involve program implementation and evaluation designed to intervene (37).

Phase 1 - Social Diagnosis:

It is also called social assessment and used to define subjectively quality of life in terms of priorities and problems of targeted population. It can be best accomplished by involving individuals in the target population in self-study of their needs and aspirations. Some of the social indicators are as follows; absenteeism, crime, discrimination, happiness, riots, self- esteem, illegitimacy, unemployment, and welfare (38, 39).

Phase 2 - Epidemiological Diagnosis:

Planner use data to identify and rank the health goals contributing to needs observed in phase 1.That data may be disability, discomfort, fertility, fitness, morbidity, mortality, and physiological risk factors and their dimensions (distribution, duration, functional level, incidence, intensity, longevity, and prevalence). Ranking health problem in this phase is important as scarce resources will not allow dealing with all or multiple problems. This phase is also used to plan health program.

Phase 3 - Behavioral & Environmental Diagnosis:

It is used for determining and prioritizing the behavior and environmental risk factors for linking with health problems selected in phase 2. They can be behavior or action of individual, group or community. Behavioral indicators include things as compliance, consumption pattern, coping, preventing action, self-care and utilization. These indicators can be expressed in frequency, persistence, promptness, quality and range. Environmental factors are outside the individual and can be modified to support behavior, health and quality of life. Example of environment indicators are; economic, physical, services, and social and their dimensions (access, affordability, and equity). In figure 2, arrows connect both of the boxes in phase 3 with phase 1, and 2. If model is applied to some thing other than health, the arrow from phase 3 to phase 1 will represent the skipping of phase 2 (37, 38).

Once identified the risk factors and conditions, they are required to being prioritized. This can be done by first ranking the factors or conditions by importance and changeability.

Phase 4 - Education & Organizational Diagnosis;

It identifies and classifies hundreds of factors that can affect the behavior into three types; predisposing, reinforcing and enabling factors: **Predisposing factors** include knowledge and affective traits such as human attitude, values, beliefs and perceptions. These factors can facilitate or hinder person's motivation and can be altered through communication. Barriers or vehicles created by society or system make up **enabling factors**, which include access to health care facilities, availability

of resources, referral to providers, enactment of rules and laws and development of skill. **Reinforcing factors** comprise of feedback and rewards that target population receive after behavioral change. Reinforcing behavior can be delivered by family, friends, peers and teachers. Social benefits such as recognition are reinforcing factors (37, 38).

The critical element of this phase is the selection of the factors which if modified, will be most likely to result in behavior change. This selection process includes identifying and sorting (positive and negative) these factors in appropriate category, prioritizing factors among categories, and prioritizing with categories. Prioritization of factors is based on relative importance and changeability. Learning objectives are then developed which focus on these selected factors (37).

Pinpoints the factors that must be changed to initiate and maintain behavioral change. It is during this phase that specific intervention objectives are created and the intervention itself will be implemented (37).

Phase 5 - Administrative & Policy Diagnosis:

Planner determines the capabilities and resources are available to develop and implement the program. It is between phase 5 and 6 that PRECEDE ends and PRECEDE starts but clean break between two can not be determined.

Phase 6 – Implementation:

With appropriate resources in hand planner select the method and strategy of intervention and implementation starts.

Phase 7 - Process Evaluation, Phase 8 - Impact Evaluation, Phase 9 - Outcome Evaluation:

Phase 7, 8 and 9 focus on evaluation, process, impact and outcome respectively and are based on the earlier phase of the model, when objectives were outlined in assessment process. Whether all these three phases are used depend on the requirement of program and availability of resources.

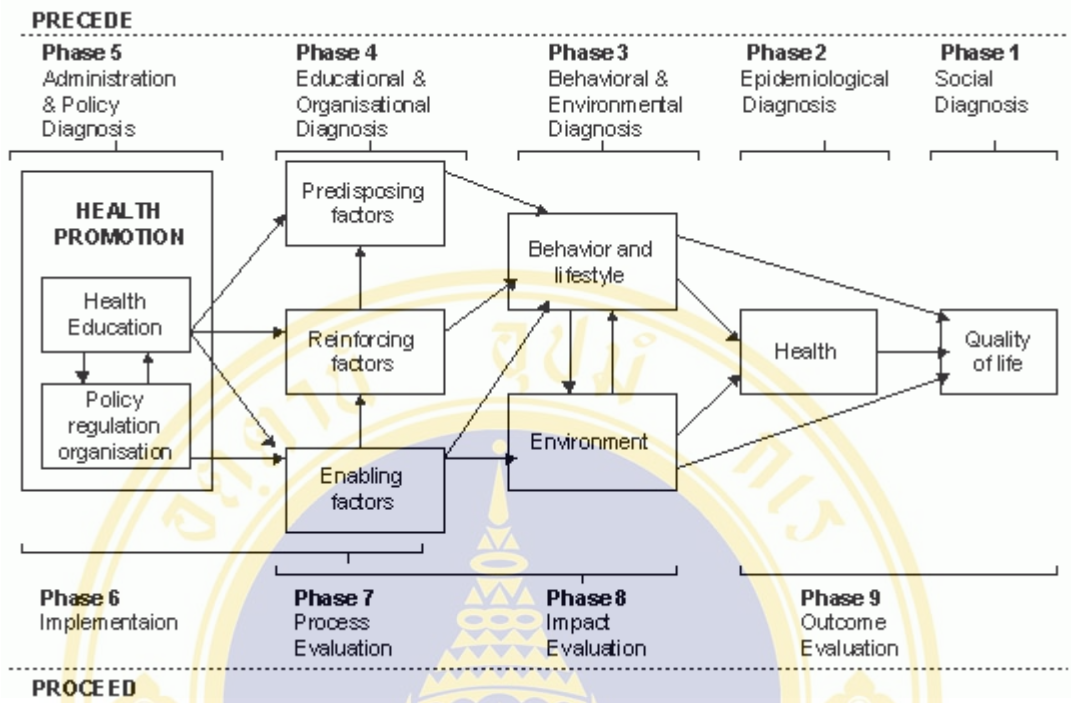


Figure 5 Precede-Proceed Model

Source: Green.W.L Health Promotion Planning (37)

In conclusion, this study focuses at phase 4 among 9 phrases of PRECEDE-PROCEED described above. This phase 4 represents independent variables and will be related to Phase 3 which is revealed by 4 functioning of quality of life. 4 functioning are 1) emotional, 2) physical, 3) social and 4) school functioning. And finally Phase 1 and 2 will be figured by Quality of life total score assessed by the students themselves using standardized instrument, PedsQL ^{TM} developed by Varni.J.W.

2.4 Literature regarding the studied variables

2.4.1 Literature regarding the Quality of Life

Quality of life of primary school children means the degree to which school children evaluate the impact of a physical and psychosocial condition and its treatment on his/her dairy life. More simply we can say that quality of life means how one feels good with his own life. Since the perception and experience of each

individual differ from person to person, it is important that quality of life is to be accessed by himself, but not by the other people who is not the 'owner' of that life.

As shown in several researches conducted by Aeamlaor.S in Thailand (40), Mona E. M (29) and Manificat S (41) in USA, school-age child can evaluate his/her own quality of life by answering the questions which assess quality of life. Though the number of questions and contents are different according to the research objective, all the researches include the questions regarding the health status of the child.

Mona E. M used PedsQL^{TM} to assess the quality of life in urban elementary school children in USA. The mean score of 5th grade students were **73.9** with p-value 0.0001 (29). These young urban children rate their quality of life below that of children with known chronic physical health conditions in populations tested by Varni.J.W, the developer of the tool. Healthy children in Varni's study had mean total scores of **83**, and children with acute and chronic health conditions had means of 79 and 77, respectively.

Mona E studied parent perception of child health status as well without using parents' version of PedsQL^{TM} but assessed with the following single and direct question, "In general, how would you rate [child's name] health ... excellent, very good, good, fair, or poor?" The percentage distribution of response by Parental perception child health status is Excellent 38.2%,Very good 30.7%,Good 24.6%,Fair 6.1% and Poor 0.4%

2.4.2 Age and grade of the child

The age difference of the child may have significant effect on the difference in quality of life scores assessed by the child because of several reasons. One of the reasons is that the quality of life is assessed by the child himself according to his/her perception and experience which glow each year rapidly during the primary school age period. When child moves up the grade and become older, she is more independent and more critical (42).

Manificat S.conducted the study on quality of Life in 4 to 12 year old children using the instrument; the Autoquestionnaire Enfant Imagé questionnaire (AUQUEI: child pictured self-report) .The result revealed that some significant differences in the

outcome, quality of life in scale of satisfaction ($p < 0.05$), was related to the child's age (41). In the study, the younger age tended to mark higher score in their quality of life.

As the previous study conducted by Mona E.M. in 2003 for urban primary school in the United States revealed, child grade was also positively associated with the child's perception of quality of life total score measured by PedsQL^{TM} (29).

As the research shows, quality of life of child could vary by the age of the child and grade of the child. These data would help guide policy and program planning of health promotion enhancing their quality of life more effectively and more appropriate.

2.4.3 Gender of the child

The gender difference of the child, male or female, might have effect on the score result of the quality of life which assessed by children. In terms of health behavior, the proportion of proper behaviors tends to be higher than in male and the preventive behaviors change earlier in female than male. For example, Tomono et al reported in 2003 that boys in 3 to 5 grade wore shoes less compared to girls significantly in Thailand (43).

Their way of assessing their quality of life might be also different by their gender especially when we select the assessment tool which focuses on child's objective quality of life like this study. The previous study conducted in urban city of USA conducted by Mona et al in 2003 showed that male children reported slightly better quality of life than female children. The mean score in quality of life was 68.7 and 65.5 for male and female respectively (29).

2.4.4 Birth Order

The birth order of the child or pattern of having the siblings has a different impact on their character building process. Pruitt.B.D. described in his report prepared in 1998 that children could be engaged in the learning process through activities such as helping to care for younger siblings (42). Therefore, this will effect on the child behavior that has younger siblings. For the younger sibling, as child expert, Hawas H.

mentioned in 1997, they often spend more time with older children and as a consequence, the younger one admires the older siblings, and tried to follow them and copy what they do (45).

2.4.5 Family types

Family types which child living with could influence on child's quality of life. In this study, there are two types of family as nuclear or extended families. When child live in extended families, he/she tend to have more adults who supervise them and it affect on children to build up their health habit and so on. In 2000, Cuhallier B did research on harmful behavior in teenagers of Germany and the result showed that presence of the adult at home had significant association with adolescent's harmful behavior such as tobacco and alcohols takings (46). The subjects of this study is not adolescent though, the primary school age is the period of construct its life style and behavior which will be the base of the life as an adolescent later.

