THE IMPACT OF FAMILY STRUCTURE ON YOUTHS' QUALITY OF LIFE INDICATORS: EVIDENCE FROM THE KANCHANABURI DSS, THAILAND

WANIPPOL MAHAARCHA

A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY
(DEMOGRAPHY)
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY
2008

Thesis
Entitled

THE IMPACT OF FAMILY STRUCTURE ON YOUTHS' QUALITY OF LIFE INDICATORS: EVIDENCE FROM THE KANCHANABURI DSS, THAILAND

.....

Mr. Wanippol Mahaarcha
Candidate

.....

Assoc. Prof. Sirinan Kittisuksathit, Ph.D.
Major-Advisor

.....

Prof. Pramote Prasartkul, Ph.D.
Co-Advisor

.....

Assoc. Prof. Duanpen Theerawanviwat, Ph.D.
Co-Advisor

.....

Prof. Banchong Mahaisavariya, M.D.
Dean
Faculty of Graduate Studies

.....

Assoc. Prof. Chai Podhisita, Ph.D.
Chair
Doctor of Philosophy
Programme in Demography
Institute for Population and Social Research

Thesis
Entitled

THE IMPACT OF FAMILY STRUCTURE ON YOUTHS' QUALITY OF LIFE INDICATORS: EVIDENCE FROM THE KANCHANABURI DSS, THAILAND

was submitted to the Faculty of Graduate Studies, Mahidol University
for the degree of Doctor of Philosophy (Demography)
on
30 April, 2008

.....
Mr. Wanippol Mahaarcha
Candidate

.....
Asst. Prof. Kanchana Tangchonlatip, Ph.D.
Chair

.....
Dr. Prawate Tantipiwatanaskul, M.D., M.P.H.
Member

.....
Assoc. Prof. Sirinan Kittisuksathit, Ph.D.
Member

.....
Assoc. Prof. Duanpen Theerawanviwat, Ph.D.
Member

.....
Prof. Pramote Prasartkul, Ph.D.
Member

.....
Prof. Banchong Mahaisavariya, M.D.
Dean
Faculty of Graduate Studies
Mahidol University

.....
Assoc. Prof. Sureeporn Punpuing, Ph.D.
Director
Institute for Population and Social Research
Mahidol University

ACKNOWLEDGEMENT

I would like to acknowledge with gratefulness the important people who have made it possible for my successful completion of this dissertation. First and foremost, I wish to express my sincere gratitude and deep appreciation to Assoc. Prof. Dr. Sirinan Kittisuksathit, my major-advisor, who always encouraged and motivated me to make confidence in my abilities and enthusiasm in my research, even when the obstacles seemed undefeatable. She provided the inspiration, time, energy, commitment, and practical assistance that made this dissertation valuable. My appreciation goes to Prof. Dr. Pramote Prasartkul, Assoc. Prof. Dr. Duanpen Theerawanviwat, my co-advisors, and Dr. Prawate Tantipiwatanaskul, my external member of committee, for sparing their valuable time with their invaluable advice and fruitful comments. My appreciation also goes to Asst. Prof. Dr. Kanchana Tangchonlatip, the chair of my dissertation examination committee, for her kindness in providing comments and valuable suggestions.

I would like to convey my appreciation to all of IPSR lecturers and all program staffs for their kind support and continual assistance throughout my study. I would like to thank the Wellcome Trust, for the grant and data that supported my study.

I acknowledge all my IPSR friends, especially my close friends from Thailand, Laos, Vietnam, China, Sri Lanka, and Japan to make my life in IPSR happy the most that has never met before throughout my study's life. They propose kindly support, encouragement, and valuable experiences outside the books to me.

Last but not least, I wish to express my endless gratitude and deep appreciation to my parents and my siblings (Visutthiphun, Donlatip, Sukhonta, and Thitapong) that encourage, support, and teach me to aim high, work hard, and ethical thinking throughout my life.

Wanippol Mahaarcha

THE IMPACT OF FAMILY STRUCTURE ON YOUTHS' QUALITY OF LIFE INDICATORS: EVIDENCE FROM THE KANCHANABURI DSS, THAILAND

WANIPPOL MAHAARCHA 4736331 PRDE / D

Ph.D. (DEMOGRAPHY)

THESIS ADVISORS: SIRINAN KITTISUKSATHIT, Ph.D., PRAMOTE PRASARTKUL, Ph.D., DUANPEN THEERAWANVIWAT, Ph.D.

ABSTRACT

Nowadays, Thai youths are growing up in a time of globalization that tends to improve the youths' their standard of living. However, globalization improves their standard of living but not their subjective well-being. This leads to have a lot of behavioral problems. Youths' quality of life should be identified within the Thai cultural context. Additionally, the youths' quality of life is affected by their living arrangements and family structure. Youths residing outside of two-parent families tend to have a poorer quality of life. It is worthwhile to examine the relationship between the family structure and youths' quality of life in the Thai context. The family structure has become increasingly diverse and complex in recent decades. The objectives of this study are: (1) to identify youth quality of life in Kanchanaburi province; and (2) to examine the association between family structure and the youths' quality of life using indicators regarding school/college enrolment, smoking, and alcohol drinking in the Kanchanaburi Demographic Surveillance System (KDSS). Two data sets were used in this study: the Happiness Indicator Survey 2005 and the KDSS 2001-2004. Factor analysis and Logistic regression analysis were employed.

The results of the first objective show that there are thirty-eight indicators in six components covering subjective and objective quality of life indicators among youths in the Kanchanaburi province: standard of emotion, standard of physical environment, standard of living, social capital, cultural belief activities, and physical health. The highest score in relation to the youths' quality of life was the standard of their physical environment, while the lowest score was related to cultural belief activities. The results of the second objective revealed that there were no differences between youths in two-parent families and single-parent families in terms of quality of life. However, youth in extended households had a greater likelihood to enroll in school and not smoke cigarettes relative to those in nuclear households, while youths in non-parent families had a reduced likelihood to drink alcohol relative to those in two-parent families.

In conclusion, this study's findings support the following: (1) cultural belief activities should be focused on in order to improve youth quality of life; (2) the role of grandparents in the household is crucial in order to socialize children and youth in the household and community; and (3) parents should socialize their children more strongly in order to avoid health risk behaviors.

KEY WORDS: YOUTHS' QUALITY OF LIFE/ FAMILY STRUCTURE/ KDSS

118 pp.

ผลของโครงสร้างครอบครัวต่อตัวชี้วัดคุณภาพชีวิตวัยรุ่นในพื้นที่เฝ้าระวังทางประชากรกาญจนบุรี (THE IMPACT OF FAMILY STRUCTURE ON YOUTHS' QUALITY OF LIFE INDICATORS: EVIDENCE FROM THE KANCHANABURI DSS, THAILAND)

วนิพพล มหาอาชา 4736331 PRDE / D

ปร.ด. (ประชากรศาสตร์)

คณะกรรมการควบคุมวิทยานิพนธ์: ศิรินันท์ กิตติสุขสถิต, Ph.D., ปราโมทย์ ประสาทกุล, Ph.D., เดือนเพ็ญ ธีรวรรณวิวัฒน์, Ph.D.

บทคัดย่อ

ปัจจุบัน วัยรุ่นไทยเติบโตขึ้นท่ามกลางกระแสโลกาภิวัฒน์ ทำให้คุณภาพชีวิตด้านความเป็นอยู่ดีขึ้น ผลของกระแสโลกาภิวัฒน์ดังกล่าวกลับไม่สามารถทำให้คุณภาพชีวิตของวัยรุ่นในภาพรวมดีขึ้นได้ แต่กลับส่งผลให้เกิดปัญหาที่เกี่ยวกับพฤติกรรมของวัยรุ่นขึ้นมามากมาย จึงสมควรที่จะมีการศึกษาคุณภาพชีวิตวัยรุ่นในภาพรวมในบริบทของไทย นอกจากนี้ อาจกล่าวได้ว่าการอยู่อาศัยและโครงสร้างครอบครัวมีผลต่อคุณภาพชีวิตวัยรุ่น โดยวัยรุ่นที่ไม่ได้อาศัยอยู่กับครอบครัวที่มีพ่อแม่สมบูรณ์จะมีคุณภาพชีวิตที่ต่ำกว่า ดังนั้นการทดสอบความสัมพันธ์ระหว่างโครงสร้างครอบครัวและคุณภาพชีวิตวัยรุ่นจึงมีความน่าสนใจในบริบทของครอบครัวไทยที่มีความหลากหลายมากขึ้นในทศวรรษที่ผ่านมา

การศึกษาครั้งนี้มีวัตถุประสงค์ คือ 1. เพื่อกำหนดตัวชี้วัดคุณภาพชีวิตวัยรุ่นในจังหวัดกาญจนบุรี และ2. เพื่อทดสอบความสัมพันธ์ระหว่างโครงสร้างครอบครัวและตัวชี้วัดคุณภาพชีวิตวัยรุ่นในด้าน การศึกษา การสูบบุหรี่ และการดื่มสุรา ในพื้นที่เฝ้าระวังทางประชากรจังหวัดกาญจนบุรี การศึกษาครั้งนี้ใช้ข้อมูลอยู่ 2 ชุด ได้แก่ ข้อมูลจากโครงการวิจัยบูรณาการเชิงพื้นที่เพื่อแก้ปัญหาความยากจนอย่างมีส่วนร่วมในภูมิภาคตะวันตก พ.ศ. 2548 และข้อมูลจากโครงการเฝ้าระวังทางประชากรกาญจนบุรี พ.ศ. 2543-2547 การวิเคราะห์ในการศึกษาครั้งนี้ใช้การวิเคราะห์องค์ประกอบและการวิเคราะห์การถดถอยลอจิสติก

ผลการศึกษาในวัตถุประสงค์แรก พบว่า คุณภาพชีวิตวัยรุ่นในจังหวัดกาญจนบุรีประกอบไปด้วยตัวชี้วัดคุณภาพชีวิต 38 ตัวชี้วัดและองค์ประกอบคุณภาพชีวิต 6 องค์ประกอบ ซึ่งครอบคลุมทั้งในเชิงภาวะวิสัยและอัตวิสัย ได้แก่ องค์ประกอบด้านจิตใจ สิ่งแวดล้อมทางกายภาพ ความเป็นอยู่ ทุนทางสังคม กิจกรรมทางวัฒนธรรมด้านความเชื่อ และสุขภาพกาย องค์ประกอบคุณภาพชีวิตที่มีคะแนนสูงที่สุด คือ องค์ประกอบด้านสิ่งแวดล้อมทางกายภาพ และองค์ประกอบคุณภาพชีวิตที่มีคะแนนต่ำที่สุด คือ องค์ประกอบด้านกิจกรรมทางวัฒนธรรมด้านความเชื่อ ส่วนผลการศึกษาในวัตถุประสงค์ที่สอง พบว่า วัยรุ่นในครอบครัวพ่อแม่สมบูรณ์และครอบครัวพ่อหรือแม่คนเดียวไม่มีความแตกต่างกันในด้านคุณภาพชีวิต อย่างไรก็ตาม วัยรุ่นในครัวเรือนขยายจะมีโอกาสที่จะศึกษาต่อมากกว่าและสูบบุหรี่น้อยกว่าวัยรุ่นในครัวเรือนเดี่ยว ขณะที่วัยรุ่นในครอบครัวที่ไม่มีพ่อแม่จะมีพฤติกรรมการดื่มสุราน้อยกว่าวัยรุ่นในครอบครัวพ่อแม่สมบูรณ์

จากผลการศึกษา สามารถเสนอแนะได้ว่า 1. ควรมีการส่งเสริมกิจกรรมทางวัฒนธรรมด้านความเชื่อในกลุ่มวัยรุ่นให้มากขึ้น 2. ควรส่งเสริมบทบาทในด้านการอบรมสั่งสอนของผู้สูงอายุแก่เด็กและวัยรุ่นในครัวเรือนและชุมชน และ 3. ควรทบทวนบทบาทของพ่อแม่ให้มีความเคร่งครัดในการอบรมสั่งสอนวัยรุ่นในด้านพฤติกรรมเสี่ยงทางสุขภาพให้มากยิ่งขึ้น

118 หน้า

CONTENTS

CONTENTS (CONT.)

CONTENTS (CONT.)

LIST OF TABLES

LIST OF TABLES (CONT.)

LIST OF FIGURES

page

CHAPTER I
INTRODUCTION

1.1 Background and Rationale

Demographic transition in Thailand during the last 35 years depicts changing numbers of both total population and young population. The population growth rate has tended to decrease due to the decline in fertility, which has also affected the population structure. The Thai population structure has changed and is facing a crisis of becoming an "aged population." The proportion of older population is increasing, while the proportions of children and youth are decreasing. The population projection in Thailand from 2000 to 2050 showed that the proportion of Thai youth, aged 15-24, has been slightly decreasing from 17.3 percent in 1960 to 11.2 percent in 2050 (United Nations, 2006). It is also expected that Thailand will face a challenge for economic development in the future because youth are considered to be an important population group that has contributed to Thailand's development during the past three decades. To ensure Thailand's sustainable development in the long-term, youth is the population group that must be of primary concern.

Nowadays, Thai youth are growing up in a period of globalization, which is occurring along with vast economic and technological development. The government has implemented policies for both economic and social development with an emphasis on economic growth and a free market. As a result of rapid economic growth, the GDP per capita has increased and poverty levels have been significantly reduced, while the moral and psychological well-being of Thai people is not a primary concern. Many problems related with Thai youth's behavior have been increasing such as fighting, smoking, drinking, gambling, game addiction, internet addition, luxurious lifestyle, school drop-out, rape, induced abortion, and suicide (Sirinan Kittisuksathit et al., 2006). These behaviors are clear examples to indicate that a crisis of quality of life among Thai youth is severely happening. Youth's behavior leads them to be negatively labeled as causing a lot of problems for the society. Incorrect knowledge and perceptions about youth's behavior and their quality of life leads to

the inefficient policies and their implementation, making Thai youth problems even more severe. Thus, there is a need to explore answers to the question “What is the quality of life of youth?” in the Thai context.

Due to the economic crisis in 1997, the Tenth National Economic and Social Development Plan was instituted, and this plan promotes human resources development as the goal for national development rather than economic development. The main concept of this plan focuses on “humans” as the object in order to develop quality of life of the Thai population in terms of physical, mental, and social well-being. Thus, the person-oriented concept of this plan should also be considered for Thai youth development and youths’ quality of life.

Overall quality of life includes both objective and subjective well-being and can be measured at both the population and individual levels. Social indicators have been developed to monitor the progress of human development at the macro level. For micro level quality of life, “individual psychological perception” is the important factor to measure that indicates individual well-being (Rapley, 2003). To assess the overall quality of the tenth plan, assessment of quality of life of individual youth is required. Regarding the various literatures reviewed on the quality of life among youth, several measures of quality of life have been developed with the aim of assessing the impact of chronic physical illness on child patients (Bender, 1996; Ingersoll & Marrero, 1990). The quality of life assessment of the healthy young population is still limited. It is essential to study the quality of life of both ill and healthy groups and to examine their development.

Although all youth experience biological, cognitive, and social transitions, the effects of these changes are not uniform for all young people. These changes are shaped by the environment in which the changes take place. The contexts of youth studied by many researchers include; families, peer groups, schools, work, culture, health, and leisure (Santrock, 1996; Soonthornthada et al., 2005; Steinberg, 1996). Many studies in Thailand have attempted to determine the meaning of quality of life and develop indicators covering particular areas and target groups (Panichachivakul & Pradubmuk, 1999; Sirikwanchai, 2005) , but there is no study that probes the quality of life in Thai youth as a whole. The study of youths’ quality of life in the Thai

context will be useful because it will help to identify the indicators and components of quality of life for the policy planning related with youth life in the future.

Much of the recent research proposed that youth outcomes and well-being have been influenced by their living arrangement and family structure. Family structure was considered as the determinant that is highly associated with youth outcomes and well-being. Family in Thailand has been changing in both size and structure. Family size has declined from an average of 5.8 in 1970 to 3.8 persons in 2000 (Table 1.1). Family structure has changed to become more diverse. Migration, rising divorce rates and population aging seem to be the crucial determinants that shape Thai family structure at present.

Table 1.1 Family Size by Region in Thailand 1970-2000

Region	1970	1980	1990	2000
Whole Kingdom	**5.8**	**5.3**	**4.4**	**3.8**
Urban area	5.8	5.0	4.2	3.5
Rural area	5.7	5.3	4.4	3.9
Bangkok Metropolis	6.2	5.1	4.3	3.6
Central Region	5.8	5.1	4.2	3.6
Northern region	5.5	4.8	4.0	3.5
Northeastern region	6.2	5.7	4.7	4.1
Southern region	5.5	5.2	4.5	4.0

Source: National Statistical Office, 2006

Table 1.2 shows that in Thailand the proportions of female-headed households are increasing, just as the proportions of extended families and families including unrelated individuals are rising. This indicates that the percentages of female headed single-parent families are increasing over time. In addition, two-parent families are declining and have been replaced by single-parent families due to rising divorce rates. Together with the widespread increasing aging population, the percentages of extended family households with multi-generations are gradually increasing. In addition, the proportions of diverse family structures such as unregistered marriage and grandchildren living with only grandparents have been growing in Thailand.

Family structure and its change in Thai families are considered to have a strong influence on household members.

Table 1.2 Percentage Distribution of Gender of Household Head and Family Structure in Thailand 1980-2005

	1980	1990	2000	2003	2004	2005
Gender of household head						
Male	83.5	80.6	73.8	73.2	72.1	70.4
Female	16.5	19.4	26.2	26.8	27.9	29.6
Family structure						
Nuclear family	70.6	67.6	60.3	54.2	53.2	53.9
Extended family	25.2	26.2	29.6	33.3	34.0	34.5
Unrelated Individuals	4.2	6.2	10.1	12.2	12.8	11.6

Source: National Statistical Office, 2006

Most studies have been concerned about the impact of family structure on youth outcomes and well-being, and were conducted mostly in the context of developed countries and have shown that children residing outside of two-biological married parent families tend to have poorer outcomes, although these family structure differences are partially an artifact of variation in economic and parenting resources (Brown, 2006; McLanahan & Sandefur, 1994). Studies have consistently shown that growing up outside two-parent families is associated with negative consequences for children. For example, youth from disrupted and single-parent families are more likely to experience lower school achievement, increased psychological distress, earlier initiation of sexual activity, increased vulnerability to health problems, and a greater likelihood of engaging in problem behaviors or deviant activities (Aseltine, 1996; Upchurch et al., 1999). In addition, most studies did not take youth who lived with non-parent families into account. Staying separately from parents lowers the level of parental control and influence on youth. It is expected that youth who are residing in non-parent families are less likely to enroll in school and college and more likely to engage in health risk behavior. It is worthwhile to explore the impact of various types of youth's family structure on youths' quality of life in the Thai context

where the family structure has become increasingly diverse and complex in recent decades.

In response to the human-centered development concept of the Tenth National Economic and Social Development Plan in Thailand, education and health are considered as the major indicators that are relevant to the youths' quality of life in order to improve and develop their capacity in the long-term (ESCAP, 2000). Soonthornthada and colleagues (Soonthornthada et al., 2005) suggests that global youth culture creates desires and aspirations for success and achievement and contain a clear message that education, especially higher education, is necessary for career and income success. In addition, global youth culture promotes consumption rather than savings and investments, and associates leisure activities with consumption of goods, putting youth at health risks.

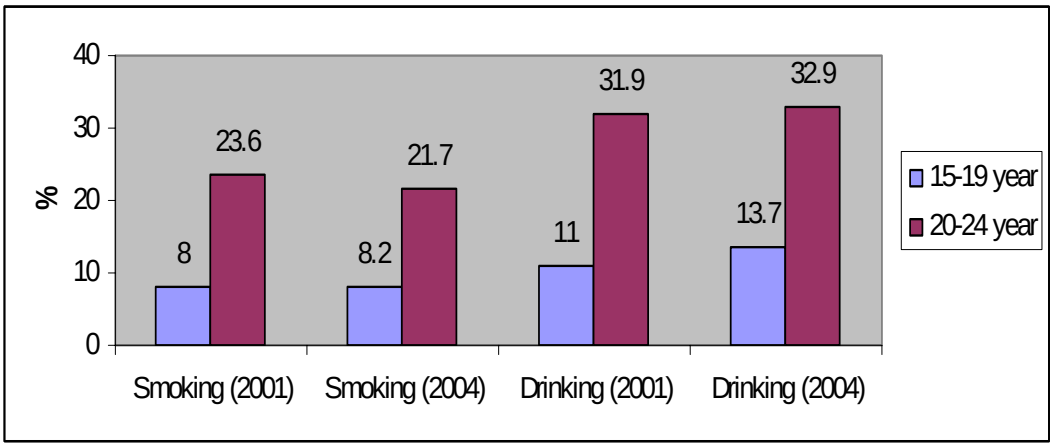
In education, the Thai government made six years of primary education compulsory in 1978. The 1997 constitution makes 12 years of schooling compulsory. However, Thailand is a country that has both a gender and a socio-economic gap in schooling (Pattaravanich, et al., 2005). Thus, despite legal and structural changes, not all children are equally likely to make it to secondary school. Data from the Ministry of Education showed that net primary school enrolment was over 100 percent, while lower secondary enrolment has increased to 95.5 percent. Although the goals for net primary school enrolment and lower secondary school enrolment have been successfully met, only half of the youth population aged 15-21 were enrolled in upper secondary school and college and university in 2005 (Table 1.3).

Table 1.3 Net School Enrolment Rate by Educational Level in Thailand during 1999-2005

Level of education	Age group	1999	2000	2001	2002	2003	2004	2005
Kindergarten	3-5	69.7	69.4	67.0	54.0	45.8	53.2	73.7
Primary	6-11	93.8	94.2	94.6	94.8	94.3	102.9	102.1
Lower secondary	12-14	81.3	80.4	79.8	79.7	80.9	94.0	95.5
Upper secondary	15-17	54.4	56.5	58.2	58.3	57.2	63.7	65.6
College/ university	18-21	13.8	15.2	20.0	16.3	44.0	39.0	53.4

Source: http://www.moc.moe.go.th/filedata/t1_2_48.htm

In health, adolescent and youth are generally thought to be healthy because, by the second decade of life, they have already survived the diseases of early childhood, and the health problems associated with ageing are still many years away. However, many youth do die prematurely all over the world mostly due to preventable causes. Preventable risk behaviors rooted in cigarette and alcohol use significantly contribute to youth morbidity and mortality (W.H.O., 1998). Most people who involve with cigarette smoking and alcohol drinking begin their health risk behavior in this period of life. In Thailand, although the government attempts to reduce smoking and drinking behavior among Thai youth, high proportions of Thai youth are still smoking and drinking. Data from the national survey of cigarette smoking and alcohol drinking behavior found that the proportions of youth aged 15 -19 that smoke and drink has increased, while the smoking trend is decreasing among youth aged 20-24 but the drinking trend is rising (Figure 1.1).



Source: The Cigarette Smoking and Alcohol Drinking Behavior Survey, NSO, 2001 and 2004

Figure 1.1 Percentage of Thai Youth who were Smoking and Drinking in 2001 and 2004

These indicators should be explored to determine the impacts of family structure and changing family structure in the Thai context. Previous studies have demonstrated that there were differences in youth's education and health risk behavior among different family structures. Many studies in Thailand are small-scale, cross-sectional

studies or qualitative observations; while the impact of a wider range of family structures in longitudinal samples has not been adequately investigated.

To evaluate youths' quality of life and demonstrate how family structure associates with youths' quality of life in Thailand, the present study utilize two secondary datasets collected in Kanchanaburi province. The first is cross-sectional data from "Geographical Integrated Research on Poverty Prevention in Western Thailand: Happiness Indicator" or "Happiness Indicator Survey," collected in Kanchanaburi province, in 2005 by the Institute for Population and Social Research, Mahidol University to identify youths' quality of life indicators and components to get a general picture of youths' quality of life. The second is longitudinal data from the Kanchanaburi Demographic Surveillance System (KDSS) collected during the period of 2001 to 2004. The KDSS was administered by the Institute for Population and Social Research, Mahidol University and supported by the Wellcome Trust, United Kingdom to examine the impact of family structure on youths' quality of life indicators including school/college enrolment and health risk behavior. The reasons for choosing Kanchanaburi province were: (1) The Happiness Indicator Survey provides various variables to identify youths' quality of life indicators and components and the KDSS offers longitudinal data in order to examine the family structure change over a period of time; and (2) Kanchanaburi is diversified in social, economic, and ecological features. It has a mixture of economic conditions including both industrial and agricultural sectors.

1.2 Research Questions

1. What is youths' quality of life in Kanchanaburi province?

2. Does family structure have any association with youths' quality of life indicators in the Kanchanaburi DSS?

1.3 Research Objectives

1. To identify youths' quality of life in Kanchanaburi province.

2. To examine the association between family structure and youths' quality of life indicators in the Kanchanaburi DSS.

1.4 Scope of the Study

The first objective in this study focuses on youths' quality of life in Kanchanaburi province. The results of this part could explain only the context of Kanchanaburi province based on the existing variables that are available in the data. It could not be generalized to explain youths' quality of life as a whole in the Thai context.

1.5 Limitation of the Study

1. The Happiness Indicator Survey, which is cross-sectional data, did not offer the variable indicating changing family structure. The longitudinal data of the Kanchanaburi Demographic Surveillance System (KDSS) could provide variables to indicate changing family structure.

2. The Kanchanaburi Demographic Surveillance System (KDSS) did not provide various variables to indicate youths' quality of life indicators and components Thus, the Happiness Indicator Survey could provide more variables to identify youths' quality of life indicators and components.

1.6 Conceptual Framework

Figure 1.2 graphically summarizes the structure of this study to clarify its content and data analysis. According to the availability of data, this study utilized the Happiness Indicator Survey to determine youths' quality of life in preparation for analysis in the first objective. There are two main types of quality of life; objective quality of life and subjective quality of life. For objective quality of life, there are five dimensions including physical health, standard of physical environment, standard of living, social capital, and cultural belief activities. For subjective quality of life, there is one dimension including standard of emotion. Youths' quality of life in this study refers to the state of well-being that is reflected by life conditions.

The results in the first objective from the Happiness Indicator Survey will provide the indicators and components of youths' quality of life in Kanchanaburi province and then the present study will select only three important indicators that are available both in the Happiness Indicator Survey and the KDSS; school/college

enrollment, smoking, and alcohol drinking, as dependent variables in the models to determine the relationship between family structure and "youths' quality of life indicators", while controlling for the effects of youth characteristics, primary guardian characteristics, and household characteristics.

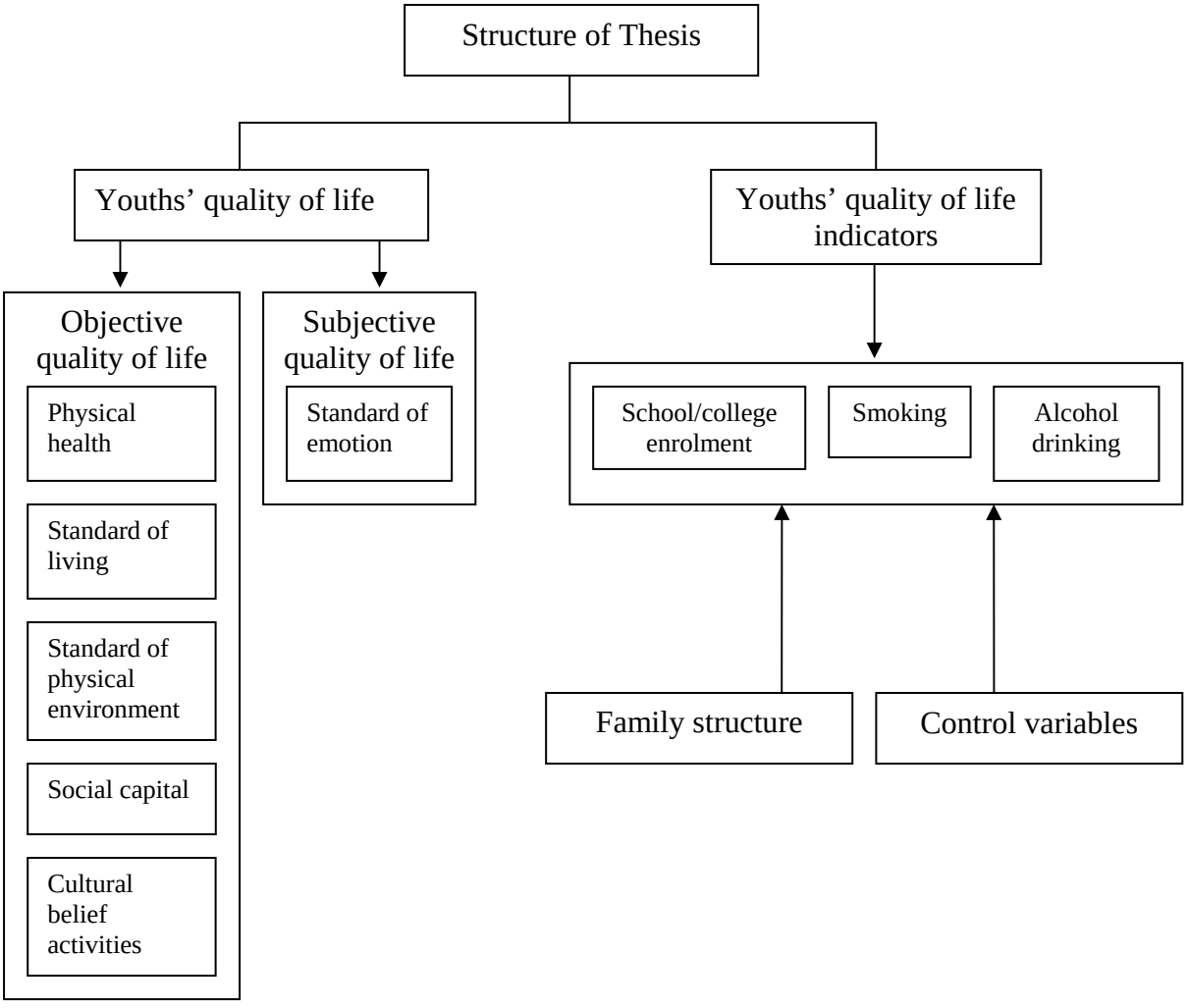


Figure 1.2 Conceptual Framework

Table 1.4 shows the structure of the thesis. In order to meet the first objective, factor analysis was used to identify youths' quality of life. In order to meet the second objective, longitudinal data of the Kanchanaburi Demographic Surveillance System (KDSS) was used to examine the association between family structure and youths' quality of life including school/college enrolment, smoking, and alcohol drinking to examine whether youth are enrolled in school/college, smoke, and drink alcohol by using logistic regression.

Table 1.4 Structure of Thesis

Objective	Data used	Sample	Method	Expected output
1. To identify youths' quality of life in Kanchanaburi province	Happiness Indicator Survey, 2005	Single youth 15-24 years old	Factor analysis	-Indicator -Component
			Normalization (Re-scaling method)	-Score
2. To examine the association between family structure and youths' quality of life indicators in Kanchanaburi DSS	Kanchanaburi Demographic Surveillance System, 2001 and 2004	Single youth 13-18 years old in 2001	Logistic Regression	-Logistic regression model of association between family structure in 2001 and youths' quality of life indicators in 2004

1.7 Operational Definitions

Because this study has a great many analyses and variables, operational definitions are presented here in order to facilitate clear and unique understandings.

Youth refers to people aged 15-24 years who were single and living in Kanchanaburi province at the time of interview.

Indicators refer to variables related with youth's life and have been analyzed by factor analysis, having a factor loading higher than 0.3.

Component refers to a set of indicators related with youth's life that have been analyzed by factor analysis, having an eigen value of more than 1.

Youths' quality of life refers to the state of well-being that is reflected by life conditions, which is measured as the total score of overall indicators, covering the objective and subjective aspects of youth's life in Kanchanaburi province.

Youths' quality of life indicators refer to indicators that are related with youth development, including whether they were enrolled in school/college, smoked, and drank alcohol in 2004, which are used to examine the impact of family structure.

Family structure refers to the living arrangement in the household in which youth are living, considering the relationship of youth and other household members based on living status and parent's marital status. This study divided the family structure into three types, namely; two-parent family, single-parent family, and non-parent family.

CHAPTER II
LITERATURE REVIEW

Three main sections are used to discuss the literature reviewed for this thesis. The first deals with quality of life issues relevant to discuss some of the theoretical perspectives, definitions and concepts, and methods of measurement. The second section identifies and discusses youths' quality of life concepts and reviews previous research about youths' quality of life. The final section discusses family structure regarding the definitions, theoretical perspectives, and previous studies. This study applied the literature review for data analysis and discussion of results.

2.1 Quality of Life

It is important to begin by presenting the theory of quality of life in order to define and understand the relevant concepts. The theoretical perspective of quality of life will shape the meaning of quality of life of the present study. In addition, this section will introduce the ways to assess the quality of life using composite indicators.

2.1.1 Theoretical Perspective of Quality of Life

The term "quality of life" has played an important role in expressing concern for the basic needs of human beings. Topics about the nature of human welfare, happiness, and quality of life have received increasing interest and concern from researchers in many disciplines.

The concepts about human welfare, happiness, and quality of life are not new. Life happiness has been a matter of great concern since Aristotle's era, but it appeared in the form of ethical terminology and it is believed that this concern has influenced Western thought with the systematic consideration of happiness since then. In the first half of the twentieth century, quality of life concerns were raised by Western nations due to their attempt to improve their people's well-being among nations. Quality of life was largely measured by the material level of living such as GDP per capita.

Then, in the 1960s, the opinion climate changed to focus on social statistics that measured many components, which materialized into the so called “Social Indicators” (Veenhoven, 1996). From at least the early 1970s, the notion of quality of life has appealed to researchers and professional practitioners in several very varied fields and disciplines. The development of a modern, or individualized, notion of quality of life and a methodology for the measurement of indicators of subjective well-being was created during this period (Seed & Lloyd, 1997).

The term “quality of life” might best be viewed as a sensitizing concept rather than a definitive one, relevant to many aspects of human beings. Many concepts of quality of life have been discussed and it is difficult to identify the most suitable one, because of its ambiguous nature. Although it is difficult to find an appropriate concept of quality of life, the idea of the basic human needs has been accepted and widely implemented by nations for improvement of their people’s quality of life. The concepts that can be applied for human well-being are discussed below.

1) Basic Human Needs

Human needs are the basic concept related with the standard of living that can indicate their quality of life. Many theorists have attempted to determine the human needs from various perspectives. One of the most famous psychologists is Abraham Maslow (Larsen & Buss, 2005). He proposed that there are five important levels of hierarchical needs, which include physiological needs, safety or security needs, needs of belonging, esteem needs, and self-actualization needs. At the base of the need hierarchy are the physiological needs. These include needs that are of prime importance to the immediate survival of the individual (the need for food, water, air, and sleep), as well as for the long-term survival of the species such as the need for sex. At the next highest level are the safety needs. These have to do with shelter and security, such as having a place to live and being free from the threat of danger. With only two levels mentioned so far, there are a few important observations. One is that we typically must satisfy the lower needs before we proceed to satisfy the higher needs. The second observation is that needs lower in the hierarchy are more powerful or more pressing, when not satisfied, than the needs toward the top of the hierarchy. The higher-level needs are less relevant to survival, so they are less urgent than the lower needs when not satisfied.

The third level in Maslow's hierarchy consists of belonging needs. Humans are a social species, and most people possess a strong need to belong to groups. There are two kinds of needs including the passive need to be loved and accepted and the active need to love others. The forth level is esteem needs. There are really two types of esteem—esteem from others and self-esteem, the latter often depending on the former. We want to be respected by others for our achievements and our abilities. We also want this respect to translate into self-esteem. The pinnacle of Maslow's needs hierarchy is the self-actualization needs, the need to develop one's potential, to become the person one was meant to be.