2.4.6 Parents' occupation

Mona E. M. et al revealed in their study in 2003 that full-time employment of the "parent" was associated with better quality of life compared with "parents" with part-time or no employment (29). If parents of the child have no regular job or not being employed, it often means that the family does not have regular income source. The study conducted by Samithtikarn S shows that low income of the family affected on quality of life of school aged children negatively (47).

Whereas, study in Germany conducted by Cuhallier B in 2000 shows that mother as a housewife has positive effect on the child's behavior (46). The result of the study revealed that a child who has the housewife mother has less prevalence of harmful behavior such as tobacco and alcohol taking when the child becomes adolescent (46).

2.4.7 Parents' educational level

As many studies have already revealed, mother's educational background has a strong relationship with health status of the child. The higher the mother's

educational level become, the better health status her child has, and therefore, many projects in developing countries put more efforts for raising the level of girls' education to promote the social development with particular reference to such factors as infant mortality and fertility control, or improvement of general nutrition and hygiene (48).

Samithtikarn.S studied the quality of life of school age children with chronic illness in Thailand, and the research indicate that there was a significant positive correlation between the educational level of the mother with the quality of life of her children (47).

The study by Mona E. M. et al presents that mean score for quality of life among primary school students did increase with each higher level of parental education. (29) One of the reasons is that educational level may impact parental health-seeking behaviors and access to care. However, the researchers themselves admit that limited variability in educational status within their sample (only 3.4% who completed college) may have contributed to inability to detect a significant difference.

In this study, the researcher sets the hypothesis that the educational status of both parents may have positive effect on quality of life of children. The result regarding this issue may contribute for future study.

2.4.8 Nutritional status

Thailand is facing a child obesity epidemic with children spending so much time watching television and attending special tutoring sessions that they fail to burn off enough energy. The problem is particularly worrying in Bangkok, where 11.8 percent of children under the age of 18 are now deemed to be overweight, a figure which is 1.8 times higher than in rural areas (33).

Fiveash.B.L conducted the study to determine quality of life status of primary school students in USA and their obesity. In her study in 2003, significant positive associations were found between school functioning of quality of life and obesity, and between social functioning and obesity（49）.

Apart from its effect on child's self-perceived quality of life, obesity acquired during childhood may persist into adolescent and adulthood and increase risk later in

life for coronary heart disease, diabetes, gallbladder disease, some types of cancer, and osteoarthritis of the weight-bearing joints.

Underweight is also the nutrition problem among this school age group. A survey which weighed Thai primary school students nationwide in the 2001 school year found that 11.5 per cent of them were underweight for their age. An estimate from this data shows that there are approximately 2 million children aged 5 - 14 whose weight is below the standard weight for age (31) Nutrition plays a vital role in children's survival and development and nutritional deficiencies (protein-energy malnutrition, iron, Vitamin A, and iodine deficiency) affect school participation and learning (32).

As part of a school health program, school meal programs can be a source of healthy foods to students (who may not have other regular sources of food) and can promote daily attendance, class participation, and academic achievement. In addition, schools can teach nutrition education as part of health education curricula to help students develop the knowledge, skills, and behaviors needed to foster lifelong healthy eating habits.

2.4.9 Academic performance

Academic performance refers to the academic achievement in the school presented as GPA. According to the survey conducted by UNICEF in East Asia and Pacific Region, it is shown that 14% of child in Thailand responded as "I felt sad when I did badly in school" to the question asking "When do you feel sad?" (50). Academic performance effect on the child's self-esteem. Since GPA clearly presents the level of the child's academic grade and categorize students clearly into excellent, good, fair or poor, some students take it as if it is a value of them.

Though there is no clear evidence to show the relationship between quality of life and GPA, the researcher would like to test the hypothesis that GPA may negatively effect on Quality of life of the child psychosocially.

2.4.10 Self-esteem

Mruk.J.C states that since self-esteem is such a fundamental topic for psychological research, theory and practice that its root go back to at least 1890 (51) and various studies on this topic are still going on.

He also points out that self-esteem can be both dependent and independent variables according to the research design. As in this research, self-esteem can be an independent variable as the cause of behavior or quality of life. The research conducted by Cuhallier B et al revealed that students who have the low self-esteem more likely to report much lower quality of life (46).

On the other hand, self-esteem can be also dependent variable that is the result of a person's socio-cultural characteristics such as a gender, academic background and social class. Coopersmith.S. argues in his book published in 1967 that birth order can have an impact of self-esteem (44). According to his study, being firstborn slightly enhances the possibility of developing positive self-esteem. Also he showed that parental effect on developing child's self-esteem. For instance, parents who are indifferent toward their children, or parents who are absent frequently or absent for long period of time, tend to have children with lower levels of self-esteem. Pruitt.B also studied that children who have high self-esteem are more likely to have close, affectionate relationship with their parents than those who do not (42).

Identifying which characteristics of the child make difference on their self-esteem could help school teachers to understand their students better, and studying relationship between self-esteem and Quality of life would enable school administrator to establish school programme which can help create a supportive and caring school environment and provide students with knowledge and skills they need to develop positive self-esteem.

2.4.11 Financial Allocation by family

Primary school age is the time when children aware of some of financial realities. This is also the time when they can save their money to buy something more costs than they have. Therefore, many parents start to give their child some financial allocation establishing weekly payday or spending rules. For example, some parents may not allow their child to spend money for sweets or soft drinks.

The money allocation given by family members to the child implies the economical situation of the family and their way of educating the child. The study conducted by Samithtikarn.S in Thailand in 1998 revealed that there is a significant positive association between family income and Quality of life of school age children (47). Therefore, if we assume that financial allocation towards child is influenced by the family income in some degrees, we may find that some association between financial allocation and Quality of life of school child.

In Thailand, most of primary school aged children get the allocation from the family on dairy or weekly base but not in monthly basis. Too much amount of allocation also may induce the child unhealthy behavior such as taking a lot of soft drink, sweets and so on. Primary school students should not have a large amount of money so that they can think and help themselves to plan and decide how to spend their money.

2.4.12 Family Crisis

Family crisis means the problems encountered by student in the past or present e.g. divorce, habitual sickness of family member, severe accidents, debts. These crises have effect on the children's cognitive development since this primary school age is the period of major cognitive development.

Aeamlar.S conducted the research on quality of life among primary school aged children infected by HIV in 2001. The result revealed that 50 children (96.16%) of the subject had quality of life at a good level because of having good relationship with their guardians even though they were suffered from illness (40). It shows that the potential of child and importance of how to deal with children which can positively effect on Quality of life of those with problems.

2.4.13 Rewards from the parents

Rewards from the parents refer to any rewards given to the child because of his/her good performance or behavior. Such rewards act as the motivator for child's positive attitude. For example, the acknowledged words from their parents or gifts given by the parents provide the child with attention and it encourages the child toward positive behavior.

Qualitative research conducted in Thailand revealed that even orphaned children marked good quality of life if they did not feel that they were neglected (40). This result showed the importance of attention from parents towards students and parent's positive attention affects on the quality of life of children, especially in psychosocial perspective of quality of life.

However, as already recognized by the society, parents' attention can also take the negative form such as trying to control child in the strict manner, physical punishment or even extend to the child abuse. Although it varies in degree, these behaviors are often observed among the authoritarian parenting style. Needless to say, these kinds of behavior affect developing character of child in negative way. Also, it is clearly acknowledged that some parents spoil their child by just giving what child wants and provide less teaching of discipline as common phenomena among permissive parents.

However, generally speaking, children are more likely to do well if their parents encourage their work and acknowledge their efforts. The child who feels "dump" in school especially needs his parents to recognize and appreciated the ways that he is smart (42). Parents may not change their children's performance immediately, though, changing attitude towards the child can cause the positive effect on their child. In this study, the researcher asks the student about the positive form of parents' attention which may effect on their better quality of life such as rewards or acknowledgement towards child's good behavior or accomplishment with the expectation of that difference between these factors give some idea to find the way to foster better quality of life of the children.

2.4.14 Acknowledgement in the school

Acknowledgement in the school refers to the any types of acknowledgement towards the child due to his/her positive attitude or behavior such as a position as a class leader, prize given by the classmates or teacher. Such rewards act as the motivator for child's positive attitude and feeling of connection with the school. During primary school, peers are becoming increasingly important and children place more and more conscious about being accepted by their peers. As they mature, children at this age are also developing an increased capacity to make more accurate comparisons between themselves and others. Even she is a good student, she is

becoming aware that she is not the best student in her class or the most popular child. Children during this middle childhood can begin to have doubts about themselves. Children tend to decide that they are good enough on the basis of their competence and whether they are accepted by others (42). Therefore, acknowledgement by their classmates or teachers could have strong effect on developing their quality of life from the perspective of their psychosocial and school functioning.

Some studies have shown that academically success schools are not necessarily more modern nor do they have better trained teachers, rather, they have teachers who use praise more often than punishment, and give students more responsibility in the class such as class leader and different roles (42).

Students have different background and family environment, however, school is the shared environment and equal opportunities for them to realize their importance. Therefore, it is important for the school to put more efforts to find the strong point of each student and support him to develop his strength.

Conclusion:

As described in this chapter, there are several different tools to assess the quality of life of primary school children and different factors which may have influence on children's quality of life.

The researcher selected the standardized assessment tool for assessing quality of life and adapted Precede-Proceed Model to categorize various factors into three as Predisposing factors (age, gender, birth order ,grade of class, nutritional status, academic performance, self-esteem ,financial allocation by family), Reinforcing factors (rewards from the parents, acknowledgement in the school and Enabling factors (family crisis, family type, father's occupation, mother's occupation, father's education level, mother's education level).

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Study Design

This study is a cross-sectional study with the objective of determining factors related to the quality of life among primary school children living in Bangkok, Thailand.

3.2 Study Population

The target population of this study is primary school children aged between 10 to 12 living in Bang Kaen district, Bangkok Metropolis, Thailand.

3.3 Sampling Technique

Sampling procedure consists of the following three steps.

1. Selected by purposive sampling of one elementary school in Bang Kaen district.
2. Simple random sampling to select 8 class rooms from Grade 4 to 6.
3. Take all the students (<13 years old) attending to the selected class rooms.