Quality of life research has been widespread and during the early period most researchers have built their quality of life research theme on Maslow's hierarchy of basic needs. This can be observed from many studies since the 1970s, for example, a study by Harland (1972) defined the quality of life as goods, services, situations and states-of-affairs as the basic nature of human being needs. In 1975, Liu considered quality of life as physical objective and psychological subjective factors related with Maslow's theme. There was a Theory of Human Needs (THN) developed by Doyal and Gough (1991) using a hierarchical approach, moving from universal goals, through basic needs to intermediate needs. Needs are defined as a particular category of universal goals relevant to all human beings in order to avoid harm. THN groups these intermediate needs into eleven categories: nutritional food and clean water; protective housing; a non-hazardous work environment; a non-hazardous physical environment; safe birth control and child-bearing; appropriate health care; a secure childhood; significant primary relationships; physical security; economic security; and appropriate education.

2) Human Development Concept

This concept has addressed the weaknesses of the economic development concept. Economic development alone cannot insure sustainable development. Sustainable development considers a human-centered and lasting development as a challenging issue. Miles (1985) proposed the human development concept that individual development cannot be separated from social development. Singh (1994) proposed his idea on total social development, which considered people as the center of development and civil society building. Speth (1994) explained that the human

development concept concerns with three things; (1) human is center of development: human is the first priority of development, (2) good environment, local and global environment should be protected, and (3) participation: successful activities derive from the participation from many people. In conclusion, human development is the idea of improveing the human capacity to obtain a good quality of life. Human development and economic development should be considered together. By principle, the concept of human development is to allow people the opportunity to participate in activities and process affecting their lives. In other words, the human development is a people-centered development process.

3) Human Security Concept

United Nations Development Programme (UNDP) developed this concept in the global context in terms of the standard of living, safety, healthy, and comfortable, which means humans on earth can survive and earn a living without fear from any danger that threatens their survival, health, livelihood, and happiness. In contrast to the basic human needs of need satisfiers, the human security concept offers the idea of risk averters for reduction of uncertainty (Doyal & Gough, 1991).

UNDP (Siltrakul, 1998) determined the human security contents for 7 components; (1) economic security, (2) food security, (3) health security, (4) environment security, (5) individual security, (6) community security, and (7) political security. This concept has set minimum standard in some aspects that show the quality of human life. To obtain what is required for the four basic needs such as a residence, food, clothes, and medicine is then a partial standard of human security. Furthermore, being educated, and protected from being discrimination, violence, exploitation or suppression are also counted as human security. The concept still covers the protection of having lasting use of natural resources and to respect culture and human dignity.

2.1.2 Definitions of Quality of Life

The issue of “what is the definition of quality of life?” has become a challenge. Results of previous researches have shown happiness and health dimensions have received most attention in quality of life research. The final definition of quality of life is broadly referred to the matter of quantitative (objective) and qualitative

(subjective) terms, which cover all of the social circumstances. Although quality of life is a popular topic of everyday concern and comment, the definition of quality of life is still ambiguous and remains poorly defined. Many studies have attempted to define quality of life but no standard definitions have been accepted and there is no consensus on the meaning of the concept of quality of life in the current literature on this subject (Cummins, 1998). Thus, a better way to answer the question of "What is the condition of quality of life?" is to identify what the quality of life is relevant to.

McCall (1975) defined quality of life as "the satisfaction of the general happiness requirements." Franklin and colleages (1986) explored quality of life as a state of well-being that is reflected by life conditions, satisfactions with life conditions and adaptation to life conditions. Oliver (1991) determined quality of life is total health and welfare, ideas which are comprehended and largely accepted by people generally. Bliss (cited in ESCAP, 1995) determined that quality of life has traditionally been equated with the "standard of living." The Ministry of Social Development and Human Security (2006), Thailand, defined quality of life as the summation of subjective and objective human well-being in the specific time and it can be compared with the standard level or base year. While Seed and Greg (1997) concluded that:

"Quality of life is about the connections between these components. It is about the connections between individual and global concerns. It is not simply about an individual's condition in isolation – though many of its technical usages, especially in medicine, have tended to limit it in this way. One person's striving towards a better quality of life affects others."

There is now further consensus that what constitutes quality of life inevitably varies not simply with individual preferences, but also with social preferences. Although some values may be accorded universal recognition, there is no absolute quality of life standard that can be applied across all cultures. Quality of life has therefore been described as a comparative rather than absolute concept. Accordingly, it is essential that the quality of life analysis of this research is set carefully within the context of values dominant in the particular segment of society that is being studied.

Academics from many different disciplines who use the idea of quality of life all agree that it has many dimensions and they have tried to list them. However, there are

different concerns when giving the definition of quality of life, which affects the way to define and measure quality of life.

Definitions of Quality of Life in Terms of Health

Quality of life is an ill-defined term in the health area. The World Health Organization (WHO, 1948) has declared health to be "a state of complete physical, mental, and social well-being, not merely the absence of disease." Many other definitions of both "health" and "quality of life" have been attempted, often linking the two, frequently emphasizing components of happiness and satisfaction with life. In the context of clinical trials, quality of life is concerned only with evaluating those aspects that are affected by disease or treatment for disease. To distinguish between quality of life in its more general sense and the requirements of clinical medicine and clinical trials, the term "health-related quality of life" is frequently used in order to remove ambiguity.

Definitions of Quality of Life in Terms of Psychology

A body of psychological work suggests that quality of life is a psychological state representing a summary of estimations of the satisfaction of life in a limited number of areas or domains. Quality of life in psychological work usually uses the concept of satisfaction to evaluate various domains in a person's life. Phochanakit (2001) studied seven domain of satisfaction in quality of life of deaf people. Mental life is usually taken narrowly to mean satisfaction and kindred states, such as a person's sense of well-being, his or her satisfaction or dissatisfaction with life, or happiness or unhappiness (Dalkey & Rourke, 1973). Dubos (1976) said that quality of life is life which is overflowing with happiness. He said that to consider happiness within one social group will be different from another group and different between people too.

Definitions of Quality of Life in Terms of Social Science

Quality of life in term of social science is based on development approach and assessed through social indicators. Quality of life is about emerging values in contemporary society that reach into almost every aspect of individual and collective endeavours. Quality of life in terms of social science is a multidimensional approach. Most commonly this takes the form of separation into an objective and subjective dimensions. Objective measures comprise tangible, objectively verifiable aspects of

living, while subjective measures comprise measures of feelings about life, usually quantified through questions of satisfaction or happiness. Definition of quality of life should be explicit in terms of its operationalization and must be equally applicable to all people under all circumstances.

The present study will apply a quality of life definition in terms of social science in order to fit with the availability of data. Objective quality of life indicators will be used to assess tangible indicators, while subjective quality of life indicators will assess the feelings about life.

2.1.3 Social Indicators

It is acceptable that the concepts and degree of quality of life have been used as the major terms to measure the success development of individuals and national goals. Before going on to the quality of life measurement, it is important to discuss some ideas about social indicators because social indicators can be components of a composite index of quality of life and used to measure and identify the definition of quality of life.

Social indicators are also indexes of the state of society and its changes. This approach focuses on social measurements and analyses designed to improve our understanding of what the main features of society are, how they interrelate, and how these features and their relationships change.

There are many variables and indicators used to measure each of the quality of life domains; a distinction is often made between so-called objective and subjective indicators. A selection of frequently used objective and subjective social indicators is shown in Table 2.1.

Table 2.1 Objective and Subjective Social Indicators

Frequently used objective social indicators (represent social data independently of individual evaluations)	**Subjective social indicators (individual's appraisal and evaluation of social conditions)**
-Life expectancy	-Sense of c ommunity
-Crime rate	-Sense of safety
-Unemployment rate	-Happiness
-Gross Domestic Product	-Satisfaction with 'life as a whole'
-Poverty rate	-Relationships with family
-School attendance	-Job satisfaction
-Working hours per week	-Sex life
-Perinatal mortality rate	-Perception of distributional justice
-Suicide rate	-Class identification
-Material possession	-Hobbies and club membership

Source: Rapley, 2003

Objective social indicators focus on material provision, economic, and social data, which is generally well-understood and widely available. They are not complicated to understand and are a preferred measure for dealing with policy makers and planners, and are typically used to measure at the household, community, and country level (Rogerson, 1995). However, it is said that objective social indicators alone failed in the task of detecting change when it has obviously occurred because objective social indicators alone neither described nor predicted completely the manner in which societies progress (Oliver et al., 1996).

Subjective social indicators are likely to be involved with the measurement of individual's level of satisfactions, feelings, attitudes and perceptions. Subjective social indicators seem to be too difficult to define or measure. Campbell and Converse (1972) stated that the measurement of individual psychological states in the population at large is essential to understand both social change and quality of life. Andrews and Withey (1976) examined levels of individual's satisfaction both with the quality of life as a whole and also a host of domains of their lives- from the specific (house, job, family) to the global (life-as-a-whole). The question "How do you feel about your life as a whole?" is widely used as a quality of life index.

To meet the requirement for satisfactory quality of life indicator application, there are two different levels of scale at which social indicators can be applied. The first level is called macro social indicators. This level is not used in this research. The second level is called micro social indicators, which involves the household and individual levels. This level is the main focus of this research.

First Level: Macro Social Indicators

There were many macro level indicators developed to monitor the progress of human development at the national level and city level. It is said that macro social indicators have pushed the policy makers renewed impetus to the welfare, socio-economic, and environmental evolution of the country. Organization for Economic Co-operation and Development (OECD)'s programme has developed a set of nine social indicators concerning the social system that includes physical, biological, psychological, technical, economic, social, political, and cultural indicators. Some international indices take social aspects and environmental aspects into account, for example, the Human Development Index and Happy Planet Index, respectively. The Human Development Index (HDI), introduced by the United Nations (UN), is one of the indices that can be used for international comparison. HDI (2005) includes social development in terms of health and education into human development. Recently, international surveys on happiness indices have been increasingly popular, and one of the most recent indices has been the Happy Planet Index (HPI), which measures ecological efficiency from utilizing natural resources and outcome of human lives in longevity and happiness. In Thailand, the National Economic and Social Development Board (NEDB) plays a key role in developing Thailand's national well-being indicators. These indicators encompass seven components with equal weights for the composite index. Other indicators have been provided by many organizations such as the Index of Human Deprivation (IHD) and Human Achievement Index (HAI) constructed by UNDP Thailand. The HAI is a refinement of the IHD, and measures development of Thailand's 76 provinces.

Concerning the city or local social indicator level, it has been suggested by Rogerson (1989), a British geographer, that the way to measure quality of life in a particular set of cities in concerned with the conditions of life quality to be achieved by their citizens. He stated that those conditions have to be within those urban

environments rather than personalized aspects of life quality. Three main components were discovered including social infrastructure and service, economic performance, and physical environment.

Second Level: Micro Social Indicators

Micro level indicators are most likely to be used during the research. Research methodology was applied to find out the information, especially subjective well-being among samples. It can be said that subjective social indicators are involved with the measurements of an individual's level of feelings, attitudes and perceptions and designed to measure people's happiness and satisfaction, which are related to their perception and attitude toward the enjoyable life in their families, friendships and standard of living. Brenner (1975) studied the quality of affect and self-evaluates happiness, which is concerned with the assessment of how a person is feeling. These refer to individual affect and the relationship of such assessment to self-evaluations of happiness. Happiness defined by Bradburn (1969) as the difference between positive and negative affect. The Bradburn affect scale balance (ABS) has proved to be a useful measure and considerable research supports the validity and reliability of this scale. In 1976, Andrew and Withey developed the D-T scale (Delight and Terrible). This scale explained the people feel about their happiness level. The question asked in this scale was "How do you feel about how happy you are?". However, Kammann et al. (1984) concluded that general happiness is philosophically constructed as a sense of well-being, which in turn has been defined either as a complete and lasting satisfaction with life as-a-whole or a preponderance of positive over negative feelings. Diener and colleagues (1985) develop a Five-level Satisfaction With Life Scale (SWLS) to focus explicitly and exclusively on life satisfaction as a cognitive judgmental evaluation of one's life as a whole.

Measuring quality of life is then, a matter of choosing an approach relevant to purpose at hand. It is noticed that quality of life was measured by multidimensional inventories which involved questions on subjective satisfactions as well as on objective materialistic satisfaction. It is clear that using a single item measure and multi-items scales to compare and evaluate life quality are the most popular measurement.

It can be said that it is not possible to measure all factors leading to quality of life. The definition of the components of the quality of life that are required to construct the social indicators and the components of social indicators depends on the objective of the indicator, that is, what aspect of people's well-being will it measure.

2.1.4 Quality of Life Assessment

1) Quality of Life Assessment Concept

When assessing quality of life, the thing that we wish to assess should be clear. The concepts of quality of life assessment are shown as the followings.

Shama (1975) separated quality of life assessment into the 3 following levels:

1. Physical needs level means fundamental necessities to respond for good living; the indicators to indicate quality of life in this level are food, housing, medicine and clothes.

2. Mental level means having a position and factors that make life happy and satisfied. The indicators in this level are a warm family, have a chance to study, have a job, medical service and public health, safe and secure, fun and acceptance in the society.

3. Ambition and needs level mean the ability to make a happy life and have the highest satisfaction of each person. The rules as mentioned may be international rules for considering the quality of people's life in general, while regional rules may consider other factors. For example, social system, political and economic conditions that makes the quality of life in level 3 different for each region.

Suchart Prasitrathasin (1997) divided the concept of quality of life assessment into 3 parts:

1. Objective quality of life assessment, which is based on the utility or standard such as income, illness, standard of living.

2. Specific subjective quality of life assessment, which is based on the value of specific things that humans are given such as satisfaction with their environment.

3. Specific general quality of life assessment, which is based on the value of overall or whole life that humans are given, such as happiness with life as a whole.

In conclusion, quality of life assessment can consider only one aspect, e.g. objective quality of life, or both aspects including objective and subjective quality of life.

2) Concept and Steps of Formulating Indicators

Kriengsak Charoenwongsak (2000) said that current development in the globalization era that is changing rapidly and in an era of much complex information, makes it necessary to use tools or indicators to briefly summarize the information in a situation in order to make many decisions on various matters. The importance of using an index or indicator will increase continuously. Obtaining a valid index can reflect the truth more accurately and precisely. The concept about indicators will be as shown below:

An indicator is the information or value that can be observed in a quantitative form or quantitative information that can be used to broadly point out the condition of something to be measured or reflecting a trait. The main characteristics of an indicator can be summarized into 3 points (Johnstone, 1981).

1. An indicator is something that points out/sets in the form of a quantity or can be made into a quantity, and is not a context narration of an interpretation of the indicator figure value and must be compared with the criterion made so that it can tell the meaning of how high/low the figure is. Furthermore, the interpretation criterion of an indicator figure system made must be clear.

2. The value of an indicator is temporary, not permanent. It varies according to time and space – that is, an indicator will point out a meaning by having time and place conditions as the controllers, which means an indicator will point out a specific meaning in a certain period of time and in a specific area or a certain area of the system wanted to be examined, which may take many months or years, such as a 3 months or 5 years period indicator of any province, district, region, or country depending on duration and place used in collecting data for making such an indicator.

3. An indicator is something that points out what is intended to be measured in a broad form or a form of a brief picture in general rather than being a specific picture in detail.

Composite indicators are increasingly recognized as a useful tool to measure a country's performance, which can applied for quality of life assessment. Even though composite indicators are usually used for macro-level analysis, the way to construct indicators is useful and can be applied at the micro-level (Sirikwanchai, 2005). The following guidelines of constructing composite indicators have been widely and popularly employed until the present. It is a guideline, which emphasized for empirical studies through quantitative analysis. The seven steps of constructing composite indicators are presented as below (OECD, 2005).

Step 1 Developing a theoretical framework

A sound theoretical framework is the starting point in constructing composite indicators. The framework should clearly define the phenomenon to be measured and its sub-components and select individual indicators and weights that reflect their relative importance and the dimensions of the overall composite.

The definition should give a clear sense of what is being measured by the composite indicator. It should refer to the theoretical framework, linking various sub-groups and the underlying indicators. Multidimensional concepts can be divided into several sub-groups. These sub-groups need not be independent of each other, and existing linkages should be described theoretically or empirically to the extent possible. Then, It should be identifying the selection criteria for the underlying indicators and the selection criteria should work as a guide for whether or not an indicator should be included in the overall composite index.

Step 2 Selecting variables

The strength and weaknesses of indicators largely derive from the quality of the underlying variables. Ideally, variables should be selected on the basis of their relevance, analytical soundness, timeliness, accessibility, etc. While the choice of indicators must be guided by the theoretical framework for the composite, the data selection process can be quite subjective as there may be no single definitive set of indicators. The lack of relevant data also limits the constructor's ability to build sound composite indicators. Given a scarcity of internationally comparable quantitative (hard) data, composite indicators often include qualitative data from surveys or policy reviews.

Step 3 Multivariate analysis

This preliminary step is helpful in assessing the suitability of the data set and will provide an understanding of the implications of the methodological choices, e.g., weighting and aggregation, during the construction phase of the composite indicator. Principle components analysis (PCA) and Factor analysis (FA) have usually been used. The goal of PCA is to reveal how different variables change in relation to each other and how they are associated. This is achieved by transforming correlated variables into a new set of uncorrelated variables using a covariance matrix or its standardized form – the correlation matrix. Factor analysis (FA) is similar to PCA, however it is based on a particular statistical model. An alternative way to investigate the degree of correlation among a set of variables is to use the Cronbach coefficient alpha (c-alpha), which is the most common estimate of internal consistency of items in a model or survey. These multivariate analysis techniques are useful for gaining insight into the structure of the data set of the composite.

Step 4 Imputation of missing data

Missing data often hinder the development of robust composite indicators. Data can be missing in a random or non-random fashion. The missing patterns could be:

1. Missing Completely at Random (MCAR). Missing values do not depend on the variable of interest or any other observed variable in the data set. For example, the missing values in the variable income would be of the MCAR type if (i) people who do not report their income have, on average, the same income as people who do report income; and if (ii) each of the other variables in the dataset would have to be the same, on average, for the people who did not report the income and the people who did report their income.

2. Missing at Random (MAR). Missing values do not depend on the variable of interest, but they are conditional on other variables in the data set. For example, the missing values in income would be MAR, if the probability of missing data on income depends on marital status but, within each category of marital status, the probability of missing income is unrelated to the value of income. Missing by design, e.g., if survey question 1 is answered yes, then survey question 2 is not to be answered, are also MAR as missingness depends on the covariates.

3. Not Missing at Random (NMAR). Missing values depend on the values themselves. For example, high income households are less likely to report their income.

Step 5 Normalization of data

Normalization is required prior to any data aggregation as the indicators in a data set often have different measurement units. There exist a number of normalization methods (Table 2.2) (Freudenberg, 2003; Jacobs et al., 2004):

The selection of a suitable method however, is not trivial and deserves special attention (Ebert and Welsh, 2004). The normalization method should take into account the data properties, as well as the objectives of the composite indicator. Different normalization methods will yield different results. Robustness tests might be needed to assess their impact on the outcomes.

Table 2.2 Normalization Methods

Method	Equation
Ranking	$I_{qc}^{t} = Rank(x_{qc}^{t})$
Standardisation (or z-scores)	$I_{qc}^{t} = \frac{x_{qc}^{t} - x_{qc=\bar{c}}^{t}}{\sigma_{qc=\bar{c}}^{t}}$
Re-scaling	$I_{qc}^{t} = \frac{x_{qc}^{t} - \min_{c}(x_{q}^{t_0})}{\max_{c}(x_{q}^{t_0}) - \min_{c}(x_{q}^{t_0})}.$
Distance to a reference country	$I_{qc}^{t} = \frac{x_{qc}^{t}}{x_{qc=\bar{c}}^{t_0}}$ or $I_{qc}^{t} = \frac{x_{qc}^{t} - x_{qc=\bar{c}}^{t_0}}{x_{qc=\bar{c}}^{t_0}}$
Categorical scales	$I_{qc}^{t} = \begin{cases} 25 & \text{if } x_{qc}^{t} \in \{p^{25th}\} \text{percentile} \\ 50 & \text{if } x_{qc}^{t} \in \{p^{50th} - p^{25th}\} \text{percentile} \\ 75 & \text{if } x_{qc}^{t} \in \{p^{75th} - p^{50th}\} \text{percentile} \\ 100 & \text{if } x_{qc}^{t} \in \{p^{100th} - p^{75th}\} \text{percentile} \end{cases}$

Table 2.2 Normalization Methods (Continued)

Method	Equation
Indicators above or below the mean	$I_{qc}^{t} = \begin{cases} 1 & \text{if } w > (1+p) \\ 0 & \text{if } (1-p) \le w \le (1+p) \\ -1 & \text{if } w < (1+p) \end{cases}$ where $w = x_{qc}^{t} \big/ x_{qc=\bar{c}}^{t_0}$
Cyclical indicators (OECD)	$I_{qc}^{t} = \frac{x_{qc}^{t} - E_t\left(x_{qc}^{t}\right)}{E_t\left(\left\lvert x_{qc}^{t} - E_t\left(x_{qc}^{t}\right)\right\rvert\right)}$
Balance of opinions (EC)	$I_{qc}^{t} = \frac{100}{N_e}\sum_{e}^{N_e} \mathrm{sgn}_e\left(x_{qc}^{t} - x_{qc}^{t-1}\right)$
Percentage of annual differences over consecutive years	$I_{qc}^{t} = \frac{x_{qc}^{t} - x_{qc}^{t-1}}{x_{qc}^{t}}$

Note: x_{ic}^{t} is the value of indicator for country *c* at time *t*. $\bar{c}$ is the reference country. The operator *sgn* gives the sign of the argument (i.e. +1 if the argument is positive, -1 if the argument is negative). N_e is the total number of experts surveyed.

Step 6 Weighting and aggregation

When used in a benchmarking framework, weights can have a significant effect on the overall composite indicator and the country rankings. A number of weighting techniques exists. Some are derived from statistical models, such as factor analysis, data envelopment analysis and unobserved components models (UCM) or from participatory methods like budget allocation (BAL), analytic hierarchy processes (AHP) and conjoint analysis (CA). Unobserved components and conjoint analysis approaches are explained in the Toolbox for Constructors. No matter which method is used, weights are essentially value judgments.

Step 7 Robustness and sensitivity

Several judgment calls have to be made when constructing composite indicators, *e.g.* on the selection of indicators, data normalization, weights and aggregation methods, etc. The robustness of the composite indicators and the

underlying policy messages may thus be contested. A combination of uncertainty and sensitivity analyses can help gauge the robustness of the composite indicator and improve transparency.

2.2 Youths' Quality of Life

It has been generally accepted that human beings have many similar factors. However, quality of life is the integration of all those factors. The ability to seek and integrate all of those various factors will be affected by different levels and qualities of individual's lives.

The quality of life of each social group therefore has different characteristics and levels of standards. However, it is difficult to measure or evaluate one individual's quality of life as being superior to another's. In addition, youth will have quality of life different from other population age groups. It is essential to review the concept of youth and quality of life related with youth through previous studies.

2.2.1 Adolescence and Youth Development in Context

1) The Fundamental Changes of Adolescent and Youth

Adolescence is a transitional period. Rather than viewing adolescence as having a specific beginning and a specific ending, it makes more sense to think of the period as being composed of a series of passages- biological, psychological, social- from immaturity into maturity. Social scientists who study adolescence usually differentiate among early adolescence, which covers the period from about age 11 through age 14; middle adolescence, from about age 15 through age 18; and late adolescence or youth, from about age 18 through age 21. The United Nations defines young persons in the 15 to 24 year age group as "youth" (ESCAP, 2000).

There are three features of adolescent development that give the period its special flavor and significance: (1) the onset of puberty, (2) the emergence of more advanced thinking abilities, and (3) the transition into new roles in society. They are changes that occur universally, all adolescents in every society go through them (Santrock, 1996). The outstanding characteristics of children in early adolescence are

rapid growth leading to considerable changes of figure, height, weight, and appearance, as well as reproductive system development. Physical changes could lead to confusion and anxiety about their appearance. Children at this age mostly have unstable emotions that easily change, and they begin to express their emotional identity in temperamental or anxious behavior.

In general, adolescent children like to be autonomous and try to reduce behavior that shows dependency. The process of identity development that begins during this period makes children likely to challenge adult authority. This could easily cause conflict between children and parents, peers, and teachers at any time. Adolescent children show less concern about parent's demands and are unwilling to receive advice or be criticized. Moreover, while they try to stay away from parents, a feeling of loneliness drives them to be with friends instead. Children in this age still associate with friends in a cluster pattern, while choosing some of them as close friends. At this stage, intellectual development approaches the process of abstract thinking which enables them to understand abstract way of thought such as reasonable expectations, creative thinking, and sympathy. The idea of common interest would emerge at this stage. Then adolescents begin to set their goals for academic success as well as career paths for their future lives.

2) The Context of Adolescence and Youth

Although all adolescents experience the transitions of the period, the effects of these changes are not uniform for all young people due to the different contexts. Much evidence describes many contexts of youth life that affects youth development. Steinberg (1996) considered four contexts; families, peer groups, schools, work and leisure, while Santrock (1996) added culture as the context to be considered. In the Thai context, researchers consider five realms; family, education, health, work, and leisure (Soonthornthada et al., 2005). The detail of contexts of youths' quality of life can be described as below:

Families: Families are the first context of population that has a major role for rearing, supporting, and socializing the children. Family changes have directly affected children's well-being (Steinberg, 1996). The impact of parental encouragement and stimulation was as great for adolescents as it was for young children. Parents continue to influence their children during adolescence. It was found

that family structure, family processes, family interaction, and family environment are related to children's achievement, to an important extent, across all status groups.

Peer Groups and School: Youth in modern society spend a remarkable amount of time with their peers. Studies show that a youth's moods are most positive when they are with their friends, and that time spent with friends become more rewarding over the course of youth (Larson, 1983; Larson & Richards, 1991). Schools also play an extremely important role in structuring the nature of youth in modern society (Steinberg, 1996). At School, children learn rules, discipline, homework and also socialization processes.

Working and Leisure: The participation of youth in the world of work has gone through a number of dramatic economic and social changes during the past 100 years. The majority of American teenagers hold part-time jobs during the school years due to increasing levels of compulsory schooling. In developing countries, where industrialization is still in a relatively early stage and a large percentage of the population is poor, youth generally leave school early. In these countries, most youth enter full-time employment and work for their families (Steinberg, 1996). Leisure activities are the activities without or outside school and work. In the United States, leisure occupies more of a youth's time than do school and work combined (Steinberg, 1996). Leisure activities can socialize youth for adult roles and may enhance a youth's well-being and strengthen their attachment to school.

2.2.2 Previous Studies on Youths' Quality of Life

It is clear that quality of life means different things to different people, and takes on different meanings according to the area of application. Many analysts attempt to group needs into components, which are based on theory and empirical surveys. There is often overlap between sets of components and variation according to different research approaches. Example of youths' quality of life components deriving from many literatures are provided in the following table.

Table 2.3 Components Adopted in Particular Analyses of Youths' Quality of Life

Micro Level		
University of Toronto	1995	Physical being; Psychological being; Spiritual being; Physical belonging; Social belonging; Community belonging; Practical becoming; Leisure becoming; Growth becoming
Cummins	1996	Material well-being; Health; Intimacy; Safety; Productivity; Community; Emotional well-being
Wang et al.	2000	Physical; Psychological; Independence; Social; Environment
University of Washington	2001	Self; Relationship; Environment; General quality of life
Meuleners et al.	2003	Psychological; Environment; Social; Opportunities for growth; Health
Park	2005	Family; School; Living environment; Self
Macro Level		
Child and Youth Well-Being Index	1974	Family economic well-being; Health; Safety/Behavioral concerns; Educational attainment; Community connectedness; Social relationships; Emotional/Spiritual well-being
National Commission for Youth Promotion and Coordination, Thailand	1994	Nutrition; Physical health; Mental health; Intellectual and basic ability; Employment and Occupational; Preparations ; Social, cultural, and ethic

For the framework of Quality of life Units, the department of occupational therapy, University of Toronto, Canada (1995), divided the concept of quality of life of adolescent into 3 main components and 9 sub components. In giving the details of components, the literature concerning with each component can be provided as below:

1) Being

The Being component of quality of life is concerned with the most basic personal aspects of "who one is" as an individual. It refers to parts of the self that are essential to all functioning human beings. For the purposes of assessing quality of life, the being component is divided into three sub components: physical, psychological, and spiritual being.

Physical Being

This sub component incorporates the individual's physical person and well-being. It includes physical aspects of health, nutrition, exercise, personal hygiene, clothing, and overall physical appearance.

It can be said that adolescence is one of the healthiest periods in the life span, characterized by a relative low incidence of disabling or chronic illnesses, low rates of death and disability, and new medical technologies and better health care delivery improving the physical well-being of adolescence (Gans, 1990). On the other hand, adolescence is a period of relatively great physical risk because of unhealthy behaviors, violence, and risky activity. Moreover, adolescents are far less likely than adults to seek and receive medical and dental care (Millstein, Petersen, & Nightingale, 1993). Thus, good health behavior is important to maintain health status, leading to improve the quality of life.

Psychological Being

This sub component encompasses the person's psychological well-being. It includes the person's psychological health and adjustment, cognition, feelings, and evaluations concerning the self (e.g., self-esteem, self-concept, and view of his/her own sexuality), and sense of control over him/herself.

The concept of subjective well-being is sometimes used interchangeably with the term happiness and life satisfaction. Adolescent satisfaction comprises a positive attitude toward life, self-esteem, joy of life and absence of depressive mood. Headey and colleagues (1984) suggested that a positive sense of well-being appears to depend on a wider range of personality variables, extraversion and optimism as well as personal competence and supportive social network. Adolescence is a period of cognitive changes, and adolescents's psychological well-being depends on many factors. Demographic and socioeconomic differentials have influenced well-being differently. Simieoni and colleagues (2001) found that French girls (11-17 years old) assess higher scores on the friend domain but lower scores on psychological well-being domain and overall health-related quality of life scale. Further, their study also found that older adolescents had higher scores than younger ones for dimensions dealing with relations with friends but lower scores on relations with parents and psychological distress. Teenagers from Eastern and Central Europe

whose economies were much weaker than those of Western countries, felt in general worse than those from Western countries (Grob, 1998).

Spiritual Being

This sub component embodies the individual's own personal values, personal standards to live by, and spiritual beliefs. Spiritual beliefs may or may not be religious in nature. Hoffman (1980) proposed that adolescence is an important period in moral development, when they are faced with contradictions between the moral concepts they have accepted and experiences outside their family and neighborhood. Adolescents start to question their former beliefs and develop their own moral system. Adolescents are more interested in religion and spiritual beliefs than children. Their increasing abstract thought and their search for an identity draw them to religion and spiritual matters. Involvement of adolescent's participation in religious organizations is associated with a lower incidence of sexual activity (Thornton & Camburn, 1989).

2) Belonging

This component refers to how well the person fits and is accepted in the social, physical, and resource-related aspects of his or her various environments. Accordingly, the belonging aspect of quality of life consists of three sub components: physical, social, and community belonging.

Physical Belonging

This sub component incorporates the links that the person has with his/her physical environments (i.e., home, neighborhood, school, workplace, and larger community). Personal safety and having a private, physical space of one's own are also included here.

Environments in the home and school have influenced youth performance. In the home environment, parental encouragement, family relationship, and physical facilities at home have encouraged school success (Entwistle & Hayduk, 1988). In the school environment, the impact of friends on adolescent's school performance depends on the academic orientation of their peer group. Having friends who earn high grades and aspire to further education appears to enhance adolescent's achievement, whereas having friends who earn low grades or disparage school success may interfere with it (Natriello & McDill, 1986).

Social belonging

This sub component encompasses the bonds that the person has with his/her social environments. This includes the sense of belonging with and acceptance by his/her intimate other, family, friends, co-workers, and others in his/her neighborhood and community as well as members of his/her cultural (or sub-cultural) or ethnic group.

The literature states that satisfactory relations with parents and friends are connected to a more positive outcome in this stage of development. Friendship is a major contributor to adolescents' psychosocial adaptation and constitutes an important protective element against deviant behavior, depression, and feelings of alienation. At the same time, the importance of the family's role has been recognized for its influence over adolescent's psychosocial adaptation and in avoiding deviant and risky behavior (Buhrmester & Furman, 1987).

Community Belonging

This sub component embodies the connections that the person has with various resources typically available to members of his/her community and society. This includes availability of information about and access to sources of adequate income, employment, educational and recreational programs, health and social services, as well as community events and activities.

In the United States, some signs indicate that today's adolescents are shifting toward a stronger interest in the welfare of society. One study found that adolescent's participation in community service stimulated them to reflect on society's political organization and moral order (Santrock, 1996). Many commentators have argued that expanding community service will help integrate adolescents into the community, enhance their feelings of confidence and responsibility, and put them in touch with adult role models. Community service for young people and youth organizations can provide much better employment to them (Steinberg, 1996).

3) Becoming

This component is concerned with the purposeful activities the individual does in order to achieve his/her own goals, hopes, and aspirations (i.e., both immediate and long-term). It includes the leisure activities that the individual engages

in as a means of "re-creating" himself/herself. The Becoming aspect of quality of life was divided into the following sub components: practical, leisure, and personal growth activities.

Practical Becoming

This sub component encompasses practical, purposeful activities in a variety of areas. It includes domestic chores, paid work, going to school, volunteer activities, other activities that are directed towards helping others, and seeking out service helpful to the individual (e.g., health or social services).

In the United States, the number of adolescents who work in part-time jobs is increasing. Most high school students have had some work experience. Three of four reported some job income during the school week (Santrock, 1996). Mortimer and colleagues (1992) found that boys reported higher self-esteem and well-being when they perceived that their jobs were providing skills that would be useful to them in the future. However, other research confirms the link between part-time work during adolescence and problem behaviors. One study found that taking on a job for more than 20 hours per week was associated with increasing disengagement from school, increased delinquency and drug use, increased autonomy from parents, and diminished self-reliance among adolescents (Steinberg, Fegley, & Dornbursh, 1993).

Leisure Becoming

This sub component embodies leisure-time activities that do not necessarily have an obvious instrumental (practical) value. These activities serve to promote relaxation, stress reduction, and "re-creation" of the person's sense of balance between work and play in his/her life. It includes activities of relatively short duration or the cluster of activities of longer duration usually associated with taking a vacation.

The idea that youth who participate in sports exhibit fewer behavior problems has been supported by empirical studies. For example, in a large American study, Jeziorski (1994) found that participants in sports earned better grades, behaved better in the classroom, had fewer behavior problems outside the classroom, dropped out less frequently, and attended school on a more regular basis with fewer unexcused absences as compared to nonparticipants. Furthermore, Jeziorski found that nonparticipants were more likely to drop out of school, more likely to use drugs, more

likely to become teen parents, more likely to smoke cigarettes, and more likely to have been arrested than were sport participants. Segrave & Hastad (1982) also found a negative relationship between sports and delinquency in both early adolescents and college students. Increased sports activity was associated with lower levels of delinquency. Other studies support the view that sport and exercise are associated with reduced problem behaviors (Brown & Siegel, 1988).

Growth Becoming

This sub component includes activities that foster the development of the individual's own knowledge and skills. A person usually engages in these activities in order to learn new information or a new skill, to enhance an existing skill, explore new things, or to solve a problem. Both formal and informal educational and learning activities are relevant here.

Youth is a critical juncture in achievement. New social and academic pressures force adolescents toward different roles, roles that often involve more responsibility (Santrock, 1996). Most people believe that working builds character, teaches adolescents about the real world, and helps young people prepare for adulthood. But employment in today's adolescent workplace is unlikely to contribute to healthy psychological development, while it can make "premature affluence" development among youth (Bachman, 1983).