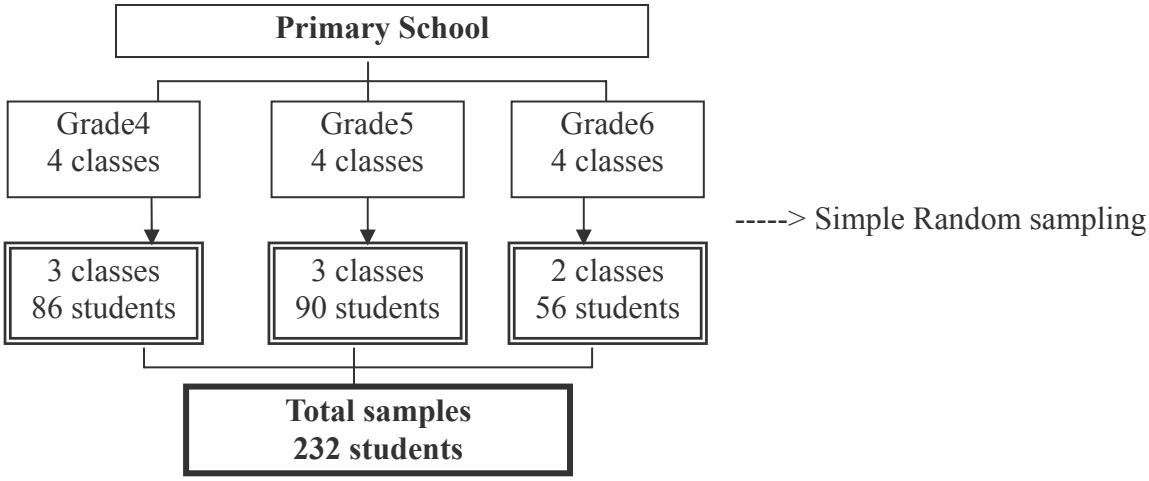


Figure 6. Sampling procedure for the study

3.4 Sample Size Estimation

The sample size was calculated by using the statistical formula of "Estimating a population proportion with specified absolute precision" from sample size determination in health studies, a practical manual written by Lwanza SK in 1991 (52). The following formula was applied from his book (52).

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

n = the desirable calculated sample.
$Z_{\alpha/2}$ = 1.96 (95% confidence level for two sided test)
P = Proportion of students with low quality if life (17%)
d = Degree of accuracy desired setting at (5%)

P value was obtained from research result in USA, 2003 to assess quality of life among 2673 primary school students who are English-,Spanish-,Vietnamese-, Korean-, or Catonese-speaking. This research was conducted by Varni W.J using same assessment tool, PedsQL with this research (28).

$$n = \frac{(1.96)^2 (0.17)(0.83)}{(0.05)^2}$$

n =216.81

In case of missing data, 5% was added to the required sample size. Thus total required sample size is 228, and actual collected sample for the research was 232.

3.5 Research Instrument

The data will be collected by using a structured questionnaire related to factors affecting quality of life among primary school children. The questionnaire is divided into four parts as following.

Part I. Predisposing Factors is consisted of Socio-demographic characteristics of children such as age, sex, birth order, grade of class, nutritious status, academic performance, financial allocation and self-esteem.

Part II. Enabling Factors consists of the questions regarding family crisis, family type, father's occupation, mother's occupation, father's education level and mother's education level.

Part III Reinforcing Factors consists of the questions regarding rewards from the parents and acknowledgement in the school.

Part IV Quality of life consists of the PedsQL ^{TM} questionnaire developed by Dr. Varni.W.J. This questionnaire is composed by the 23 items in 4 domains encompassing: 1) Physical functioning (8items), 2) Emotional functioning (5items), 3) Social functioning (5items), and 4) School functioning (5items). Respondent select one answer from 5 scales and these are transformed into 0-100points as Never=100, Almost Never=75, Sometimes=50, Often=25 and Almost Always =0, so that higher scores indicate better Quality of Life (12). To calculate Quality of life, the mean is computed as the sum of the items over the number of items answered.

3.6 Validity and Reliability

Before processing to the data collecting process, the researcher submitted questionnaire sheet to experts in order to check the validity of content. Then, the questionnaire was adapted in according to the comment and suggestion given by the expert, then proceed to the pre-testing of the questionnaire with small sample of 30 primary school children of the public primary school in Bang Kaen district, Bangkok metropolis. The questionnaire was pre-tested for its reliability by using Cronbach's Alpha method which revealed the result as follows, thus it revealed as being reliable to use for the study.

- Quality of Life =0.80
- Self-esteem=0.64

3.7 Data Analysis

The data analysis was conducted using Minitab Release 14 version program. Variables are described by using for descriptive statistics as frequency, percentage, mean, SD, minimum and maximum. Chi-square was used to test the association between independent and dependent variables.

CHAPTER 4
RESULTS

This study was conducted using self-administered questionnaires and latest school records to investigate quality of life among urban primary school students and the association between predisposing factors, enabling factors and reinforcing factors, and child's quality of life. Respondents were 232 primary school students attending grade 4, 5 and 6 classes, and their ages were between 9 to 12 years old. The results from the study are presented in 7 parts as follows.

1. Predisposing factors
2. Enabling factors
3. Reinforcing factors
4. Quality of life among primary school students in Bang Kaen district, Bangkok.
5. Association between predisposing factors and quality of life among primary school students
6. Association between enabling factors and quality of life among primary school students
7. Association between reinforcing factors and quality of life among primary school students

4.1 Predisposing factors

4.1.1 Age of student

Ages of students in this study were from 9 to 12 years old. Thirty six percent of them were 10 years old, 30.2 % were 11 years old. Only 6.5 % were 9 years old, Average age was 10.78 years old. (Table 3)

4.1.2 Gender of student

Table 3 showed that 51.3 % of students were male and 48.7 % were female.

4.1.3 Birth order of student

The range of the birth orders of students was from the first to sixth born. Table 3 showed that nearly half of students (50.9 %) were the first born children. Among them, 7.8% did not have any sibling. The second largest group was those who were the second born (34.9%).

4.1.4 Grade of the class of student

Table 3 showed that number and percentage of students by their grade of classes. The result showed that 86 students (37.1%) were from grade 4, 90 students (38.8%) for grade 5 and 56 students (24.1%) for grade 6.

4.1.5 Nutritional status of student

4.1.5.1 Weight for height of student

Students were divided into three groups as thin, normal and obese, based on the classification of Thai standard. As described in table 3, the result revealed that 74.6 % of students were in normal nutritious status. 13.8 % were thin and 11.7 % were obese.

4.1.5.2 Height for age of student

Table 3 showed that most of students (84.5%) were in normal group in their height for their age. 6.9% of students had the short height for age and 8.6% were tall for their age.

4.1.6 Academic performance of student

As table 3 shows, 51.7 % had moderate level of GPA score, 11.2% with low score of GPA and 37.1% with high GPA. The minimum score was 1.2 and the highest was 4.0.

4.1.7 Financial allocation by family

Students responded the amount of financial allocation by their family. Average amount was 30.67 baht per day. Minimum amount was 10 baht and maximum amount

was 80 baht. Students were divided into two groups as : 1) receiving higher amount and 2) lower amount. Table 3 displays 62.9% of students were receiving lower amount of money by their family compared to the other students in same grade and 37.1 % of students received higher amount. Average amount were varied by their grade of classes as 25.17 baht dairy for glade 4 students, 32.19 for grade5 students and 36.66 baht for grade 6 students.

4.1.8 Self-esteem of student

To assess self-esteem, 10 questions with 4 scales were asked to students. Total score of 10 questions is 40points. Responses for negative questions were converted when it was scored so that higher score means higher self-esteem. The average score of self-esteem was 31.79. The highest score was 39.0 and the lowest was 20. As table 3 shows, most of students (69 %) had moderate self-esteem, while 15.5 % had low self-esteem and 15.5 % had high self-esteem. Among 10 items questions, for the question asking “If they could, my parents would trade me in for another child”, most of students (75%) responded “Strongly disagree”. For the question asking whether “I often feel unwanted” or not, 26% of students responded either “strongly agree” or “agree” (Table 12 in Appendix-A) Another important result was that half of students said “my parents expect too much of me”(Table 11 in Appendix A).

Table 3 Number and percentage of students by Predisposing factors

Predisposing factors	Number (n=232)	Percent
Age (years)		
≤ 10	99	42.7
11	70	30.2
12	63	27.1
Mean ± SD= 10.78 ± 0.921	***min: 9***	***max: 12***
Sex		
Male	119	51.3
Female	113	48.7
Birth order		
1st born	118	50.9
2nd born	81	34.9
Later than 3rd born	33	14.2
Mean ± SD= 1.64 ± 1.043	***min:1***	***max:6***
Grade of class		
Grade4	86	37.2
Grade5	90	38.7
Grade6	56	24.1
Nutrition status in weight/height		
Thin	32	13.8
Normal	173	74.6
Obese	27	11.6
Nutrition status in height /age		
Short	16	6.9
Normal	196	84.5
Tall	20	8.6
Academic performance (GPA)		
Low	26	11.2
Moderate	120	51.7
High	86	37.1
Mean ± SD=2.81 ± .612	***min:1.2***	***max:4.0***
Financial allocation / day (baht)		
Lower than average	146	62.9
Average or Higher	86	37.1
Mean ± SD= 30.67 ± 12.63	***min:10***	***max:80***
Self-esteem		
Low	36	15.5
Moderate	160	69.0
High	36	15.5
Mean ± SD=31.7974 ± 3.59863	***min:20***	***max:39***

4.2 Enabling Factors

4.2.1 Family type

Regarding the family type of students, they were divided into two groups as nuclear and extended family. As table 4 presents that most of students (67.7%) lived with extended families, whereas 32.3% were staying with nuclear family.

4.2.2 Father's occupation

The result revealed that he largest group of father's occupation was private employee (40.9% of student's fathers) following 23.3 % for government employees. Table 4 shows 4.3% of fathers do not have any occupations.

4.2.3 Mother's occupation

As for mother's occupations, Table 4 presents that the large groups were private employee (27.2%) and vendor (29.7%). Housewife was the third largest group (18.1%). Approximately 8 % were working as government employees.

4.2.4 Father's education level

Regarding the father's education, largest number of group was those who have completed their high school level education. (39.2%) Among the fathers, 6.9% obtained their university degree or higher education level (Table 4).

4.2.5 Mother's education level

As to mother's education level, Table 4 presented that one third of mothers completed their education up to high school education and 9.1% have bachelor's degree while 0.9% mothers are illiterate.

4.2.6 Family Crisis

Regarding family crisis, ten kinds of crisis (jobless, severe illness, drug addiction, death, jailed, divorce, separation, violence, natural disaster, conflict with neighbors) were asked to students. Most of students (52.2%) did not encounter with any family crisis, however, 28% had encountered with one of family crisis as shown

in Table 4. Among the different types of crisis, 5.6% had the problem of jobless and 1.7% with drug addiction. The largest family crisis was the divorce or separation of parents. The result revealed that 15.9% of students had encountered either divorce or separation of parents (see Table 13 in appendix A).

Table 4 Number and percentage of students by family characteristics

Family characteristics	Number (n=232)	Percentage
Family type		
Nuclear family	75	32.3
Extended family	157	67.7
Father's occupation		
None	10	4.3
Government Officer, Employee	54	23.3
Private Officer, Employee	95	40.9
Laborer, Farmer, Planter	28	12.1
Vendor	33	14.2
Others such as drivers etc	12	5.2
Mother's occupation		
None	42	18.1
Government Officer, Employee	19	8.2
Private Officer, Employee	63	27.2
Laborer, Farmer, Planter	28	12.1
Vendor	69	29.7
Others such as drivers etc	11	4.7
Father's education level		
Less than primary	0	0
Primary	53	22.8
Secondary (Mathayom1-3)	42	18.1
High school education (Mathayom 4-6)	91	39.2
Vocational School	21	9.1
Bachelor or higher than this	23	9.9
Do not know	2	.9

Table 4 Number and percentage of students by family characteristics (cont.)

Family characteristics	Number (n=232)	Percentage
Mother's education level		
Less than primary	2	.9
Primary	84	36.2
Secondary (Mathayom1-3)	26	11.2
High school education (Mathayom 4-6)	81	34.9
Vocational School	16	6.9
Bachelor or higher than this	21	9.0
Do not know	2	.9
Number of encountered family crisis		
None	121	52.2
1 crisis	65	28.0
≥2 crisis	46	19.8
Mean ± SD=0.8233 ± 1.11998	***min: 0***	***max: 5***

4.3 Reinforcing Factors

4.3.1 Rewards from the parents

Table 5 presents that 65.1% of students responded that they received moderate rewards from the parents, while 21.1% had the low level of rewards from the parents and 13.8% had the high level of rewards from the parents. Thirty-six percent of students responded that they received admiration/gift/money from their parents "sometimes" if they did well in examination, while 44.6 % said they "never" or "almost never" received such kind of rewards or praise from their parents. Remaining one fifth of students responded "often" or "almost always" received such a kind of rewards from the parents. Another question showed that most students (84.5%) studied hard because they want to make their parents feel happy while 15.5 % of students responded "never" or "almost never" did study hard to make their parents happy (see Table 12 in appendix.A).

4.3.2 Acknowledgement in the school

Table 5 showed that 60.3% of students answered that they had moderate levels of acknowledgement in school, 23.3% students said they were with low level of acknowledgement and 16.4% with high level of acknowledgement in school. The result revealed that 74.2% of students "never" or "almost never" took the leadership role in the class and more than 80% of students "never" or "almost never" felt like they were important students in the class (Table 12 in appendix.A).

Table 5 Number and percentage of students by reinforcing factors

Items in reinforcing factors	Number (n=232)	Percentage (%)
Level of rewards from the parents (score)		
Low (<7.1)	49	21.1
Moderate (7.1-12.17)	151	65.1
High (>12.17)	32	13.8
mean ± S.D=9.6336 ± 2.5396	***min=3***	***max=15***
Level of acknowledgement in school (score)		
Low (<3.33)	54	23.3
Moderate (3.33-8.23)	140	60.3
High (>8.23)	38	16.4
mean ± S.D=5.7845 ± 2.4523	***min=3***	***max=14***

4.4 Quality of life

The study revealed that most students (66.8%) marked a moderate level of quality of life. Table 6 showed that 17.7% students were with a low level of quality of life and 15.5% with a high quality of life. The percentage of those students who marked the low quality of life (17.7%) is slightly higher than those who marked the high quality of life (15.5%).

Among 23 items of questions, for the item in physical scale asking "I have low energy", half of students (52.7%) responded as "I **never/almost never** feel that I have low energy", 28.9% of students responded "**sometimes**", and only 5.5% responded either "I **often/almost often** feel that I have low energy". Regarding the question asking about school absenteeism, 5.2% answered that they missed school because of not feeling well (see Table 15 in appendix.A).

Table 6 Number and Percentage of quality of life among children

Level of Quality of life	Number	Percentage
Low	41	17.7
Moderate	155	66.8
High	36	15.5
Mean=72.1702 SD=10.92015	***min: 41.30***	***max: 97.83***

4.4.1 Different dimensions of Quality of Life among Primary School Students

PedsQL ^{TM} 4.0 was used to assess the quality of life of students. The characteristic of this inventory is that it consists of two dimensions of quality of life as physical health and psychosocial health. As Table 7 presents, 16.4% of students were at the risk of impaired **physical** health quality of life, while 14.7% students were at this level in **psychosocial** quality of life. Psychosocial quality of life can be further divided into three functioning as Emotional functioning, Social functioning, School functioning. If we examine each items regarding these three functioning, for the item in emotional functioning asking whether "feel afraid or scarced", 53.6% of students responded as "never" or "almost never" feel afraid or scared, while 35.8% responded "sometimes" (Table 15 in appendix.A). Regarding to the items of social functioning, 23.7% students responded they had sometimes troubles with getting along with other students, while 70.7% said "almost never" or "never" had such kind of problems and 5.6% said "always" or "almost always" trouble with getting along with other students (Table 15 in appendix.A). For the item in school functioning, few students (7%) said they had the problems of keeping up with schoolwork while 54.7% reported they "never" or "almost never" had such kind of problem and remaining 38.4% students responded they "sometimes" had problems of keeping up with schoolwork (Table 15 in appendix.A).

Table 7 Number and Percentage of Quality of life by two dimensions

Level of Quality of life	Physical Health		Psychosocial Health	
	Number	%	Number	%
Low	38	16.4	34	14.7
Moderate	157	67.7	158	68.1
High	37	15.9	40	17.2

4.5 Association between Predisposing factors and quality of life

In order to determine the association between predisposing, enabling and reinforcing factors and quality of life status, cross-tabulation and chi-square tests were conducted.

4.5.1 Age of student

Age of students was classified into three groups as ;1) less than or equal to 10 years old, 2) 11 years old and 3) 12 years old for statistical analysis. The chi-square test was applied to see the association between the age of students and their quality of life. As shown in Table 8, there was no significant association between ages of students and their Quality of life (p-value= 0.72).

4.5.2 Gender of student

The gender of students was divided into two groups as male and female**.** As Table 8 presents, there was no significant association between gender of students and their Quality of life (p-value= 0.39).

4.5.3 Birth order of student

For the statistical analysis**,** students were divided into three groups as the first born, second born, and later than second born (Table 8). The result showed that there was no significant association between birth order of students and their quality of life (p-value=0 .31).

4.5.4 Grade of the class of student

Students were divided into three different groups according to their grades of classes attended as Grade4, 5 and 6. Analyzed by chi-square test, the result revealed that there was no significant association between grade of class and quality of life among students (p-value=0.75) (Table 8).

4.5.5 Nutritional status of student

For the statistical analysis, the nutritional statuses of students were divided into three groups as thin, normal and obese. As presented in Table 8, there was no significant association between nutritious status of students and their quality of life (p-value=0 .59).

4.5.6 Academic performance of student

For the statistical analysis, students' GPA scores were divided into three groups as low, moderate and high. The result showed that there was no significant association between students' GPA score and their quality of life (p-value=0.25) (Table 8).

4.5.7 Financial allocation by family for student

Students were divided into two groups according to the amount of financial allocation that they were receiving dairy from their family members as 1) lower amount and 2) average or more than average. Statistical analysis revealed that there was no significant association between financial allocation of students and their quality of life (p-value= 0.48) (Table 8).

4.5.8 Self-esteem of student

The level of self-esteem was categorized into three groups as 1) low, 2) moderate and 3) high. Chi-square test was used to test the association between self-esteem and quality of life. The result showed that there was no significant association between self-esteem and quality of life of students (p-value= 0.14) (Table 8).

Table 8 Association between Predisposing factors and Quality of life of students

Predisposing Factors	Quality of Life					
	Low		***Moderate***		***High***	
	N	%	N	%	N	%
Gender						
Male	19	16.0	78	65.5	22	18.5
Female	22	19.5	77	68.1	14	12.4
χ^2 ***=1.85***	***df=2***			***p-value=.397***		
Class grade						
Grade 4	12	14.0	59	68.6	15	17.4
Grade 5	17	18.9	61	67.8	12	13.3
Grade 6	12	21.4	35	62.5	9	16.1
χ^2 ***=1.89***	***df=4***			***p-value=.754***		
Age						
≤ 10	15	15.2	69	69.7	15	15.2
11	13	18.6	48	68.6	9	12.9
12	13	20.6	38	60.3	12	19.0
χ^2 ***=2.08***	***df=4***			***p-value=.720***		
Birth order						
1st born	16	13.6	82	69.5	20	16.9
2nd born	20	24.7	49	60.5	12	14.8
later than 2nd	5	15.2	24	72.7	4	12.1
χ^2 **=4.71**	***df=4***			***p-value=.318***		

Table 8 Association between Predisposing factors and Quality of life of students (cont.)

Predisposing factors	Quality of Life					
	Low		Moderate		High	
	N	%	N	%	N	%
Nutritional status						
Thin	4	12.5	21	65.6	7	21.9
Normal	30	17.3	118	68.2	25	14.5
Obese	7	25.9	16	59.3	4	14.8
χ^2 =2.79	df=4			p-value=.593		
GPA						
Low	11	27.5	21	52.2	8	20.0
Moderate	24	16.2	104	70.3	20	13.5
High	6	13.6	30	68.2	8	18.2
χ^2 =5.37	df=4			p-value=.251		
Financial Allocation						
Low	29	19.9	94	64.4	23	15.8
Moderate	12	14.0	61	70.9	13	15.1
High	29	17.7	94	66.8	23	15.5
χ^2 =1.43	df=2			p-value=.489		
Self-esteem						
Low	7	19.4	22	61.1	7	19.4
Moderate	30	18.8	110	69.4	19	11.9
High	4	11.1	22	61.1	10	27.8
χ^2 =6.76	df=4			p-value=.149		

4.6 Association between enabling factors and quality of life

4.6.1 Family crisis

Students were grouped into three for statistical analysis as 1) no crisis, 2) one crisis, 3) equal to two or more than two crisis. As described in Table 9, statistical analysis could not find any significant association between number of family crisis encountered and quality of life among students (p-value=0 .272).