According to the components of youths' quality of life from many literatures above, it can be concluded that there are ten main youths' quality of life components: (1) Living arrangement and material well-being; (2) Environment; (3) Physical Health; (4) Family; (5) Peer and school; (6) Leisure; (7) Social and community; (8) Opportunities for growth; (9) Psychological well-being; (10) Spiritual well-being.

2.3 Family Structure

In every human society, people have organized their lives around a family unit. In a general sense, a family is any group of people who are related to one another by marriage, birth, or adoption. Implicit in the definition of a family is that its members

share a sense of social bonding; the mutual acceptance of reciprocal rights and obligations, and of responsibility for each other's well-being.

2.3.1 Concepts of Family Structure

The concepts of the family and household are often confused because of their close relationship to each other and because of the lack of unambiguous definitions of either one of them. The term "household" refers to a socio-economic unit, consisting of individuals who live together, while "family" refers to a relationship unit which pertain to or arise from reproductive process and which is regulated by law or by custom (United Nations, 1958). The family is a social group characterized by common residence, economic co-operation and reproduction. It includes adults of both sexes, at least two of whom maintain a socially-approved sexual relationship, and one or more children of their own or adopted, of sexually cohabiting adults. This definition can be referred to as a "nuclear family," while "extended family" includes a couple with their minor children, their married children and their families and other relatives as well (United nations, 1973).

Defining types of family structure has been a recent subject of debate, and the resulting ambiguity in terminology has contributed to the confusion about its effects (Popenoe, 1993). The measurement of family structure centers around the notion of departures from the form presumed simplest or most basic. Various measures of household and family complexity can be classified into two broad categories based on the type of data they use. The first class of measures makes use of information on the relationships among persons in the household. The second class, in the absence of a direct question on relationship, uses other, more routine information either as a basis for inference of or as a proxy for relationship data such as an individual's age, sex, marital status, surname, or fertility.

Generally, in every type of family, the family institution provides important functions to its members. A California Task Force identified five basic family functions: maintain physical health and safety, provide conditions for emotional growth, help shape a belief system of goals and values, create a place for recreation,

and create a place for recuperation from external stress (Sulima, 1989). Davidson and Moore (1996) offer three contemporary family functions: economic corporation, socialization of the young, and fulfillment of affective needs.

2.3.2 Thai Family

Thai family system shares some common characteristics and values with other societies of Southeast Asia. The family remains the basic training ground that launches its young generation into their own lives. Children are generally not considered independent till their marriage or until they start their own families. Seniority is respected; children treat their parents and grandparents with respect; the younger respect the older; and senior members are expected to provide help to junior members. The Thai family system is unique in that it has only a weak sex preference of children, relatively high autonomy of women, and less sexual segregation in many respects of lives.

Studies consistently find a mix of nuclear and extended households in the Thai context. With nuclear households predominating when viewed in the cross-section (National Statistical Office, 2006; Potter, 1976). A common residence pattern for both urban and rural household is the family compound, where adult children build an independent house on the parental land. Much of theoretical focus of work on the Thai family has centered on an extensive debate on the loosely structured paradigm (Sharp & Hanks, 1978). The paradigm views Thai behavior and personality as relatively less governed by standard rules and norms.

The implications of the matrilineal system on the family life cycle are that the household has alternate phases of being nuclear and extended. Men normally move into their wife's parent's household for a period of one to three years and then establish a separate, economically independent household. The most common pattern is for the youngest daughter and her husband to remain in the parental household to care for the parents and continue the family enterprise. In the typical family life cycle, the non-permanent son-in-law (the husband of an older daughter) moves into the household when his father-in-law is still economically active and relatively powerful, because he controls inheritance. The permanent son-in-law moves in when the father-

in-law is older and economically dependent. Although inheritance is normatively equally split among all siblings, there is tendency to leave the house and land to the daughter and son-in-law who remain in the parental household (Richter & Podhisita, 1991-1992).

2.3.3 Theoretical Perspective on Family Structure on Child and Youths' quality of life

1) Family System Theory

Family systems theory is a useful frame of reference for understanding the role of within-family processes, or features of the family environment that impact on individual child development. The family systems perspective enables us to think about the family as a group of related elements (family members) that interact as a whole (the family). Because the family is a whole, the movement of each person both influences and is explained by the movement of others within the system.

In a family system, interaction follows certain patterns, called family rules. Although family rules are usually unstated, they are the basis of family traditions and of family member's expectations of one another. These guiding principles of family life encompass a variety of intricate relationships in the family system. Alliances and coalitions are formed as members exchange energy and information and subsystems emerge with clear but permeable boundaries. This theory posits that family unit is the collective unit having various relationships within each family. There is an underlying infrastructure of dyadic relationships (or relationships between two family members) and other sub-system relationships, comprising members of the same generation (as in parent-parent relationships), the same sex (for example, fathers and sons), or function (parent-child) (Pryor & Rodgers, 2001). All of these relationships operate in some hierarchical order to maintain themselves and to sustain the system as a whole. These relationships can each be described, but are also related to the overarching qualities of the family as a whole, which has its own unique and stable interaction pattern. The well-being of the child can be conceived as dependent upon the functioning of elements of the entire family system (McKeown & Sweeny, 2001).

2) Economic Deprivation

Economic deprivation argues that much of the difference in child outcomes between single-parent and two-parent families is a result of poverty. Mother-only families are more likely than other families to be poor and their poverty is more extreme than that of other groups. Even among single-parent families living above the poverty line, income insecurity is common-place (Astone & McLanahan, 1991). Study of multigenerational household suggest that presence of grandparents interacts with socioeconomic status and is particularly beneficial among low-income families in order to contribute in ways that benefit to children (Deleire & Kalil, 2002).

3) Socialization

Socialization is the process by which individuals are taught to conform to social rules, to acquire personal values, and to develop attitudes typical of their culture. This process begins in earnest in early childhood. Parents and significant others initiate expectations for behavior, attitudes, and values they wish children to acquire to become effectively functioning future adults. The socialization perspective argues that two-parents are crucial for providing an optimal child rearing environment and that children benefit from the presence of a male role model in a two-parent home. For example, children in two-parent families have a theoretically greater opportunity to be taken on cultural outings, to have their television and after school activities monitored, and to have an adult become involved in school activities (Deleire & Kalil, 2002).

From the theoretical concepts above, the causal structure of family structure on child outcomes should be of concern. A causal structure that may account for the association between family structure and child outcomes is illustrated in Figure 2.1. This model focuses on the roles of different mediators of the relationship between family structure and child outcomes. According to this model, structural differences between households are related to different contextual characteristics (for example, social support, employment satisfaction, role strain, financial strain, and neighborhood characteristics) and intra-familial relations (for example, parental relationships, parent-child relationships, sibling relationships, and family-level functioning), which in turn contribute to child outcomes. It is hypothesized that family structure does not have a direct effect on child outcomes. Rather, it is the connection

between contextual and intra-familial processes and family structure that determine child outcomes.

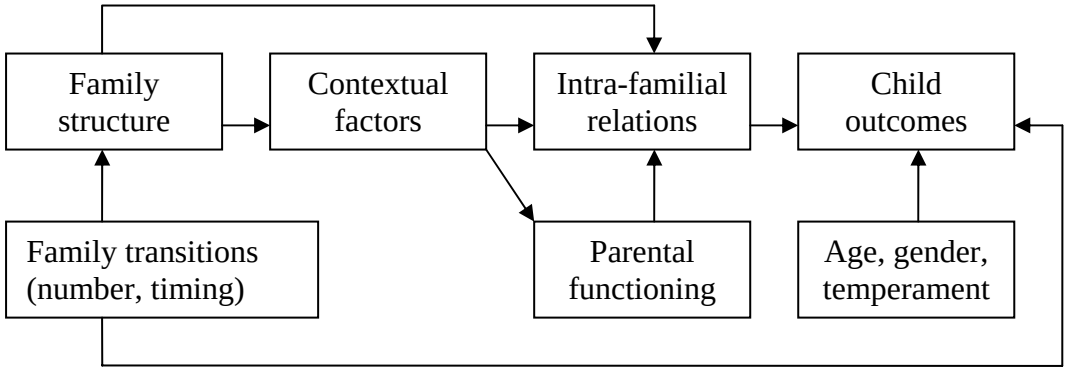


Figure 2.1 Mediation and Moderation Model of the Relationship between Family Structure and Child Outcomes.

The figure above proposes the causal structure of family structure on youths' quality of life. The present study will apply this causal structure to the model for analysis in which family structure affects youths' quality of life when controlling for mediating factors of youth characteristics, primary guardian characteristics, and household characteristics.

2.3.4 The Impact of Family Structure on Youths' Quality of Life

A general phenomenon in modern society emerging simultaneously with urbanization and industrialization was that the families had shrunk to a smaller size and changed from extended families, with several generations in the same household or area, into nuclear families with only married couples and their unmarried children. However, change in family structure continually occurs and makes families at the present time become more and more diverse. Diversity of the family in both physical and social aspects would affect relationships and well-being of family members in various ways (Acock & Demo, 1994).

1) Education

Social scientists from many disciplines have estimated the empirical relationships between family structure and children's school/college enrolment and educational outcomes. McLanahan and Sandefur (1994) found that children who grew up in single-parent families and children with a stepparent have lower educational

attainment than those who grew up with both biological parents. The estimated correlations depend on the control variables used in the regression analysis. After controlling for mother's employment and occupation, Biblarz and Raftery (Biblarz & Raftery, 1999) found that children living with both biological parents and a single-mother have higher occupational status and educational attainment than children living with a stepparent or children living with a single father. Compared with youth in two-parent families, youth who are living with single mothers and with at least one grandparent in multigenerational households have a higher chance of high school graduation and college enrolment (Deleire & Kalil, 2002). Study in Bangladesh found that children in nuclear families, headed by the father, are better off in education attainment than those in extended families headed by the grandfather (Edlund & Rahman, 2005).

2) Problem Behavior

Previous studies found an association between two-parent families and lower problem behavior of children and youth. Wallace and Bachman (1991) affirmed the importance of two-parent families as deterrents of adolescent drug use. They state that if black and Hispanic youth were as likely as white youth to live with both parents, "their levels of use for a number of drugs would be even lower than reported." In addition, Fiewelling and Bauman's (1990) study, which examined family structure as a predictor of adolescents' initial substance abuse and sexual intercourse, found significantly higher levels for children of non-intact families, even after controlling for age, race, sex, and mother's education. They conclude that the "children of disrupted families are at a higher risk of initiating the use of controlled substances and engaging in sexual intercourse, and that a firmer understanding of the mechanisms that underlie this association is needed."

Previous study found that, among adolescents, living with an additional adult of the same sex was associated with comparatively positive behavior, while living with grandparents was associated with more positive behavior but more negative for children in middle childhood. The additional adult hypothesis states that the presence of additional adults in single-parent households is associated with positive outcomes for children (Hamilton, 2005).

3) Psychological Well-being

Most of the studies that focus on the children in single-parent families attempt to examine the effect of parent's marital disruption on psychological well-being. Compared to children who grew up in continuously intact families, offspring from divorced parents are often found to have a lower psychological well-being, to have more emotional problems such as depression, and to have a more negative self-image (Dunlop, Burns, & Bermingham, 2001; Sun, 2001; VanderValk et al., 2004). However, some longitudinal studies have been carried out pertaining to long-term effects of parental divorce on offspring adjustment and it is generally found that divorce effects are most pronounced shortly after divorce (Cherlin, Chase-Lansdale, & McRae, 1998).

When considering the extended household influences, the results are equivocal. Hamilton (Hamilton, 2005) found that the presence of grandparents in the household is associated with less deviant behavior overall and fewer depressive symptoms, while the presence of other adults such as aunts, uncles, and other relatives is associated with greater depressive symptoms overall, but less deviant behavior among adolescents in households with a large number of siblings. In Korea, children from extended families had fewer behavior problems and serious problems than those who were not because grandparents in extended families may increase children's resiliency by providing sources of attachment, affection, and knowledge, as well as having indirect effects through their support of parents (Park, 2005). In Thai context, children in extended families report higher mental disorder than those in nuclear families because extended families are generally considered as having higher conflict among family members (Na Manorom, 1991).

2.3.5 Other Factors Influencing Youths' Quality of Life

Although many scholars have focused on the effects of single-parent status on children's quality of life, there are also more factors that affect children's quality of life that can described below.

1) Resources and Other Background Variables

Parental Education: Higher education is one of the most effective ways that parents can raise their family's incomes. There is clear evidence that higher

educated parents have higher earnings. Eighty-two percent of American children whose parents do not have a high school degree live in low-income families (http://www.nccp.org). A study in Vietnam found that children who have at least one parent with some secondary schooling have a significant advantage in all of these schooling categories over children whose parents have no secondary schooling. The advantage associated with a parent's education continues at a higher level of parental schooling, with a large schooling advantage observed for children whose parents have both finished upper secondary schooling (Anh, Knodel, Lam, & Friedman, 1998).

Household Size and Number of Children: Household size relates with the economic responsibility to provide for every household member. Larger household size provides less attention, emotional support, and economic support to children when compare with small size (Blake, 1989). Considerable evidence from developed countries, especially in the United States, has documented that family size exerts a negative effect on children's educational attainment (Blake, 1989; Polit, 1982). As numbers of children increase, family resources available to an individual child decrease. A clear negative association between family size and children's outcome has also been found in Thailand. The Thai socio-cultural context is that the burden of raising children, including paying for their children, falls directly on the parents. Parents must rely on their own resources. Family size becomes an important determinant of how much schooling parents provide for their children (Knodel, Havanon, & Sittitrai, 1990). A review of numerous studies conducted in developing countries found that various measures of education were usually negatively associated with numbers of siblings (Lloyd, 1994).

Parental Migration: Parental migration and the children left behind can affect their children's well-being. Findings from a 1996 study on grade school children offer a clearer picture of the parental absence on the situation of children. It offered a comparison of children from migrant families and children whose parents are non-migrants. The study found that the children of migrant parents lagged behind in school performance compared to children with both parents present. Children left behind also tended to be less socially adjusted than children whose parents were both present. In terms of spiritual and moral formation, the study suggested that the absence of parents did not have a negative impact. The mother's absence was

associated with more difficulties for the children left behind. On the whole, the study suggested that the absence of parents was associated with more difficulties for the children left behind. However, the study found that in the absence of parents, the extended family has come to fill an important void in the caring and rearing of children (Battistella & Gastardo-Conaco, 1996). However, a study in Botswana found that children who had a father engaged in migratory labor had greater body size due to their father's remittances, but there was no effect of male migratory labor on children's school attendance (Bock & Johnson).

2) Family Process Variables

Marital and Family Relationship: For children living in families with married parents, several dimensions of marital and family relationship may influence child outcomes. Marital conflict, marital stability, and mother's marital happiness shape the context in which children live. Studies suggest that levels of marital and family conflict are more important than type of family structure for understanding children's adjustment, self-esteem, and other measures of psychological well-being (Acock & Demo, 1994; Berg & R., 1979).

The child's relationship with their mother may be even more important. Mothers, compared to fathers, typically spend more time with their children and invest themselves more directly in caring for their children. If mother-child interaction is routine, enjoyable, and supportive, maternal involvement is likely to exert positive effects on children (Thompson & Walker, 1989). However, a study of adolescent deviant behavior found that family attachment has direct relationship with the deviant behaviors, while family structure was not significantly related to any of the deviant behaviors. Specific problems in child rearing were associated with a likelihood of later deviant behavior (Sokol-Katz, Dunham, & Zimmerman, 1997).

2.4 Research Hypothesis

From the literature reviews, the research hypotheses in this study are:

1. Youth in two-parent families are more likely to enroll in school or college than those who are not.

2. Youth in two-parent families are less likely to smoke than those who are not.

3. Youth in two-parent families are less likely to drink alcohol than those who are not.

CHAPTER III
METHODOLOGY

This chapter discusses the research methodology used for this study. The methodology will be described here in two sections, with a separate section for each of the two research objectives. The first section (3.1) identifies youths' quality of life in Kanchanaburi province. The second section (3.2) examines the association between family structure and youths' quality of life indicators in Kanchanaburi DSS. There is a detailed section explaining how each variable used in the analysis was measured. Lastly, the chapter explains how the data is analyzed in order to answer the research question within the scope of the conceptual framework presented in the previous chapter.

3.1 Method of Identifying Youths' Quality of Life in Kanchanaburi Province

3.1.1 Data

This study used the data from the "Geographical Integrated Research on Poverty Prevention in The Western Thailand: Happiness Indicator" or "Happiness Indicator Survey" collected in Kanchanaburi province, in 2005 by the Institute for Population and Social Research, Mahidol University. This survey was designed to measure happiness indicators and components corresponding to the goal of the 10th National Economic and Development Plan, which considers "happiness" as a goal of national development. The following components were included in the instrument; population and family, education, occupation, income, health, social capital, good governance, culture, emotion, and happiness. The questionnaire is based on information obtained from 13 focus group discussions of people in the study site, expert recommendations, and literature reviews. Multi-stage cluster sampling was used to generate a representative sample of the provincial population aged 15 and over.

3.1.2 Sample

This survey obtained information on individual and household levels, and included 4,954 individuals in 1,440 households. The sample for this study included 433 of individual youth aged 15-24.

3.1.3 Procedure of Identifying Youths' Quality of Life

To identify youths' quality of life, many steps are needed in order to get the indicators and components through the factor analysis method. Factor analysis is a powerful technique for exploring the item correlations during scale validation. This technique attempts to identify groups of variables such that there are strong correlations among all the variables within a group and those outside the group. The study attempted to obtain factor loading, eigen values, and percentage of variance.