4.6.2 Family type

Family types were divided into two groups as nuclear or extended family for the statistical analysis. The result showed no statistical association between family type of students and their quality of life (p-value=0.737) (Table 9).

4.6.3 Father's occupation

For the statistical analysis, fathers' occupations were categorized into two groups as skilled occupations and non-skilled occupation. The result showed that there was no significant association between father's occupation of students and their quality of life (p-value= 0.452) (Table 9).

4.6.4 Mother's occupation

For the statistical analysis, mothers' occupations were divided into three groups as housewife, skilled occupation, non-skilled occupation. The result revealed that there was no significant association between mother's occupation and child's quality of life (p-value=0 .085) (Table 9).

4.6.5 Father's education level

For the statistical analysis, fathers' education levels were regrouped into two as 1) completed up to primary education and 2) higher than that. The result showed that there was no significant association between father's educational level and quality of life among students (p-value=0.919) (Table 9).

4.6.6 Mother's education level

For the statistical analysis, mothers' education levels were regrouped into two as 1) completed up to primary education and 2) higher than that. The result showed that there was no significant association between mother's educational level and quality of life among students (p-value=0.974) (Table 9).

Table 9 Association between Enabling factors and Quality of life among children

Enabling factors	Quality of Life					
	Low		Moderate		High	
	N	%	N	%	N	%
Family type						
Nuclear family	17	17.5	67	69.1	13	13.4
Extended family	24	17.8	88	65.2	23	17.0
χ^2 =.61 df=2				***p-value=.737***		
Family Crisis						
None	16	13.2	86	71.1	19	15.7
one crisis	18	21.5	57	61.5	14	16.9
more than one crisis	7	23.9	12	63.0	3	13.0
χ^2 =5.15 df=4				***p-value=.272***		
Father's occupation						
Skilled occupations	17	20.5	56	67.5	10	12.0
Non skilled occupation	24	16.1	99	66.4	26	17.4
χ^2 =.1.58 df=2				***p-value=.452***		
Mother's occupation						
None/ housewife	5	11.9	29	69.0	8	19.0
Skilled occupations	9	11.0	58	70.7	15	18.3
Non skilled occupation	27	25.0	68	63.0	13	12.0
χ^2 =8.20 df=4				***p-value=.085***		

Table 9 Association between Enabling factors and children (cont.)

Enabling factors	Quality of Life					
	Low		Moderate		High	
	N	%	N	%	N	%
Father's last education						
≤ Primary	9	16.4	38	69.1	8	14.5
≥ Secondary	32	18.1	117	66.1	28	15.8
χ^2 = .17 df=2				*p-value=.919*		
Mother's last education						
≤ Primary	16	18.2	58	65.9	14	15.9
≥ Secondary	25	17.4	97	67.4	22	15.3
χ^2 = .05 df=2				*p-value=.974*		

4.7 Association between reinforcing factors and quality of life

4.7.1 Rewards from the parents

Regarding to the rewards from the parents, students were divided into three groups as 1) receiving low rewards from the parents, 2) moderate and 3) high based on the standard deviation. The chi-square test revealed that there was no statistical association between rewards from the parents and quality of life of students (p-value=0.163) (Table 10).

4.7.2 Acknowledgement in the school

Acknowledgement in the school was classified into three groups for statistical analysis as low, moderate and high (Table10). Chi-square test found the significant association between acknowledgement in school and quality of life of primary school students (p-value =0.32).

Table 10 presents that 26.3% of students with high acknowledgement in school possess a high quality of life, while 15.8% of them with a low quality of life.

Table 10 Association between Reinforcing factors and Quality of life

Reinforcing Factors	Quality of Life					
	Low		Moderate		High	
	N	%	N	%	N	%
Level of rewards from the parents						
Low	9	18.4	31	63.3	9	18.4
Moderate	29	19.2	104	68.9	18	11.9
High	3	9.4	20	62.5	9	28.1
χ^2 =6.53 df=4				p-value=.163		
Acknowledgement in the school						
Low	9	16.7	32	59.3	13	24.1
Moderate	26	18.6	101	72.1	13	9.3
High	6	15.8	22	57.9	10	26.3
χ^2 = 10.58 df=4				p-value=.032		

In conclusion:

From the result of the study, three major findings were revealed.

1. Majority of students (66.8%) marked moderate level of quality of life. While 17.7% of students were at the risk of impaired quality of life, 15.5% of students were at the high level of quality of life.
2. Among the several factors, there was statistical association between the acknowledgement in school and quality of life among primary school students. (p-value <0.05).
3. Association between quality of life and Predisposing factors (age, gender, birth order, grade of class,nutritious status, academic performance, self-esteem, financial allocation by family), Enabling factors (family crisis, family type, father's occupation, mother's occupation, father's educational level, mother's educational level), and rewards from the parents were not significant. (p-value =0.32).

CHAPTER 5
DISCUSSION

This study was conducted to assess the quality of life status of primary school student in Bangkok Metropolis, Thailand and test the association between their quality of life and other factors (predisposing factors, enabling factors and reinforcing factors). The findings are discussed in following five parts.

1. Research Methodology
2. Quality of life among primary school students
3. Association between Predisposing factors and quality of life among primary school students
4. Association between Enabling factors and quality of life among primary school students
5. Association between Reinforcing factors and quality of life among primary school students

5.1 Research Methodology

5.1.1 Data collecting method

The study was cross-sectional survey research which collected data from 232 primary school students aged 9 to 12 years old in Bang Kaen district of Bangkok Metropolis, Thailand. The data was collected by using self-administered questionnaires and the latest school records. The coordinator carefully explained the purpose of the study to the teachers in primary school so that teacher in each classroom can distribute and administer the questionnaires to their students. Regarding the assessment of Quality of life, several methods were taken in concerned such as questionnaires, interviews, or observational methods. For this research, the researcher selected self-administered questionnaire since that method is not only cost-effective but also relatively free from the bias of interviewers or researcher who

are adults, therefore it is more appropriate to learn children's way of perceiving their own quality of life. On the other hand there are also some disadvantages of using self-administered questionnaire. One of them is that the researcher could not make sure whether the children really understand each question or not because in the self-administered style questionnaires they can give response to the multiple-choice questions without understanding the meaning of question. Considering both of the strength and weakness of the method, the researcher applied self-administered questionnaire to study the child's way of perceiving their own quality of life.

5.1.2 Research Instrument

To assess the quality of life of primary school students, the researcher adapted the standardized questionnaire (PedsQL™ 4.0 inventory) which had been used in different countries with different cultures to find the quality of life rated by children themselves. The inventory was designed to measure quality of life in healthy children and children with acute or chronic health conditions.

The most critical question for the research on quality of life of primary school children is that who assesses the quality of life. In general, expert ratings quality of life have been favored; however, the essence of the quality of life is the self-rating method. The question of whether, and at which age, children are able to report on their feelings is currently under discussion, though in this research, the result showed that self report even in primary school age is achievable. Thai translated version was also reliable according to the Cronbach Alpha Coefficient (alpha=0.803), which was higher than 0.70 hence it is reliable.

5.2 Quality of life among primary school students

The study revealed that the most students (66.8%) had a moderate quality of life while 17.7% students a low quality of life and 15.5% a high quality of life. The percentage of those who had the low quality of life (17.7%) was little higher than those with the high quality of life. (15.5%). The reason could be due to the study location of this research, Bangkok metropolis, the largest city in Thailand. The

characteristics of urban town in contrast of those of rural area are the higher percentage of obesity and higher rate of crisis occurrence.

According to the result of descriptive statistics, among students with the low quality of life, obese students (17.1%) were nearly two times as large as thin students (9.1%) (Table 22 in appendix.A) and more than half of students with low quality of life (61%) had also encountered family crisis. (Table 23 in Appendix.A) As already mentioned by Nelson WE (30), these crises affects not only their physical quality of life but also psychosocial one since the primary school age is especially a period of major cognitive development as already described by Nelson WE (30).

Table 23 in appendix.A also shows that one forth of students with the low quality of life had an experience of moving to stay in new places and which is also occurred more frequently in urban area.

If compare the result with other country which used the same assessment tool, it shows that the percentage of low quality of life (17%) among primary school children in U.S.A was almost same as the result in Bang Kaen district of Bangkok metropolis, Thailand (16). The similarity of the result in two different countries might be due to two main reasons. The first, the assessment tool used for measure child's quality of life is designed for universal use rather than in the specific culture or countries. The another reason could be the problems faced by Thai children in Bangkok area are close to that of in developed countries, i.e. obesity, family crisis.

5.3 Association between predisposing factors and quality of life among students

5.3.1 Age of student

The percentage of students who possess the low quality of life by their age was 15.2% for 9 and 10 years old, 18.6% for 11 years old students and 20.6% for 12 years old. As described in previous chapter, the statistical test revealed that the ages of students and quality of life did not have any significant association (p-value=0.720). In the previous study conducted by Manificat S. for assessing quality of life in 4 to 12 year old children, the result revealed that children's ages are related to their quality of life and the younger age tended to mark higher assessment on their quality of life (41). One of the reasons of different outcome could be due to the range of child's age. In

this study, the range was only 3 years while the previous research of Manificat S. was 8 years.

5.3.2 Gender of student

The chi-square could not find a statistical association between gender of child and their quality of life (p-value=0.397). The reason of no association could be due to the number of children in one family. As previous chapter 4 presented, the most students (85.8%) are either the first born or the second born child in their family. It show that families living in Bangkok metropolis do not have many children in one family and therefore, the way treating the children by gender would not be much different, therefore association between quality of life and gender was not significant.

5.3.3 Birth order of student

The chi-square test result showed that there was no significant association between birth order of students and their quality of life (p-value=0.318). The reason could be due to the homogeneity of the studied sample. Most students (85.8%) are either the first born or second born, and only 14.2% students are from third born to sixth born. Since the study area was urban town in Bangkok where the people's life styles are different (late marriage, expense more cost for their living), the families have more tendency to keep small number of children and therefore, there was no association between birth order of students and their quality of life in this study result.

5.3.4 Grade of the class of student

The statistical analysis did not show any association between student's grade of class and quality of life. (p-value=0.754) In the previous study which was conducted in urban primary school of United Nations, child grade was positively associated with the child's quality of life. The results showed that 2^{nd}, 3^{rd} and 5^{th} grade students marked the average scores 62.1, 65.4 and 73.9 respectively with p-value less than 0.01 (29). The reason of different outcome between previous study and this study could be attributed to the range of grade of students. In this study conducted in Thailand, the samples were collected from 4^{th} to 6^{th} grade, only upper grades of primary school. Therefore the range of grade might be the reason of no association.

5.3.5 Nutritional status of student

The chi-square analysis did not find any statistical association between the nutritious status of students and their quality of life in this study (p-value=0.593), however the descriptive statistics showed that among students with low quailty of life obese students (17.1%) were nearly two times as much as thin students (9.1%) (Table 22 in appendix.A). The descriptive statistics of this study also showed that 11.6 % of students aged 9 to 12 years old were categorized as an obese. This figure is almost same as the one of national survey in 2001, which revealed that 11.8% of children in urban area were obese, a figure of 1.8 times higher in rural areas (31, 33).

This is due to the changes in children's lifestyles as Thailand develops its economics in very rapid pace (GDP growth 6.3% in 2003)(5). Rather than playing outside in their spare time, the urban children of today were spending their time more in watching television, listening music, eating fast food containing high quantities of sugar and fat, playing with computer, doing their homework or attending special tutoring classes.

5.3.6 Academic performance of student

Academic performance of student was assessed by student's GPA score from the latest school record. The average GPA score was 2.81. The statistical analysis could not establish any significant association between GPA score and student's quality of life (p-value=0.251), however descriptive statistics showed that of students with higher GPA score, more students (27.5%) had marked high quality of life than those with low GPA score (13.6%).

This may be due to that good quality of life can lead the promotive atmosphere for students to achieve good GPA score even it might not have the direct impact on the statistical association.

5.3.7 Financial allocation by family

Primary school age is the time when children aware of some of financial realities. Therefore, many parents start to give their child some financial allocation establishing payday or spending rules. The result revealed that all students

(232students) were receiving the financial allocation from their family members, though the amount of money was varied from 10 to 80 baht per day. The money allocation given by family members to the child could imply the economical situation of the family, which was not directly asked to the students in this research.

The result revealed that there was no significant association between financial allocation by family and child's quality of life (p-value= 0.489). The reason could be the characteristics of the financial allocation by family to the student. Financial allocation may not only reflect the economical status of family but also reflect the way of educating child in their family. Some family could be rich enough but not providing a lot of money to their child because they do not want to spoil their children. Thus, it could be the reason of no association between financial allocation from family and child's quality of life.

5.3.8 Self-esteem of student

The result showed that there was no statistical association between self-esteem of students and their quality of life (p-value=0.149). However, if examined the group of students who have high self-esteem, the descriptive statistics shows that more students (27.8%) marked high quality of life while less students (11.1%) obtained low quality of life.

This figure implies that self-esteem can be a strong factor as the cause of quality of life. The research conducted by Cuhallier B et al also revealed that students who have the low self-esteem more likely to report much lower quality of life (46).

In this research, child's self-esteem was assessed by children themselves by responding the question regarding the parental affection or feeling of them in the family. Coopersmith.S argues in his book published in 1967 that parental effect on developing child's self-esteem (44). For instance, parents who are indifferent toward their children, or parents who are absent frequently or absent for long period of time, tend to have children with lower levels of self-esteem. Pruitt.B also studied that children who have high self-esteem are more likely to have close, affectionate relationship with their parents than those who do not (42).

Therefore, if considered these characteristics of self-esteem and the study result of descriptive statistics, there can be some association between self-esteem of the child and their Quality of life.

5.4 Association between enabling factors and quality of life among students

5.4.1 Family crisis

Statistical analysis revealed that there was no significant association between family crisis and quality of Life (p-value=0.272). One of the reasons is that child with problems can also have the good quality of life if they have the strong relation with other people. Sawaree A conducted the research on quality of life among primary school aged children with HIV in 2001 and the result revealed that 96.16% of the studies subjects had good quality of life because of having good relationship with their guardians even though they were suffered from illness (40). It shows that the strong potential of child and importance of how to deal with problems effectively.

While it may true that no association was found between family crisis and child's quality of life, analyzed by different dimensions in quality of life showed significant association between **social functioning scales** (5 questions asking about social problems) and family crisis. (p-value= <0.05) (Table 23 in appendix.A) Therefore, it needs more close examination of the effect of family crisis on social aspect of child's quality of life.

5.4.2 Family type

The family types of students were divided into two groups as nuclear and extended. When child live in families having strong connections with the adult members of the family, she can be helped to build up her healthy habit through their close attention and care. In 2000, Cuhallier B did research on harmful behavior in teenagers of Germany and the result showed that presence of the adult at home had a significant association with adolescent's harmful behavior such as tobacco and alcohols takings (46).

In contrast, the statistical test did not find the significant association between family type and children's quality of life (p-value=0.737) in Bangkok metropolis, however, the descriptive statistics showed that more students with nuclear family (24%) marked high quality of life than the other group (17%). This may be due to that smaller family can supervise and pay attention closely to children. In extended family, the child may loose the attention from the parents due to many people living in same family.

5.4.3 Father's occupation

In 2003, Mona E. M et al concluded their study in USA, which showed that full-time employment of father was associated with better quality of life of the child (29).

In contrast to their previous research of Mona E.M et al (29), this study could not find significant association between father's occupation and quality of life among primary school students. This may be due to the different characteristics of the samples in the researches. Because this study was conducted based on one primary school in Bangkok , where the local residents are going to the same public school except those who can afford more expensive private schools in Bangkok, therefore, the characteristics of the families are more identical. The result showed that 81.4% of them were employed or business men while only 4.3% were not employed.

In contrast, the previous study of Mona E.M et al applied telephone and postal surveys to collect the data from various families residing in different areas (29).

5.4.4 Mother's occupation

Mother's occupation was categorized into three groups as skilled work (full-time employment), non-skilled work and housewife. The previous study in Germany done by Cuhallier B determined that mother who was housewife had positive effect on the child's behavior (46). The result also found that a child who had the housewife mother had less prevalence of harmful behavior for their health related quality of life.

However, in this study, there was no significant association between mother's occupation and child's quality of life. The distribution of high quality of life, moderate, and low were almost same in these groups. The difference between the result in this study and previous study could be due to the socio-demographic characteristics of the country. In Thailand, most of mothers are working (82.9%) and having working mother is not unusual for the children in Thailand, therefore mother's occupational style could not have significant impact on the child's quality of life. Moreover, working mother can communicate and exchange variable information for the child rearing with other people in the society.

5.4.5 Father's education level

Father's education level was classified into two groups as 1) completed or less than primary or 2) higher than primary education. The chi-square analysis determined that there was no statistical association between father's education level and child's quality of life (p-value=0.919).

However, it can be seen in the descriptive statistics that students with low quality of life was bigger in those having low-educated fathers (16.4%) than the other group (18.1%). In the previous study of Mona.E.M also presents that students who have fathers with higher education tend to mark higher quality of life. This can be due to that educational level of father may be related to their income and which makes difference on living environment for their family and children.

5.4.6 Mother's education level

Mother's education level was classified into two groups as 1) completed or less than primary or 2) higher than primary education. The statistical analysis determined that there was no significant association between mother's education level and child's quality of life (p-value=0.974). The distribution of students by their quality of life was similar between these two groups.

It may be due to the similarities of their educational level among the samples. Only 0.9% of them were illiterate, and the remaining mother completed their primary level education while those who completed up to university level were only 9.1%.

In the previous study of USA, Mona.E.M also admit that limited variability in educational status within samples (only 3.4% completed college) may have contributed to inability to detect a significant difference between mother's education and child's quality of life (29).

5.5 Association between reinforcing factors and quality of life

5.5.1 Rewards from the parents

The statistical analysis could not find significant association between rewards from the parents and child's quality of life.(p-value=0.163) However, the result from descriptive statistics also showed that the students receiving higher rewards from the parents marked higher level of quality of life compared to other groups.

The reason may be due to that these rewards given to the children could act as the motivator for child's positive attitude on their quality of life. Qualitative research conducted in Thailand by Aeamlaor.S in 2001 revealed that even orphaned children marked good quality of life if they did not feel that they were neglected (40).

5.5.2 Acknowledgement in the school

The result revealed there was a statistical association between acknowledgement in school and quality of life of primary school students (p-value <0.05). Among the students who had low acknowledgement in school, 16.7% of students marked low quality of life, which is the slightly larger figure compared to those with high acknowledgement in school. (15.8%)

As shown in the previous chapter 4, the level of acknowledgement in school had positive association with student's quality of life. One of the reasons is that acknowledgement in school can develop students' feelings of their importance in the "society", which often means "school" for the primary school children. During primary school, peers are becoming increasingly important and children place more and more conscious about being accepted by their peers. As they mature, children at this age are also developing an increased capacity to make more accurate comparisons between themselves and others. Children during this middle childhood can begin to

have doubts about themselves. Pruitt.B.D describes in his book “Your Child, emotional, behavioral, and cognitive development from birth through preadolescence” in 1998 that children tend to decide that they are good enough on the basis of their competence and whether they are accepted by others (42). Therefore, acknowledgement by their classmates or teachers could have strong effect on developing their quality of life from the perspective of their psychosocial and school functioning.

CHAPTER 6
CONCLUSION AND RECOMMENDATION

6.1 Conclusion

A cross sectional study was conducted at primary school in Bang Kaen District, Bangkok Metropolis, Thailand from 31st January to 2nd February 2005. The main objective of this study was to identify the current situation of quality of life among primary school students and the factors related. All information for the study was collected through school records and self-administered questionnaires filled by students. One primary school in Bangkok Metropolis was selected by purposive sampling and 232 students were taken as the studied samples by conducting simple random sampling method from 12 classes between grades 4 to 6 in the school. Descriptive statistics and chi-square analysis were applied to describe the characteristics of the samples and assess the association between quality of life and the independent variables. To categorize variables, Precede-Proceed Model was applied.

Characteristics of primary school children and their family

The result showed the percentage of male students (51.3%) was more than female (48.7%). The age of students varied from 9 to 12 years old at the mean age of 10 years old, and half of them were first born child in the family. The second largest group was the second born child (34.9%) and those who are third born or later than that was only 14.2% in the total sample. Weight for height of the students showed that most students (74.6%) were in normal nutritional status, while 13.8% was thin and 11.6% was obese. Regarding the enabling factors, it was found that more students (67.7%) live in extended family and 95.7% of their fathers have occupation to earn the income while 81.9% of students' mothers have occupations. The research also shows that 13.8% of students admit they receive high rewards from the family and 16.4% of students receive high acknowledgement in schools.