The eigen values are obtained by matrix algebra to measure how much of the variation in the data is accounted for by each factors. Therefore the eigen values indicate the importance of each factor in explaining the variability and correlations in the observed sample of data. The eigen values are normally used to determine how many factors are present. A commonly used criterion is the so-called "eigen values greater than 1 rule." In addition, sometime other two-factor solutions are equally good at explaining the same percentage of the variability, and in fact there are an infinite variety of alternative solutions. It is usual to rotate the factors until a solution with the simplest structure is found. This study uses orthogonal rotation with varimax method to minimize the number of variables that have high loadings on each factor and considering factor loading higher than 0.3. Thus, the researcher hoped to obtain a new set of loadings for the factors, with fewer items having high values for each other, but with the same amount of the total variance still explained by the factors.

There were 38 initial variables prepared for identifying youths' quality of life indicators and components. The importance of each component is derived from eigen values, while the scores of the components are derived from normalized scores by using the re-scaling method. Figure 3.1 showed the steps of identifying youths' quality of life indicators and components. After reviewing the concept of youths' quality of life, the questions in the instrument have been selected. This study selected 38 questions to be initial variables and, then, set the criteria from literature reviews

and give a score or values to each variable. To identify the indicators and components of youths' quality of life, all of the initial variables will be analyzed using factor analysis; through factor extraction and factor rotation. This study select components that having eigen values of more than 1 and selected indicators with factor loadings of more than 0.3. Indicators will be contained in components and represent the youths' quality of life as a whole.

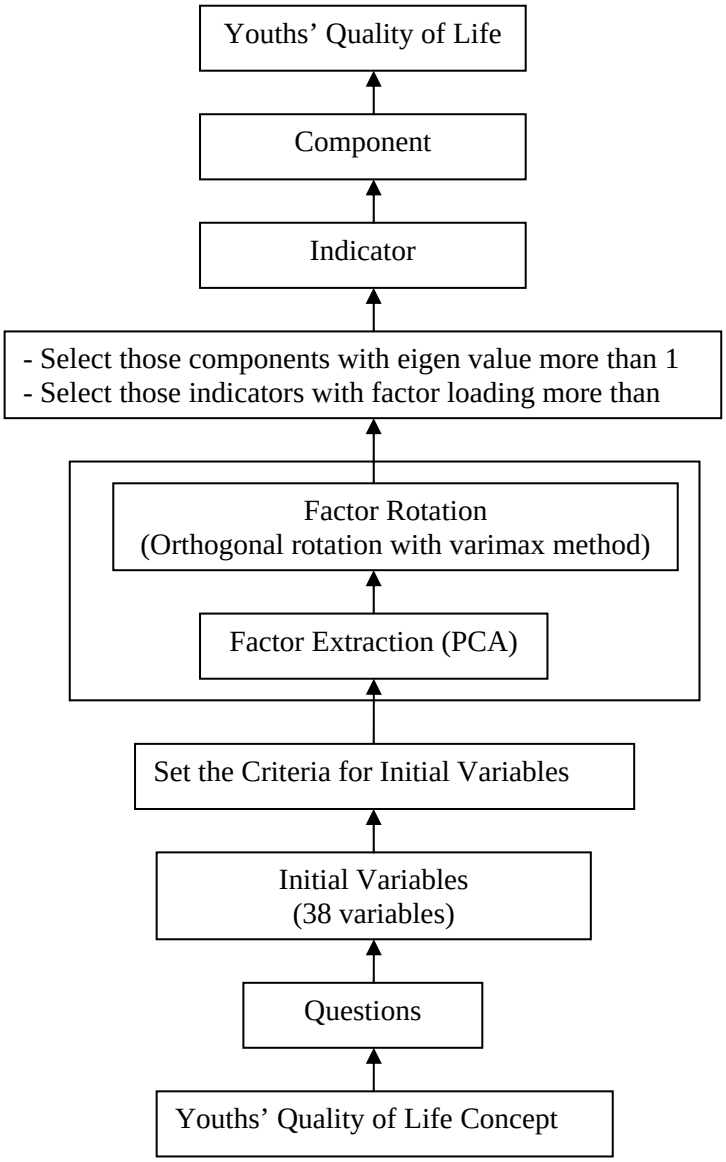


Figure 3.1 Steps of Identifying the Indicators and Components of Youths' Quality of Life

3.1.4 Method for Youths' Quality of Life Score

After identifying the indicators and components of youths' quality of life, the set of indicators and components were assessed in the form of scores. The score of youths' quality of life refers to average level of youths' quality of life in each component; a higher score means a higher quality of life in that component. The combination of indicators in each component will be used as the value to calculate the total youths' quality of life score by using normalization of re-scaling method. Re-scaling is the formula that aims to make different values to be in the same range of score 0-100 as below:

$$\text{Youths' quality of life component score} = \frac{Actualvalue - Minimumvalue}{Maximumvalue - Minimumvalue} * 100$$

3.1.5 Measurement of Initial Variables

Although the data for the study on "Happiness Indicator: Western Region Study in Thailand" was not designed to capture the specific concept of "youths' quality of life," the information in this survey did contain the components of youths' quality of life described in the literature reviews. According to the literature reviews, 38 variables were prepared for identifying the indicators and components by using exploratory factor analysis (EFA), covering both objective quality of life and subjective quality of life (Table 3.1).

Table 3.1 Initial Variables for Identifying the Indicators and Components of Youths' Quality of Life

Objective Quality of Life Variables	Subjective Quality of Life Variables
1. Education	30. Trusting each other within the community
2. Not cigarette smoking	31. Feeling safe in community
3. Not alcohol drinking	32. Liveliness
4. Exercise	33. Free from worry
5. Not have illness	34. Calmness
6. Material of housing	35. Power
7. House and land ownership	36. Free from depression
8. Electricity	37. Enjoyment of life
9. Type of cooking fuel	38. Optimism
10. Safe drinking water	
11. Safe using water	
12. Type of toilet	
13. Number of facilities in household	
14. Without noise pollution	
15. Without smoke pollution	
16. Without smell pollution	
17. Without dust pollution	
18. Without water pollution	
19. Without garbage pollution	
20. Knowing each other within the community	
21. Sharing with each other within the community	
22. Helping each other within the community	
23. Without-crime community	
24. Participate in community activities	
25. Having community activities	
26. Praying	
27. Food offering to the monk	
28. Order offering to the monk	
29. Meditation	

The initial variables are based on literature reviews and concepts related with youths' quality of life. A standard for giving the score was used for each variable, the higher score refers to the higher quality of life. The score for each variable was assigned as shown below:

1. Education: It refers to the education level of youth. This indicator is based on the basic human needs concept regarding the higher hierarchical needs of esteem needs and self-actualization, which are growth needs rather than deficiency needs. It is also based on the concept of human development, which is concerned about the improvement of human capacity and human-centered, and aims to develop the human resources for future stability of youth. Based on the compulsory requirement of 9 years of schooling in Thailand, the criterion is provided as follows:

Attending/ finished lower secondary school and over	scored as	3
Finished primary school	scored as	2
Some primary school	scored as	1
Never attend school	scored as	0

2. Not Cigarette Smoking: It refers to the frequency of cigarette smoking. This indicator determines the human security to avoid harmful effects on their physical health. This research uses the criteria of The Cigarette Smoking and Alcohol Drinking Behavior Survey (National Statistical Office, 2005) provided by the National Statistical Office of Thailand, that the frequency of cigarette smoking is important for measuring health risk behavior. The criterion is provided as follows:

Never smoked	scored as	7
Not current smoker, but ever smoker, not frequently	scored as	6
Not current smoker, but ever smoke frequently	scored as	5
Current smoker, only 1 or less than 1 cigarette/day	scored as	4
Current smoker, 2-5 cigarettes per day	scored as	3
Current smoker, 6-10 cigarettes per day	scored as	2
Current smoker, 11-20 cigarettes per day	scored as	1
Current smoker, more than 20 cigarettes per day	scored as	0

3. Not Alcohol Drinking: It refers to the frequency of alcohol drinking. This indicator determines the human security to avoid harmful effects on their physical health. This research uses the criteria of The Cigarette Smoking and Alcohol Drinking Behavior Survey (National Statistic Office, 2005) provided by the National

Statistical Office of Thailand, that the frequency of alcohol drinking is important for measuring health risk behavior. The criterion is provided as follows:

Never drink	scored as	6
Not current drinker, but ever drank alcohol	scored as	5
Current drinker, rarely	scored as	4
Current drinker, 1-2 times per month	scored as	3
Current drinker, 1-2 times per week	scored as	2
Current drinker, 3-4 times per week	scored as	1
Current drinker, every day	scored as	0

4. Exercise: It refers to the frequency of exercise. This indicator determines the human security to avoid the harmful effects on their physical health. This research uses the criteria of the Report of the Sport Played and Sport Watching Behavior Survey (National Statistical Office, 2002) provided by the National Statistical Office of Thailand, which states that people should exercise at least 3 days per week and at least 30 minutes per time. The criterion is provided as follows:

More than 3 days per week and more than 30 minutes per time	scored as 3
More than 3 days per week, but less than 30 minutes per time/ Less than 3 days per week and more than 30 minutes per time	scored as 2
Less than 3 days per week and less than 30 minutes per time	scored as 1
No current exercise	scored as 0

5. Material of Housing: It refers to the majority of material used for constructing the house. This indicator determines the basic minimum needs and economic status of residence. Housing stability in non-permanent material used such as billboard sheet, box sheet, and raw plant materials is less than permanent material used for housing. This research uses the criteria of the Basic Minimum Needs Indicators (Ministry of Interior, 2001), Thailand, which states that housing should be constructed of materials that last at least 5 years. The criterion is provided as follows:

Cement/ Brick/ Wood/ Half cement-half wood	scored as	1
Non-permanent material/ Reused material	scored as	0

6. House and Land Ownership: It refers to type of house and land ownership. This indicator determines the household stability and also refers to the economic status of residence. In general, land ownership is more important than house ownership because it relates with the proprietary right and the stability of asset. This research uses the criteria for scoring from Sutthangkul (1999). The criterion is provided as follow:

Own house and own land	scored as	6
Own house and rented land	scored as	5
Installed house	scored as	4
Own house and public land	scored as	3
Rented house	scored as	2
Non-monetary payment for rented house	scored as	1
Not paid housing	scored as	0

7. Electricity: It refers to whether the house has electricity and also includes electricity from battery and generators. This indicator determines the basic minimum needs and economic status of residence. Electricity is essential for living in current time and affects on the quality of life in general. The criteria is provided as follows:

Have electricity	scored as	1
Not have electricity	scored as	0

8. Type of Cooking Fuel: It refers to the type of fuel used mostly for food cooking, excluding the rice cooking. This indicator determines the basic minimum needs and economic status of residence. The criterion is provided as follows:

Electricity	scored as	2
Gas	scored as	1
Charcoal/ Wood	scored as	0

9. Safe Drinking Water and Using Water: It refers to the source of drinking water and using water, which is consumed the most. This indicator

determines the basic minimum needs, economic status of residence, and also health and sanitation. Safe water plays a major role in the overall well-being of the population, which is consistent with the goal of accessibility to safe drinking water and sanitation of the Millennium Development Goals (MDGs) (MinistryofInterior, 2001). The criterion is provided as follows:

Bottled water/ Own tap water/ Own pond water/ Own underground water	scored as	2
Public tap water/ Public pond water/ Public underground water	scored as	1
Rain water/ River and reservoir	scored as	0

10. Type of Toilet: It refers to the type of toilet used in household. This indicator determines the basic minimum needs, economic status of residence, and also health and sanitation. Same as safe water, improved toilet is the goal of the Millennium Development Goals (MDGs) (Ministry of Interior, 2001). This research uses the criteria of the Thailand Development Indicators (2005), provided by the National Statistical Office of Thailand, that flush toilets and squat toilet are considered to be clean and proper toilet. The criterion is provided as follows:

Flush toilet/ Squat toilet/ Flush and Squat toilet	scored as	1
Open pit toilet/ Open fill toilet/ River	scored as	0

11. Number of Household Appliances: It refers to the number of appliances owned in the household, which are modern appliances; such as microwave oven, washing machine, air-conditioner, car, etc. This indicator determines the basic minimum needs and economic status of residence. Number of appliances owned identifies the economic status among the households, regarded of whether they were paid for by cash or by installments. To classify the economic status of household, quintile category of factor score derived from factor analysis is classified as:

Highest	scored as	4
Higher	scored as	3
Moderate	scored as	2
Lower	scored as	1

Lowest	scored as	0

12. Without Pollution in the Household: It refers to household that have no environmental pollutants. This indicator determines the basic minimum needs, human security, and health and sanitation. This research uses the criteria of Thailand Social Indicators (National Statistical Office, 2006) that a good household environment means the household does not have the disturbance of loud noise, vibration, dust, bad smell, bad air, bad water, garbage, and toxic substances. The indicators which were available in the questionnaire are: (1) noise pollution, (2) smoke pollution, (3) smell pollution, (4) dust pollution, (5) water pollution, and (6) garbage pollution. Each indicator is categorized as follows:

Not have	scored as	3
Little	scored as	2
Moderate	scored as	1
More	scored as	0

13. Social Capital and Participation: It refers to the social capital and involvement in community activities. These indicators are based on the basic human needs concept in the higher hierarchical needs of safety needs, belonging needs, esteem needs, and also self-actualization. It also based on the concept of human development that successfulness of participation in social activities is a process affecting youth's lives in the present and the future. This research uses the criteria of the Basic Minimum Needs Indicators (Ministry of Interior, 2001), Thailand, which use the social participation and community safety as the indicators. The indicators which were available in the questionnaire and the criteria are as follows:

(1) Knowing each other within the community

Knowing well	scored as	2
Knowing some	scored as	1
Not know	scored as	0

(2) Sharing with each other within the community

Sharing well	scored as	2
Sharing some	scored as	1

Not share scored as 0

(3) Trusting each other within the community

More trust scored as 2

Some trust scored as 1

Not trust scored as 0

(4) Helping each other within the community

Helping well scored as 2

Helping some scored as 1

Not help scored as 0

(5) Feeling safe in the community

Not worried scored as 3

Little worried scored as 2

Some worried scored as 1

Much worried scored as 0

(6) Without crime in the community within 1 month

Not have crime scored as 2

Sometimes scored as 1

Often scored as 0

(7) Participate in community activities about public hearing within 1 year

Yes scored as 1

No scored as 0

(8) Having community activities about community development within 1 year

Have scored as 1

Not have scored as 0

14. Cultural Belief Activities: It refers to the cultural belief practice within 1 year. These indicators based on basic human needs concept in the higher hierarchical needs of safety needs, belonging needs, esteem needs, and also self-actualization. It also based on the concept of human development that develops their spirit. The question is “During one year, have you ever …?” (1) praying, (2) food

offering to the monk, (3) order offering to the monk, and (4) meditation. Each indicator was scored as shown below:

Ever	scored as	1
Never	scored as	0

15. State of Emotion: It refers to youth's state of emotion within 1 month. These indicators are based on the basic human needs concept in the higher hierarchical needs of safety needs, belonging needs, esteem needs, and also self-actualization. Although some emotional states are transitory, depending more on the situation a person is in than on the specific person, it can also considered that emotions are dispositions or traits, which from a pattern of emotional reactions that a person consistently experiences across a variety of life situations (Larsen & Buss, 2005). The indicators which were available in the questionnaire are (1) liveliness, (2) free from worry, (3) calmness, (4) power, (5) free from depression, (6) enjoyment of life, and (7) optimism. Each indicator was categorized as shown below:

Always	scored as	5
Mostly	scored as	4
Often	scored as	3
Sometimes	scored as	2
Rarely	scored as	1
Never	scored as	0

Table 3.2 summarize all of the variables used that were available, in the concept behind each variable in order to set the criteria or standard for giving the score, and scoring of each variable.

Table 3.2 Variables, Concept Used, and Score and Measurement

Variables	Concept Used	Score and Measurement
1. Education	Human development	Attending/ finished lower secondary school and over = 3 Finished primary school = 2 Some primary school = 1 Never attend school = 0
2. Not cigarette smoking	Human security	Never smoked = 7 Not current smoker, but ever smoked not frequently = 6 Not current smoker, but ever smoke frequent = 5 Current smoker, only 1 or < 1cigarette/day = 4 Current smoker, 2-5 cigarettes per day = 3 Current smoker, 6-10 cigarettes per day = 2 Current smoker, 11-20 cigarettes per day = 1 Current smoker, more than 20 cigarettes per day = 0
3. Not alcohol drinking	Human security	Never drink = 6 Not current drinker, but ever drink = 5 Current drinker, rarely = 4 Current drinker, 1-2 times per month = 3 Current drinker, 1-2 times per week = 2 Current drinker, 3-4 times per week = 1 Current drinker, every day = 0
4. Exercise	Human security	More than 3 days per week and more than 30 minutes per time = 3 More than 3 days per week, but less than 30 minutes per time/ Less than 3 days per week and more than 30 minutes per time = 2 Less than 3 days per week and less than 30 minutes per time = 1 No current exercise = 0
5. Material of housing	Basic minimum needs	Cement/ Brick/ Wood/ Half cement-half wood = 1 Non-permanent material/ Reused material = 0
6. House and land ownership	Human security	Own house and own land = 6 Own house and rented land = 5 Installed house = 4 Own house and public land = 3 Rented house = 2 Non-monetary payment for rented house = 1 Not paid house = 0
7.Electricity	Basic minimum needs	Have electricity = 1 Not have electricity = 0
8. Type of cooking fuel	Basic minimum needs	Electricity = 2 Gas = 1 Charcoal/ Wood = 0

Table 3.2 Variables, Concept Used, and Score and Measurement (Continued)

Variables	Concept Used	Score and Measurement
9. Safe drinking water and using water	Basic minimum needs	Bottled water/ Own tap water/ Own pond water/ Own underground water = 2 Public tap water/ Public pond water/ Public underground water = 1 Rain water/ River and reservoir = 0
10. Type of toilet	Basic minimum needs	Flush toilet/ Squat toilet/ Flush and Squat toilet = 1 Open pit toilet/ Open fill toilet/ River = 0
11. Number of household appliances	Basic minimum needs	Highest = 4 Higher = 3 Moderate = 2 Lower = 1 Lowest = 0
12. Without pollution household (1) Without noise pollution (2) Without smoke pollution (3) Without smell pollution (4) Without dust pollution (5) Without water pollution (6) Without garbage pollution	Basic minimum needs	Not have = 3 Little = 2 Moderate = 1 More = 0
13. Social capital and participation	-Basic minimum needs -Human development	
(1) Knowing each other within the community		Knowing well = 2 Knowing some = 1 Not know = 0
(2) Sharing with each other within the community		Sharing well = 2 Sharing some = 1 Not share = 0
(3) Trusting each other within the community		More trust = 2 Some trust = 1 Not trust = 0
(4) Helping each other within the community		Helping well = 2 Helping some = 1 Not help = 0
(5) Feeling safe in the community		Not worried = 3 Little worried = 2 Some worried = 1 Much worried = 0
(6) Without crime in the community within 1 month		Not have crime = 2 Sometimes = 1 Often = 0

Table 3.2 Variables, Concept Used, and Score and Measurement (Continued)

Variables	Concept Used	Score and Measurement
(7) Participate in community activities about public hearing within 1 year		Yes = 1 No = 0
(8) Having community activities about community development within 1 year		Have = 1 Not have = 0
14. Cultural belief activities (1) praying within 1 year (2) food offering to the monk within 1 year (3) order offering to the monk within 1 year (4) meditation within 1 year	-Basic minimum needs -Human development	Ever = 1 Never = 0
15. State of emotion (1) liveliness (2) free from worry (3) calmness (4) power (5) free from depression (6) enjoyment of life (7) optimism	Basic minimum needs	Always = 5 Mostly = 4 Often = 3 Sometimes = 2 Rarely = 1 Never = 0

3.2 Method of Examining the Impact of Family Structure on Youths' Quality of Life Indicators in Kanchanaburi DSS

3.2.1 Data

The data employed in this study were obtained from the Kanchanaburi Demographic Surveillance System (KDSS) 2001 to 2004, conducted in selected areas of Kanchanaburi province, Thailand by the Institute for Population and Social Research (IPSR), Mahidol University and supported by the Welcome Trust, United Kingdom. The primary objective of KDSS was to monitor the population change within the field site. Data was collected every year from 2000 to 2004 from selected households and individuals aged 15 and above in the field area.