Quality of life among primary school children

The study revealed that the most students (66.8%) marked the moderate quality of life while 17.7% students were reported as possessing low quality of life and 15.5% for high quality of life. Quality of life in different dimensions shows that more students marked high psychosocial quality of life (17.2%) while 14.7% of students with low psychosocial quality of life and remaining 68.1% students with moderate level. Regarding to the physical dimension of quality of life, it describes that 16.4% of students with low physical quality of life, 67.7% with moderate and 15.9% with high physical quality of life.

Association between predisposing factors and quality of life among children

There was no statistical association between predisposing factors (age, gender, grade of class, birth order, nutritional status, self-esteem, GPA, financial allocation)and quality of life among primary school children (p-value= >0.05).

Association between enabling factors and quality of life among children

The statistical test could not find any significant association between Enabling factors (family crisis, family type, father's education, mother's education, father's occupation, mother's occupation) and quality of life among primary school children(p-value >0.05).

Association between reinforcing factors and quality of life among children

Acknowledgement in school had a significant association with quality of life among primary school children (p-value=0.32), while rewards from the family did not have the association with child's quality of life (p-value>0.05).

6.2 Recommendation

Based on the findings of this study, the following points of recommendations could be advantageous for the further implementation for promoting better quality of life among primary school children.

6.2.1 Recommendation for program implementation

6.2.1.1 Recommendation for the school

1. The study result revealed that the acknowledgement in school was related to the child's quality of life. The result also showed that 74.2% of students "never" or "almost never" took the leadership role in the class and more than 80% of students "never" or "almost never" felt like they were important students in the class. Therefore, it is recommended that school administrators encourage teachers to use praise more often than punishment, and give students more responsibility in the school such as class leader and other leaders in different activities.

2. It is important for all the professionals who work in school to bear in mind that school is the shared environment and equal opportunities for students to promote their quality of life whatever background and family environment they might have. As revealed in the study, 15.9% of students encountered parents' divorce or separation and 14.2% of them had experienced physical or verbal violence. Therefore it is recommended that school conduct more intervention programme, such as life skill development which enables students to cope more effectively with different problems and enhance more their quality of life.

3. The result of this study also showed that 11.6 % of students were categorized as an obese. In fact, movement towards rapid industrialization and urbanization in Thailand has resulted in the significant changes in people's lifestyles including eating habit especially in urban area. Therefore, it may important for the school to strengthen the cooperation with parents to establish healthy nutrition programme to solve the nutritious problem which resulted mainly from their behavior or habit.

6.2.1.2 Recommendation for the family

The result showed that more than 17% of students with low quality of life had also the low self esteem while only 9.8% of them had high self-esteem. It was also found that 21.1% of students had the low level of rewards (i.e. praise, word,

admiration, gift) from the parents while 13.8% had the high rewards. The result also showed that half of students feel that “my parents expect too much of me”.

As shown that most students (84.5%) said that they studied hard because they want to make their parents happy, the parents can be the strong motivator for their child. Therefore it is suggested to the parents to take more action for enhancing children’s self-esteem such as; to praise their effort more instead of criticizing the result; to express the feeling of “you are very important for the parents and can never be replaced by something else”.

6.2.2 Recommendation for further study

1. First of all, it is recommended to conduct the survey involving guardians so that the research can compare the different way of assessing quality of life between children themselves and their guardians. Some factors such as family crisis and reinforcing factors (economical status of family, household environment) are needed to be asked in more detail to the parents.

2. Considering PRECEDE-PROCEED Model as a planning model designed for health promotion programmes, it is important to for the researcher to study more factors which can be modified for the implementation of the programme such as access to the health personnel or school facilities.

3. It is recommended to study students’ quality of life from all the grades in school (1st to 6th grades) and collect the data from several primary schools in Bangkok or in Thailand.

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APPENDIX

APPENDIX A

TABLES

Table 11 Percentage of Self-esteem by Items

Items	Strongly agree	Agree	Not agree	Strongly disagree	$\overline{X}$	S.D.
My parents are proud of me	32.3	62.9	4.3	0.4	3.27	0.558
No one at home pay attention to me	4.3	11.6	40.9	43.1	3.23	0.819
My parents think they can rely on me	34.1	57.8	6.9	1.3	3.25	0.634
If they could, my parents would trade me in for another child	3.0	3.4	18.5	75.0	3.66	0.691
My parents try to understand me	34.9	55.6	9.1	0.4	3.25	0.629
My parents expect too much of me	8.6	41.4	42.7	7.3	2.49	0.756
I am important to my family	33.2	48.3	15.9	2.6	3.12	0.763
I often feel unwanted	9.9	15.9	40.9	33.2	2.97	0.944
My parents believe that I'll be successful in my life	39.2	50.0	9.1	1.7	3.27	0.695
I often wish I were born in a different family	3.4	12.5	34.9	49.1	3.3	0.818

Table 12 Number and percentage of the students by items of reinforcing factors

Items	No.(n=232)	Percent
I receive admiration/gift/money from my parents if I did well in examination		
Never	32	13.8
Almost Never	72	31.0
Sometimes	78	33.6
Often	15	6.5
Almost Always	35	15.1
mean=2.78 min=1 max=5		
I study hard because I want to make my parents feel happy		
Never	6	2.6
Almost Never	30	12.9
Sometimes	68	29.3
Often	62	26.7
Almost Always	66	28.4
mean=3.66 min=1 max=5		
I try to be nice because I want to get the praise from my parents		
Never	16	6.9
Almost Never	49	21.1
Sometimes	71	30.6
Often	65	28.0
Almost Always	31	13.4
mean=3.20 min=1 max=5		
I take leadership in the school activities		
Never	111	47.8
Almost Never	61	26.3
Sometimes	48	20.7
Often	9	3.9
Almost Always	3	1.3
mean=1.84 min=1 max=5		
I am important person in the class/school		
Never	139	59.9
Almost Never	45	19.4
Sometimes	33	14.2
Often	11	4.7
Almost Always	4	1.7
mean=1.69 min=1 max=5		
The teacher gives me responsibility for taking care of class/classmates		
Never	86	37.1
Almost Never	55	23.7
Sometimes	54	23.3
Often	21	9.1
Almost Always	16	6.9
mean= 2.25 min=1 max=5		

Table 13 Number and percentage of student by family crisis

Family crisis	Number (n=232)	Percentage
Unemployed/ jobless	13	5.6
Severe illness/ handicap	11	4.7
Drug Addicted	4	1.7
Death	20	8.6
In jail/ arrested by police	6	2.6
Father/ Mother divorced, separated	37	15.9
Moved to stay in other place	34	14.7
Violence: physical , verbal	33	14.2
Natural disaster: flood, fire	3	1.3
Conflict with neighbors	3	1.3

Table 14. Quality of life by Student's characteristics

Characteristics	Quality of life		
	Number (n=232)	Mean	SD
Gender			
Male	119	73.3285	10.80284
Female	113	70.9504	10.95776
Grade of Classes			
Grade 4	86	73.7108	9.89283
Grade 5	90	72.0411	11.41409
Grade 6	56	70.0116	11.41474
Age			
9 years old	15	72.6812	10.03695
10 years old	84	73.6025	9.97721
11 years old	70	70.3261	11.83250
12 years old	63	72.1877	11.21580

Table 15 Number and percentage of students by items Quality of life questions

Items (physical functioning)	Number	Percentage
1.It is hard for me to walk more than one block		
Never	97	41.8
Almost never	43	18.5
Sometimes	78	33.6
Often	8	3.4
Almost always	6	2.6
2.It is hard for me to run		
Never	132	56.9
Almost never	42	18.1
Sometimes	49	21.1
Often	5	2.2
Almost always	4	1.7
3.It is hard for me to do sports activity or exercise		
Never	160	69.0
Almost never	33	14.2
Sometimes	24	10.3
Often	10	4.3
Almost always	5	2.2
4.It is hard for me to lift something heavy		
Never	79	34.1
Almost never	65	28.0
Sometimes	70	30.2
Often	14	6.0
Almost always	4	1.7
5.It is hard for me to take a bath or shower by myself		
Never	187	64.5
Almost never	21	7.2
Sometimes	13	4.5
Often	6	2.1
Almost always	5	1.7
6.It is hard for me to do chores around the house		
Never	116	50.0
Almost never	56	24.1
Sometimes	45	19.4
Often	12	5.2
Almost always	3	1.3

Table 15 Number and percentage of students by items Quality of life questions (cont.)

Items (emotional functioning)	Number	Percentage
7.I hurt or ache		
Never	65	28.0
Almost never	54	23.3
Sometimes	95	40.9
Often	14	6.0
Almost always	4	1.7
8. I have low energy		
Never	99	42.7
Almost never	54	23.3
Sometimes	67	28.9
Often	7	3.0
Almost always	5	2.2
9.I feel afraid or scared		
Never	58	25.0
Almost never	64	27.6
Sometimes	83	35.8
Often	18	7.8
Almost always	9	3.9
10. I feel sad or blue		
Never	78	33.6
Almost never	53	22.8
Sometimes	86	37.1
Often	9	3.9
Almost always	6	2.6
11.I feel angry		
Never	40	17.2
Almost never	37	15.9
Sometimes	116	50.0
Often	32	13.8
Almost always	7	3.0
12.I have trouble sleeping		
Never	67	28.9
Almost never	41	17.7
Sometimes	72	31.0
Often	39	16.8
Almost always	13	5.6

Table 15 Number and percentage of students by items Quality of life questions (cont.)

Items (emotional functioning)	Number	Percentage
13.I worry about what will happen to me		
Never	63	27.2
Almost never	53	22.8
Sometimes	79	34.1
Often	22	9.5
Almost always	15	6.5
14.I have trouble getting along with other kids		
Never	109	47.0
Almost never	55	23.7
Sometimes	55	23.7
Often	7	3.0
Almost always	6	2.6
15.Other kids do not want to be my friend		
Never	117	50.4
Almost never	66	28.0
Sometimes	44	19.0
Often	4	1.9
Almost always	2	0.9
16.Other kids tease me		
Never	78	33.6
Almost never	49	21.1
Sometimes	76	32.8
Often	25	10.8
Almost always	4	1.7
17.I cannot do things that other kids my age can do		
Never	114	49.1
Almost never	60	25.9
Sometimes	50	21.6
Often	5	2.2
Almost always	3	1.3
18.It is hard to keep up when I play with other kids		
Never	111	47.8
Almost never	69	29.7
Sometimes	39	16.8
Often	6	2.6
Almost always	7	3.0

Table 15 Number and percentage of students by items Quality of life questions (cont.)