The study villages and census blocks for Kanchanaburi project were selected using a stratified systematic sample design. The primary selection units for the rural

areas are villages and for urban areas are census blocks. Firstly, the Kanchanaburi area was divided into five strata. These five strata were categorized according to the main occupation of the population and land use patterns. These strata are: (1) urban/semi urban, (2) rice, (3) plantation, (4) upland, and (5) mixed economy. From all these villages/census blocks of these strata, study villages or census blocks were selected systematically. Twenty villages/census blocks were selected from each stratum. The selection of 100 villages/census blocks reflects the diversity in socio-economic and ecological conditions in Kanchanaburi province.

The method used for data collection was structured interviews and three sets of questionnaires were used: village, household, and individual. The village questionnaire provides basic background information on villages. As a whole, the household data questionnaire provides basic information on household's members, their background characteristics, occupation, land use, agricultural products, migration, and mortality. The individual questionnaire was for respondents aged 15 years and over. It consists of personal data, occupation and income, migration, health and sanitation, childbearing, contraception, marriage and women's role in the community development.

3.2.2 Sample

The study sample is made up of children aged 13-18 years old living in the villages studied in Round 2 census (2001). The base year census (2000) was not used because there was no question about whether their father or mother in the household. The study was limited to children aged 13-18 because this group would have finished the primary level of education and were most likely to drop out of the educational system. In Thailand, six years of compulsory schooling was mandated until 2002, which generally translates to the children being 12 years old when they finish their primary school. The sample was restricted to those who enrolled in school did not smoke, and did not drink in 2001. After excluding the missing data, the study sample comprises a total of 2,072 youth in 2,072 households.

3.2.3 Measurement of Variables

1) Dependent Variable

School/College Enrolment

The variable 'school/college enrolment' is a dichotomous. The respondents were asked 'Are you working at present?' in 2004 and the possible answers included working, looking for a job, studying, not working, and working and studying. A dichotomous variable was used in this study and coded 1 = studying and 0 = not studying.

Smoking

Based on reported smoking habits in 2004, respondents are categorized as 1= smoke and 0 = not smoke

Alcohol Drinking

There were two questions related to alcohol drinking in 2004, such as drinking beer and drinking liquor. These two questions are combined and respondents are categorized as 1 = drink and 0 = not drink.

2) Independent Variable

Family structure is the main independent variable for the analysis. Two aspects of family structure are taken into account (1) living status, and (2) parent's marital status between the Round 2 to Round 5 censuses (2001-2004). This information was derived from the household list table in the household questionnaire. The list table indicates which respondent's resident was in the household and marital status of respondent's parents. Based on the available information above, this study assigned each child to 1 of 3 mutually exclusive types of living arrangements: (1) two-parent families refer to having a married father and married mother in the household, (2) single-parent families refer to having only father or mother who is divorced, separated, or widowed in the household, (3) non-parent adult families refer to having a non-parent adult aged 25 and above in the household including grandparents, relatives, and non-related adults.

3) Control Variables

Youth characteristics, primary guardian characteristics, and household characteristics were control variables. All control variables were measured in 2001.

Living in Extended Household

Living in an extended household refers to a household with member(s) other than the father, the mother, and children and is a categorical variable. This variable considered whether an extended household included grandparents also. Living in an extended household with grandparents is coded 1, whereas, living in an extended household without grandparents is coded 2, and living in a nuclear household is coded 0.

Family Structure Stability

Family structure stability is measured from the family structure changing within 2001-2004. The variable was coded 1 if the family structure had not changed during 4 years, and if family structure had changed during 4 years it was coded as 0.

Youth's Gender

Gender, is a dichotomous variable. Males are coded 1, whereas, females are coded 0.

Youth's Age

Age is coded as on interval scale of complete years of youth's age.

Living in Thai Speaking Household

Living in Thai speaking household is derived from the question on what language is generally used among household members. This study divided the responses such that Thai was coded as 1, and other languages were coded 0.

Primary Guardian's Gender

Primary guardian in this study refers to co-resident adult aged 25 and above, which includes father/mother, grandparents, siblings, relative adults and non-relative adults. The primary guardian in the household that was selected was the one who had the highest education. If many guardians had the same education, the one with higher age was selected. In addition, male guardian would be chosen if they have the same education and age. Primary guardian characteristics include gender, age, education, and occupation. Gender, is a dichotomous variable. Males are coded 1, whereas, females are coded 0.

Primary Guardian's Age

Age is coded as an interval scale of complete years of primary guardian's age.

Primary Guardian's Education

Education was computed from the question on the completed level of education and was divided into five categories: 1 = illiterate or lower than primary school, 2 = primary school, 3 = lower secondary school, 4 = upper secondary school, and 5 = college and over.

Primary Guardian's Occupation

Occupation is measured from the question that asks about the key job of primary guardian and was broken into five groups: 1 = not in labour force, 2 = professional and managerial, 3 = sales and service, 4 = agriculture, 5 = labourer and transport worker.

Household Assets

Number of major appliances was surveyed to assess the economic status of the household such as colored TV, video/VCD/DVD, satellite dish, stereo, mobile phone, house phone, pager, computer, air-conditioner, washing machine, microwave oven, car, pick-up car, truck. A composite index was built by using principle component analysis and household assets were categorized as 1 = lowest, 2 = low, 3 = medium, 4 = high, 5 = highest.

Standard of Living

Standard of living is defined according to the combination of five variables: material of roof, material of housing, electricity available, pipe water available, and type of toilet. A composite index was built by using principle component analysis and standard of living was categorized as 1 = lowest, 2 = low, 3 = medium, 4 = high, 5 = highest.

Percentage of Smokers in the Household

Percentage of smokers in the household refers to percent of household members who reported that they smoke in 2001.

Percentage of Alcohol Drinkers in the Household

Percentage of alcohol drinkers in the household refers to percent of household members who reported that they drank alcohol in 2001.

Household Size

Household size refers to the total number of household members in 2001.

Residential Area

Residential area refers to the type of geographical area in KDSS where the youth's household was located. There are five types of geographical areas that were categorized as 1 = urban/semi-urban, 2 = rice field, 3 = plantation, 4 = upland, 5 = mixed economy.

3.2.4 Method of Analysis

Univariate, bivariate, and multivariate analysis methods were used. Firstly, univariate analysis indicates the general characteristics of sample and family structure. Secondly, bivariate analysis was used to examine the relationship between the family structure and youths' quality of life. Bivariate analysis simply describes the relationship between dependent variable and each independent variable. This level of analysis cannot identify the strength of this relationship since the independent variables may have interaction with each other in a more complex way.

Then, multivariate analysis was used to assess the complex impact of independent variables on dependent variables, while controlling with the set of control variables. To analyze family structure and youths' quality of life, logistic regression models are increasing applied (Deleire & Kalil, 2002). In this study, since the dependent variables include school/college enrolment, smoking, and alcohol drinking, are dichotomous variables, binary logistic regression was employed. It is used for predicting the probability of school/college enrolment, smoking, and alcohol drinking. In order to obtain adequate descriptions and useful predictions, there were a number of independent variables included in the regression model.

The general logit model is:

$$P(Y = 1 \mid X) = \exp(\sum bkXk) / [1 + \exp(\sum bkXk)]$$

Where:

Y: school/college enrolment, smoking, alcohol drinking

P: the probability that Y equals 1 (or P = P(Y=1))

X_k: independent variable and control variables

b_k: parameter/ coefficients of independent variables, k = 1, 2, …, K

There are three sets of control variables i.e. youth characteristics, primary guardian characteristics, and household characteristics. Those three sets of variables were added in the regression model. The regression model was run for the whole population.

CHAPTER IV
DESCRIPTION OF THE SAMPLE

Two sets of data were used in this study; the Happiness Indicator Survey and the Kanchanaburi Demographic Surveillance System (KDSS). This chapter presents the description of the data utilized from the two samples.

4.1 Happiness Indicator Survey

The sample in this data includes 433 youth aged 15-24 years and having a single marital status in Kanchanaburi Province at the time of interview in 2005. The univariate descriptions of the youth are shown in Table 4.1. The descriptive results show that there were more females than males in this study. Most of their primary guardians were males aged 40-44 years old. About half of their primary guardians attained a primary education and 28 percent of primary guardian works in agricultural sector. Nearly 70 percent of respondents had a small household size (2-4 persons) and were living in rural areas. For family structure, about 60 percent of youth were living in two-parent nuclear families, while about 8 percent of them were living in extended families (both two-parent and single-parent). About 3 percent of youth were living with only their grandparents and 3 percent of them were living in non-related adult households.

Table 4.1 Descriptive Statistics, Happiness Indicator Survey, 2005

Variables	N	Percentage
Youth's gender		
Male	202	46.7
Female	231	53.3
Total	433	100.0
Youth's age		
15	49	11.3
16	51	11.8
17	47	10.9
18	45	10.4
19	35	8.1
20	29	6.7
21	36	8.3
22	46	10.6
23	49	11.3
24	46	10.6
Total	433	100.0
Primary guardian's gender		
Male	297	68.6
Female	136	31.4
Total	433	100.0
Primary guardian's age		
25-29	22	5.1
30-34	21	4.8
35-39	49	11.3
40-44	97	22.4
45-49	86	19.9
50-54	70	16.2
55-59	31	7.2
60 and above	57	13.2
Total	433	100.0
Primary guardian's education		
No schooling	0	0.0
Primary school	246	56.8
Lower secondary school	72	16.6
Upper secondary school	102	23.6
College and over	13	3.0
Total	433	100.0
Primary guardian's occupation		
Not working	66	15.2
Professional	32	7.4
Sales and services	103	23.8
Agriculture	123	28.4
Labourer and transport workers	109	25.2
Total	433	100.0

Table 4.1 Descriptive Statistics, Happiness Indicator Survey, 2005 (Continued)

Variables	N	Percentage
Household size		
2-4	301	69.5
5-8	132	30.5
Total	433	100.0
Residential area		
Urban	128	29.6
Rural	305	70.4
Total	433	100.0
Family structure		
Two-parent nuclear family	259	59.8
Single-parent nuclear family	80	18.5
Two-parent extended family	24	5.5
Single-parent extended family	13	3.0
Grandparent-headed family	13	3.0
Relative adult-headed family	29	6.7
Non-related adult family	15	3.5
Total	433	100.0

Table 4.2 shows the mean levels of variables by type of family structure. Important points illustrated in this table are, first, male youth have highest proportion living with only grandparents (63.6%), while male youth have lowest proportion living with two-parent nuclear families (42.5%). Second, primary guardians in non-related adult families have the lowest average age (30.4 years old) and have a higher proportion in higher education levels. Third, most of youth's primary guardians in two-parent extended families are working in the agricultural sector (34.7%). Lastly, about 90 percent of two-parent extended families are in rural area, while 73 percent of non-related adult families are in urban area.

Table 4.2 Mean Levels of Variables across Family Structures, Happiness Indicator Survey, 2005

Variables	Two-parent nuclear family	Single-parent nuclear family	Two-parent extended family	Single-parent extended family	Grand parent-headed family	Relative adult-headed family	Non-related adult family
Male youth	0.425	0.500	0.625	0.615	0.636	0.483	0.533
Youth's age	19.467	19.563	18.667	17.923	18.364	19.759	20.067
Male primary guardian	0.888	0.113	0.750	0.462	0.455	0.621	0.667
Primary guardian's age	45.243	46.900	54.375	62.462	70.273	39.931	30.400
Primary guardian's education							
Primary school	0.552	0.725	0.583	0.769	0.909	0.345	0.000
Lower secondary school	0.189	0.075	0.167	0.077	0.091	0.276	0.133
Upper secondary school	0.220	0.188	0.250	0.154	0.000	0.379	0.733
College and over	0.039	0.013	0.000	0.000	0.000	0.000	0.133
Primary guardian's occupation							
Not working	0.015	0.025	0.000	0.000	0.000	0.000	0.000
Professional	0.089	0.050	0.000	0.000	0.091	0.138	0.000
Sales and service	0.228	0.325	0.208	0.154	0.182	0.172	0.267
Agriculture	0.347	0.175	0.375	0.154	0.273	0.138	0.067
Labourer	0.263	0.313	0.125	0.154	0.000	0.345	0.000
Household size	4.027	3.413	5.167	4.308	3.091	4.586	3.133
Residential area							
Urban	0.251	0.400	0.083	0.462	0.182	0.345	0.733
Rural	0.749	0.600	0.917	0.538	0.818	0.655	0.267

4.2 Kanchanaburi Demographic Surveillance System

The individual level univariate descriptions of youth's and primary guardian's characteristics are shown in Table 4.3. The total samples of 2,072 youth were aged 13-18 and enrolled school in 2001. The following table displays youth characteristics of gender, age, and living in a Thai-speaking household and primary guardian's characteristics of gender, age, education, and occupation.

In the sample, females outnumbered males as the proportion of females was 10 percent larger than that of males. A higher proportion of the sample was early adolescents than late adolescents. More than half of the youth were 13-15 years old, while the lowest proportions (9.6%) of youth were 18-years old. Considering the language used in the household, about 92.5 percent of sample spoke Thai, while only 7.5 percent spoke non-Thai. Most of the youth's primary guardians were male

(67.4%). The largest age group of primary guardians was 40-44 (29.2%). A very small proportion of primary guardians were in the 25-29 age groups (2%). However, roughly 8 percent of primary guardians were considered as the elderly aged more than 60 years old. Roughly speaking, the primary guardians of youth were not highly educated. More than half (64.3%) of primary guardian had a primary school education level. Small proportions had no schooling (6.8%) and more than upper secondary school (7.3%). About 55 percent of primary guardians worked in agricultural sector. A few numbers had professional and managerial primary guardians (7.3%) and were not working (7.7%).

Half of youth were living in non-smoking households and only 3.8 percent were living in households with high percentages of smokers. About one-third (33.1%) of youth were living in non-alcohol drinking households and 11.1 percent were living in households with a high proportion of alcohol drinkers. Relatively, most of youth were living in high standard of living households (40.5%), while only 3.6 percent were living in the highest standard of living households. Small household size, with 2-4 members per household, is the majority of household in this study, which accounted for nearly half of them. About one-forth (24.7%) of youth were living in urban and semi-urban areas.

Table 4.3 Youth and Primary Guardian Characteristics of the Sample, KDSS 2001

Variables	N	Percent
Youth's gender		
Male	933	45.0
Female	1,139	55.0
Total	2,072	100.0
Youth's age		
13	388	18.7
14	395	19.1
15	431	20.8
16	357	17.2
17	302	14.6
18	199	9.6
Total	2,072	100.0
Living in Thai speaking household		
Thai	1,916	92.5
Non-Thai	156	7.5
Total	2,072	100.0
Primary guardian's gender		
Male	1,396	67.4
Female	676	32.6
Total	2,072	100.0
Primary guardian's age		
25-29	42	2.0
30-34	156	7.5
35-39	409	19.7
40-44	604	29.2
45-49	403	19.4
50-54	194	9.4
55-59	89	4.3
60 and above	175	8.4
Total	2,072	100.0
Primary guardian's education		
No schooling	140	6.8
Primary school	1,333	64.3
Lower secondary school	218	10.5
Upper secondary school	230	11.1
College and over	151	7.3
Total	2,072	100.0

Table 4.3 Youth and Primary Guardian Characteristics of the Sample, KDSS 2001 (Continued)

Variables	N	Percent
Primary guardian's occupation		
Not working	159	7.7
Professional and managerial	151	7.3
Sales and services	287	13.9
Agriculture	1,139	55.0
Labourer and transport workers	336	16.2
Total	2,072	100.0
Percentage of smokers		
None	1,038	50.1
1-24	456	22.0
25-49	500	24.1
50 and above	78	3.8
Total	2,072	100.0
Percentage of alcohol drinkers		
None	686	33.1
1-24	476	23.0
25-49	680	32.8
50 and above	230	11.1
Total	2,072	100.0
Standard of living		
Lowest	429	20.7
Low	408	19.7
Medium	321	15.5
High	840	40.5
Highest	74	3.6
Total	2,072	100.0
Household assets		
Lowest	414	20.0
Low	415	20.0
Medium	414	20.0
High	414	20.0
Highest	415	20.0
Total	2,072	100.0
Household size		
2-4	986	47.6
5-7	914	44.1
8 and above	172	8.3
Total	2,072	100.0

Table 4.3 Youth and Primary Guardian Characteristics of the Sample, KDSS 2001 (Continued)

Variables	N	Percent
Residential area		
Urban/semi-urban	511	24.7
Rice field	457	22.1
Plantation	305	14.7
Upland	355	17.1
Mixed economy	444	21.4
Total	2,072	100.0

Table 4.4 shows the youth's family structure in 2001-2004 by seven-types of family structure by using the follow-up or cohort. It was found that, during 2001-2004, the majority of youth's family structure is two-parent nuclear families (about half), while few youth are living in non related adult-headed families. The second most common family structure is two-parent extended family, which refers to having two-parent plus grandparents and relatives. About 10 percent of youth were living with single-parent nuclear families.