Items	Number	Percentage
19.It is hard to pay attention in class.		
Never	66	28.4
Almost never	53	22.8
Sometimes	92	39.7
Often	13	5.6
Almost always	8	3.4
20.I forget things		
Never	37	12.8
Almost never	56	19.3
Sometimes	109	37.6
Often	26	9.0
Almost always	4	1.4
21.I have trouble keeping up with my schoolwork		
Never	55	23.7
Almost never	72	31.0
Sometimes	89	38.4
Often	14	6.0
Almost always	2	0.9
22.I miss school because of not feeling well		
Never	58	25.0
Almost never	50	21.6
Sometimes	114	49.1
Often	9	3.9
Almost always	1	0.4
23.I miss school to go to the doctor or hospital		
Never	59	25.4
Almost never	63	27.2
Sometimes	97	41.8
Often	11	4.7
Almost always	2	0.9

Table 16 . Scale Descriptives for Quality of life

Scale	Number of items	Scale Descriptive N	Mean	SD	Range (min-max)
Total Score QOL	23	232	72.1702	10.92015	41.30-97.83
Physical Health	8	232	78.1519	14.68346	15.63-100.0
Psychosocial Health	15	232	68.9799	12.31652	35.0-100.0
Emotional Functioning	5	232	63.7931	18.05020	10.0-100.0
Social Functioning	5	232	77.2629	16.11471	25.0-100.0
School Functioning	5	232	55.0216	12.92752	15-84.0

Table 17 Number and Percentage of QOL level of Student by Functioning

Level of QOL	Emotional Functioning		Social Functioning		School Functioning	
	Number	%	Number	%	Number	%
Low (< $\overline{X}$ -1SD)	40	17.2	39	16.8	42	18.1
Moderate	157	67.7	153	65.9	144	62.1
High (> $\overline{X}$ +1SD)	35	15.1	40	17.2	46	19.8

Table 18 Association between Predisposing factors and Emotional Functioning scale in Quality of life among primary school children

Predisposing factors	Emotional Functioning scale					
	Low		Moderate		High	
	N	%	N	%	N	%
Birth order						
No siblings	6	**33.3**	11	61.1	1	**5.6**
1st	19	**19**	60	60	21	**21**
2nd or later than 2nd	15	13.2	86	75.4	13	11.4
χ^2 =10.413 df=4			p-value=	**.034**		

Table 19 Association between Predisposing factors and Social functioning scale of Quality of life among primary school children

Predisposing factors	Social functioning scale					
	Low		Moderate		High	
	N	%	N	%	N	%
Financial Allocation						
Low	32	21.9	91	62.3	23	15.8
High	7	8.1	62	72.1	17	19.8
χ^2 =7.400 df=2			p-value=.**025**			

Table 20 Relationship between Enabling factors and Social Functioning scale of Quality of life among primary school children

Enabling factors	Social Functioning scale					
	Low		Moderate		High	
	N	%		%	N	%
Family Crisis						
None	14	11.6	86	71.1	21	17.4
1	12	18.5	38	58.5	15	23.1
more than one	13	28.3	29	63.0	4	8.7
χ^2 =9.996 df=4			p-value	**=.040**		

Table 21 Number and percentage of students with low Quality of life by Predisposing factors

Predisposing factors	Number (n=41)	Percent
Age (years)		
≤10	15	36.6
11	13	31.7
12	13	31.7
	min:9	***max:12***
Sex		
Male	19	46.3
Female	22	53.2
Birth order		
1st born	16	39.0
2nd born	20	48.8
Later than 3rd born	5	12.2
	min:1	***max:5***
Grade of class		
Grade4	12	29.2
Grade5	17	41.6
Grade6	12	29.2
Nutritious Status in weight/height		
Thin	4	**9.8**
Normal	30	73.2
Obese	7	**17.1**
Nutritious Status in height/age		
Short	4	9.8
Normal	32	78.0
Tall	5	12.2
Academic performance (GPA)		
Low	8	19.5
Moderate	23	56.1
High	10	24.4
Weekly financial allocation (baht)		
Lower than average	29	70.7
Average or Higher	12	29.3
Level of self-esteem		
Low	7	**17.1**
Moderate	30	73.2
High	4	9.8

Table 22 Number and percentage of students with low Quality of life by Enabling factors

Enabling Factors	Number (n=41)	Percentage
Family type		
Nuclear family	17	41.5
Extended family	24	58.5
Father's occupation		
Skilled	17	41.5
Non-skilled	24	58.5
Mother's occupation		
Housewife	5	12.2
Skilled	9	21.9
Non-skilled	27	65.9
Father's education level		
Less than/ equal to primary	9	21.9
More than primary	32	78.1
Mother's education level		
Less than/ equal to primary	16	39.0
More than primary	25	61.0
Number of encountered family crisis		
None	16	39.0
1 crisis	14	34.1
≥2 crisis	11	26.9

Table 23 Number and percentage of students with low Quality of life by reinforcing factors

Items in reinforcing factors	Number (n=41)	Percentage (%)
Level of rewards from the parents		
Low	9	22.0
Moderate	29	70.7
High	3	7.3
Level of acknowledgement in school		
Low	9	22.0
Moderate	26	63.4
High	6	14.6

Table 24 Number and percentage of student with low Quality of life by types of family crisis

Family crisis	Number (n=41)	Percentage
1. Unemployed/ jobless	3	7.3
2. Severe illness/ handicap	3	7.3
3. Drug Addicted	1	2.4
4. Death	5	12.2
5. In jail/ arrested by police	1	2.4
6. Father/ Mother divorced, separated	7	17
7. Moved to stay in other place	10	24.3
8. Violence: physical , verbal	9	21.9
9. Natural disaster: flood, fire	1	2.4
10. Conflict with neighbors	8	19.5

APPENDIX B

Questionnaires

Factors related to Quality of Life among Primary School Children

in Bangkok Metropolis, Thailand

Note: * referred to school record

Lastest GPA*

Weight: * kg Height: * cm

PART I. Predisposing Factors

Please answer the each questions by marking like this ☑. This paper is not the examination and not related to your academic. This paper filled by you will never be showed to the teacher, parents etc, so please do not afraid to answer these questions.

Socio-demographic characteristics

1. Gender ☐ male ☐ female
2. How old are you? _____years old
3. What is your grade in school? ☐ 4th ☐ 5th ☐ 6th
4. Birth Order

☐ 1st ☐ 2nd ☐ 3rd ☐ 4th ☐ 5th ☐ I don't have any brother or sister

5. How much money you get from your parents/family per day?
   1. _____ baht per day

Please mark √ the following each answer which match to your situation

Example:

	Strongly agree	**Agree**	**Not agree**	**Strongly disagree**
I do not afraid of my parents		√		

Items for self-esteem	**Strongly agree**	**Agree**	**Not agree**	**Strongly disagree**
1) My parents are proud of me				
2) No one at home pay attention to me				
3) My parents think they can rely on me				
4) If they could, my parents would trade me in for another child				
5) My parents try to understand me				
6) My parents expect too much of me				
7) I am important to my family				
8) I often feel unwanted				
9) My parents believe that I'll be successful in my life				
10) I often wish I were born in a different family				

PART II. Enabling Factors

6. Which family member you live with? Please check the answer all you are living with.

❑ Father
❑ Mother
❑ Grand mother/ father
❑ Relatives
❑ Others (please specify:_____)

Family type *
Filled by the researcher
❑ Nuclear (parents & child)
❑ Extended

7. What is your father's occupation?

- ❑ None
- ❑ Government Officer
- ❑ Private Officer
- ❑ Laborer, Farmer, Planter
- ❑ Vendor
- ❑ Others (please specify _____)

8. What is your mother's occupation?

- ❑ None, Housewife
- ❑ Government Officer
- ❑ Private Officer
- ❑ Laborer, Farmer, Planter
- ❑ Vendor
- ❑ Others (please specify _____)

9. What is your father's educational level?

- ❑ Less than primary
- ❑ Primary
- ❑ Mathayom1-3
- ❑ High school education or Mathayom 4-6
- ❑ Vocational School
- ❑ Bachelor or higher than this

10. What is your mother's educational level?

- ❑ Less than primary
- ❑ Primary
- ❑ Mathayom1-3
- ❑ High school education or Mathayom 4-6
- ❑ Vocational School
- ❑ Bachelor or higher than this

11. In the past 1 year (Jan1st –Dec31st 2004) did your family members encounter with these situations or not? Please mark Yes or No.

Items for family crisis	Yes	No
Unemployed/ jobless		
Severe illness/ handicap		
Drug Addicted		
Death		
In jail/ arrested by police		
Father/ Mother divorced, separated		
Moved to stay in other place		
Violence: physical , verbal		
Natural disaster: flood, fire		
Conflict with neighbors		

PART III. Reinforcing factors:

12. Please mark √ the following each answer which match to your situation

Example :

Items about rewards from the parents	Never	Almost Never	Some-times	Often	Almost always
I receive money from my parents when I did good					

Items about rewards from the parents	Never	Almost Never	Some-times	Often	Almost always
I receive admiration/gift/money from my parents if I did well in examination					
I study hard because I want to make my parents feel happy					
I try to be nice because I want to get the praise from my parents					
Items about acknowledgement in the class/school					
I take leadership in the school activities					
I am important person in the class/school					
The teacher gives me responsibility for taking care of class/classmates					

PART IV (PedsQL)

In the past ONE month, how much of a problem has this been for you....

About my health and activities (problems with...)	**Never**	**Almost never**	**Some-times**	**Often**	**Almost always**
It is hard for me to walk more than one block					
It is hard for me to run					
It is hard for me to do sports activity or exercise					
It is hard for me to lift something heavy					
It is hard for me to take a bath or shower by myself					
It is hard for me to do chores around the house					
I hurt or ache					
I have low energy					

About my feelings (problems with...)	**Never**	**Almost never**	**Some-times**	**Often**	**Almost always**
I feel afraid or scared					
I feel sad or blue					
I feel angry					
I have trouble sleeping					
I worry about what will happen to me					

How I get along with others (problems with...)	**Never**	**Almost never**	**Some-times**	**Often**	**Almost always**
I have trouble getting along with other kids					
Other kids do not want to be my friend					
Other kids tease me					
I cannot do things that other kids my age can do					
It is hard to keep up when I play with other kids					

About school (problems with ...)	**Never**	**Almost never**	**Some-times**	**Often**	**Almost always**
It is hard to pay attention in class.					
I forget things					
I have trouble keeping up with my schoolwork					
I miss school because of not feeling well					
I miss school to go to the doctor or hospital					

BIOGRAPHY

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