Table 4.4 Family Structures by Cohort of Youth 13-18 Years Old, KDSS 2001-2004

Family Structure	2001		2002		2003		2004	
	N	%	N	%	N	%	N	%
Two-parent nuclear family	1,101	53.1	1,099	53.1	1,090	52.6	1,082	52.2
Single-parent nuclear family	209	10.1	193	9.3	204	9.9	204	9.8
Two-parent extended family	346	16.7	358	17.3	364	17.6	382	18.4
Single-parent extended family	127	6.1	144	7	143	6.9	137	6.6
Grandparent-headed family	131	6.3	128	6.2	115	5.5	113	5.5
Relative adult-headed family	141	6.8	125	6	121	5.9	131	6.3
Non related adult-headed family	17	0.8	24	1.2	35	1.7	24	1.2
Total	2,072	100.0	2,072	100.0	2,072	100.0	2,072	100.0

Figure 4.1 shows the trend of family structure in 2001-2004, which follows the cohort of single youth aged 13-18 in 2001 until 2004. The proportions of two-parent nuclear families were declining, while two-parent extended families while single-parent extended families were steadily increasing.

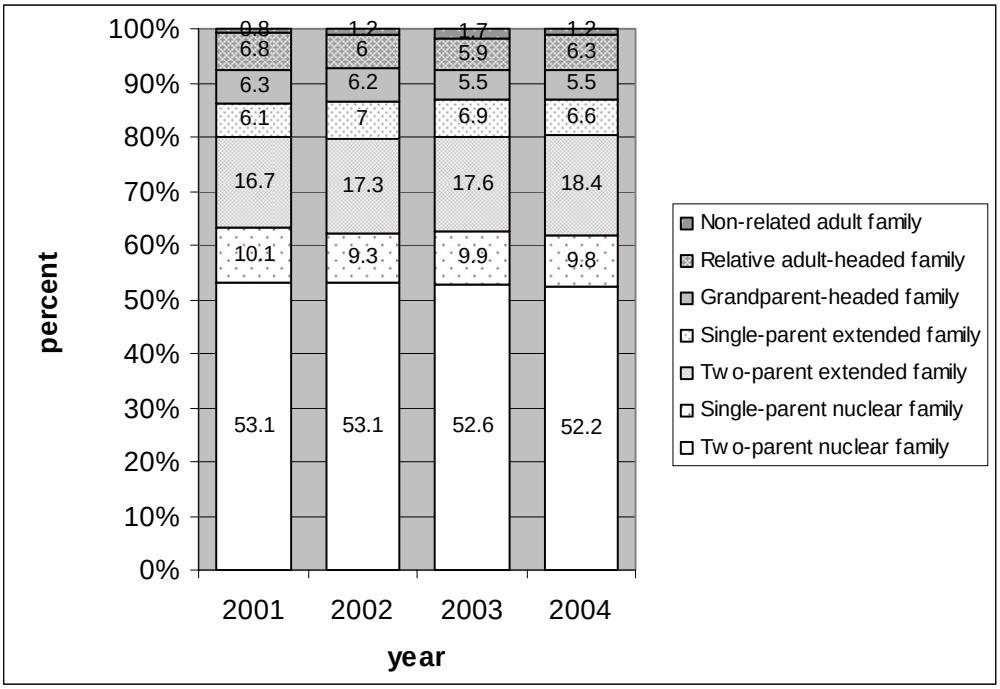


Figure 4.1 Trend of Family Structure in 2001-2004 by Cohort of Youth 13-18 Years Old

There are differences between urban and rural areas in family structure. The cohort trends of family structure of youth are shown in Table 4.5 and Figure 4.2. It was found that the proportion of two-parent nuclear families in rural areas was higher than urban areas, while the proportion of single-parent nuclear families in rural areas was lower than urban areas. There are a high proportion of relative adult-headed families in urban area. The percentages of extended families, both two-parent and single-parent, are not different in urban and rural areas. Following the youth by cohort, it was found that two-parent nuclear families were decreasing and two-parent extended families were rising in rural areas, while trend of family structure in urban areas are quite stable. This means that more youth tended to live in extended families as the time increased.

Table 4.5 Family Structure by Cohort of Youth 13-18 Years Old by Residential Area, KDSS 2001-2004

Family Structure	Urban (Cohort)				Rural (Cohort)			
	2001	2002	2003	2004	2001	2002	2003	2004
Two-parent nuclear	39.0	43.0	42.7	40.0	56.0	54.9	54.4	54.4
Single-parent nuclear	13.9	10.5	11.3	12.6	9.3	9.1	9.6	9.3
Two-parent extended	17.3	16.6	16.0	17.5	16.6	17.4	17.8	18.6
Single-parent extended	6.6	8.0	7.5	8.8	6.0	6.8	6.8	6.2
Grandparent-headed	4.6	6.1	3.4	3.9	6.7	6.2	5.9	5.7
Relative adult-headed	16.2	13.1	14.0	15.8	4.9	4.7	4.4	4.6
Non-related adult	2.3	2.9	5.1	1.4	0.5	0.8	1.1	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

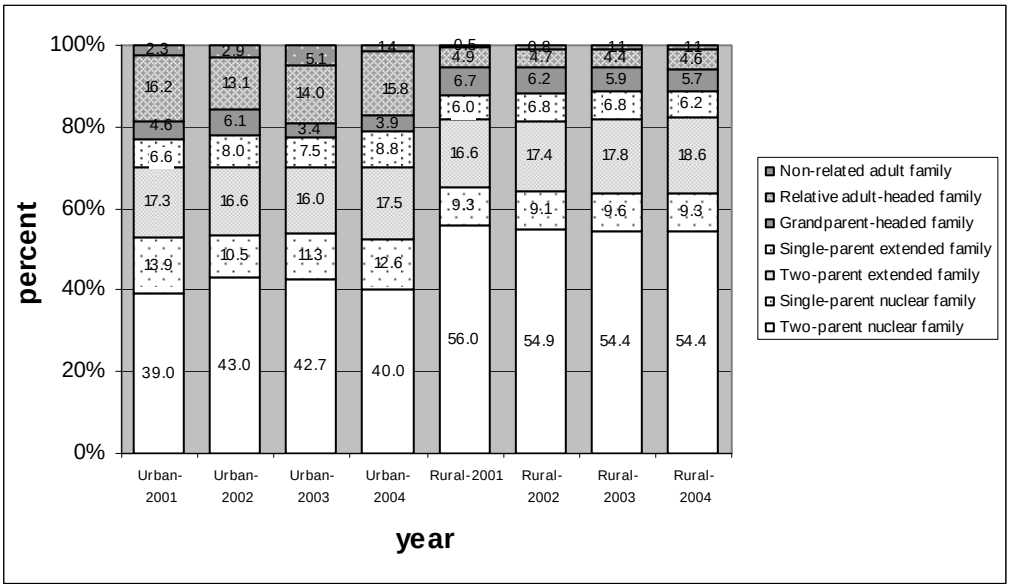


Figure 4.2 Trend of Family Structure in 2001-2004 by Cohort of Youth 15-24 Years Old, KDSS 2001-2004

CHAPTER V
FINDINGS OF ANALYSES

This chapter presents the research findings in both of two datasets. The Happiness Indicator Survey, 2005, was used for measuring youths' quality of life; identifying the indicators and components, and youths' quality of life score. The Kanchanaburi Demographic Surveillance System, 2001-2004, was used for examining the impact of family structure on youths' quality of life indicators.

5.1 Measurement of Youths' Quality of Life (Happiness Indicator Survey, 2005

5.1.1 Identifying Youths' Quality of Life

From a total 38 initial variables, Table 5.1 shows that there are 6 components and 35 indicators related with youths' quality of life in Kanchanaburi province, ranked by eigen value.

1. Standard of Emotion Component

This component reflects emotional and psychological well-being of youth. The eigen value is 2.904 and comprises 8 indicators; optimism, free from depression, enjoyment of life, liveliness, free from worry, calmness, power, and feeling safe in the community.

2. Standard of Physical Environment Component

This component reflects the physical environment in the household regarding lack of pollution. The eigen value is 2.787 and comprises 6 indicators; without smell pollution, without smoke pollution, without dust pollution, without water pollution, without noise pollution, and without garbage pollution.

3. Standard of Living Component

This component is related with living arrangement, economic status, and future stability. The third component has an eigen value of 2.171 and is composed of 7 indicators; number of facilities in household, material of housing, type of cooking fuel, education, electricity, type of toilet, and safe drinking water.

4. Social Capital Component

This component is related with social capital within the community. The eigen value of 1.986 and comprises 6 indicators; trust each other within the community, helping each other within the community, sharing with each other within the community, house and land ownership, knowing each other within the community, and having community activities.

5. Cultural Belief Activities Component

This component is related with cultural belief activities issue that youth is practicing them regarding their culture and beliefs. It has the eigen value of 1.747 and comprises with 4 indicators; praying, meditation, food offering to the monk, and order offering to the monk.

6. Physical Health Component

This component reflects the physical health of youth. This component has an eigen value of 1.550 and comprises 4 indicators; not drinking alcohol, not smoking cigarettes, not having illness, and exercise.

Table 5.1 Factor Loading, Eigen Value, and Percentage of Variance

Components	Factor Loading	Eigen Value	Percentage of Variance
1. Standard of Emotion Component		2.904	7.6
Optimism	0.687		
Free from depression	0.665		
Enjoyment of life	0.639		
Liveliness	0.568		
Free from worry	0.538		
Calmness	0.465		
Power	0.375		
Feeling safe in the community	0.319		
2. Standard of Physical Environment Component		2.787	7.3
Without smell pollution	0.706		
Without smoke pollution	0.668		
Without dust pollution	0.559		
Without water pollution	0.552		
Without noise pollution	0.510		
Without garbage pollution	0.485		

Table 5.1 Factor Loading, Eigen Value, and Percentage of Variance (Continued)

Components	Factor Loading	Eigen Value	Percentage of Variance
3. Standard of Living Component		2.171	5.7
Number of facilities in household	0.680		
Material of housing	0.572		
Type of cooking fuel	0.525		
Education	0.509		
Electricity	0.455		
Type of toilet	0.389		
Safe drinking water	0.336		
4. Social Capital and Social Participation		1.986	5.2
Trust each other within the community	0.728		
Helping each other within the community	0.670		
Sharing with each other within the community	0.649		
House and land ownership	0.437		
Knowing each other within the community	0.418		
Having community activities	0.348		
5. Cultural Belief Activities Component		1.747	4.6
Praying	0.802		
Meditation	0.729		
Food offering to the monk	0.462		
Order offering to the monk	0.347		
6. Physical Health Component		1.550	4.1
Not alcohol drinking	0.685		
Not cigarette smoking	0.535		
Not have illness	0.428		
Exercise	0.357		

As shown in Table 5.1 above, there are 6 youths' quality of life components ranked by eigen value. All of the components above can explain about 34.6 percent of youths' quality of life as a whole, meaning that there are other indicators not included in the study that can explain about 65.4 percent of youths' quality of life (Table 5.2). However, these results show a large portion of the components and their indicators for youths' quality of life.

Table 5.2 Summary of Youths' Quality of Life Components

Youths' Quality of Life Component	Number of Indicators	Eigen Value	Cumulative Percentage of Variance
1. Standard of Emotion Component	8	2.904	7.6
2. Standard of Physical Environment Component	6	2.787	15.0
3. Standard of Living Component	7	2.171	20.7
4. Social Capital Component	6	1.986	25.9
5. Cultural Belief Activities Component	4	1.747	30.5
6. Physical Health Component	4	1.550	34.6

5.1.2 Youths' Quality of Life Score

After developing the 6 youths' quality of life components, each component can be used to measure a portion of the score of youths' quality of life. Normalization is required prior to any data aggregation because the indicators in this study have different measurement units. Re-scaling is one of method that can normalize the indicators to have an identical range (0; 100). The equation for the re-scaling method is shown below:

$$\text{Youths' quality of life component score} = \frac{Actualvalue - Minimumvalue}{Maximumvalue - Minimumvalue} * 100$$

Table 5.3 provides the maximum and minimum values of each indicator in order to use them for constructing a normalized score of youths' quality of life components.

Table 5.3 Maximum and Minimum Values of Youths' Quality of Life Components

Components	Minimum Value	Maximum Value
1. Standard of Emotion Component		
Optimism	0	5
Free from depression	0	5
Enjoyment of life	0	5
Liveliness	0	5
Free from worry	0	5
Calmness	0	5
Power	0	5
Feeling safe in the community	0	3
Total	0	38
2. Standard of Physical Environment Component		
Without smell pollution	0	3
Without smoke pollution	0	3
Without dust pollution	0	3
Without water pollution	0	3
Without noise pollution	0	3
Without garbage pollution	0	3
Total	0	18
3. Standard of Living Component		
Number of facilities in household	0	4
Material of housing	0	1
Type of cooking fuel	0	2
Education	0	3
Electricity	0	1
Type of toilet	0	1
Safe drinking water	0	2
Total	0	14
4. Social Capital		
Trust each other within the community	0	2
Helping each other within the community	0	2
Sharing with each other within the community	0	2
House and land ownership	0	6
Knowing each other within the community	0	2
Having community activities	0	1
Total	0	15
5. Cultural Belief Activities Component		
Praying	0	1
Meditation	0	1
Food offering to the monk	0	1
Order offering to the monk	0	1
Total	0	4

Table 5.3 Maximum and Minimum Values of Youths' Quality of Life Components (Continued)

Components	Minimum Value	Maximum Value
6. Physical Health Component		
Not alcohol drinking	0	6
Not cigarette smoking	0	7
Not having illness	0	1
Exercise	0	3
Total	0	17

Ranging from 0-100, Table 5.4 shows that the mean score of total youths' quality of life equals 75.0. The highest score is for the standard of physical environment component (90.9 score). The second rank is the social capital component (79.9 score). The third rank is the physical health component (78.6 score). The fourth rank is the standard of emotion component (67.9 score). The fifth rank is the standard of living (67.7 score), while the lowest score is the cultural belief activities component (56.9 score).

Table 5.4 Average Score of Youths' Quality of Life Component

Components	Mean	S.D.	Min.	Max.	Rank
1. Standard of Emotion Component	**67.9**	13.0	18.4	97.4	4
2. Standard of Physical Environment Component	**90.9**	12.4	27.8	100.0	1
3. Standard of Living Component	**67.7**	17.8	21.4	92.9	5
4. Social Capital and Social Participation	**79.9**	18.5	20.0	100.0	2
5. Cultural Belief Activities Component	**56.9**	28.4	0.0	100.0	6
6. Physical Health Component	**78.6**	17.5	5.9	100.0	3
Total	**75.0**	7.0	50.9	93.4	

Table 5.5 presents the scores of youths' quality of life by selected youth characteristics, primary guardian characteristics, household characteristics, and family structure. It was found that, among youth in different types of family structures, those who were in two-parent families have the highest total score, while the lowest total score belongs to those who were in non-parent families, who have especially lower scores in standard of emotion, social capital, and physical health. Youth in extended households have lower total score than those in nuclear households and also have lower scores in most components except social capital.

Males have higher total score than females; however, males have lower scores in physical health than females because males are more likely to become involved with health risk behaviors such as smoking and alcohol drinking. Also, males have a much lower score in females in cultural belief activities, meaning that males are less likely to practice their cultural belief activities than females. Youth aged 15-19 have higher scores than youth aged 20-24 in almost every component. Youth who have male primary guardians have higher scores in standard of emotion and social capital, while their scores for other components are lower than for those who have female primary guardians. Youth who have older primary guardians (45 years and over) have higher scores than those who have younger primary guardian (less than 45 years) in almost every component. The results show that youth who have higher educated primary guardian have higher total quality of life, especially for cultural belief activities and physical health. Youth who have primary guardians working in professional and managerial, sales and service occupations have higher scores in almost every component when compared with other primary guardian's occupations, especially standard of living, cultural belief activities, and physical health.

Youth in large household size (more than 4 people) have higher scores than those in small household size in standard of emotion, standard of physical environment, and social capital. Youth in rural areas have lower scores than those in urban area in almost every component, except social capital.

Table 5.5 Average Score of Youths' Quality of Life Components by Variables

Variables	Standard of Emotion	Standard of Physical Environ.	Standard of Living	Social Capital	Culture and Belief	Physical Health	Total	N
Family structure								
Two-parent family	68.5	90.2	67.4	81.3	56.7	79.7	**75.3**	283
Single-parent family	67.2	92.5	68.7	79.8	56.9	77.4	**74.8**	93
Non-parent family	65.9	91.8	68.3	73.6	57.2	74.8	**73.6**	55
Living in extended hh.								
Nuclear household	67.9	91.1	68.1	79.5	57.9	78.6	**75.1**	396
Extended household	67.4	88.9	64.5	84.6	45.0	78.3	**74.1**	37
Youth's gender								
Male	71.2	91.3	67.3	81.1	50.3	72.4	**75.4**	202
Female	65.2	90.6	68.2	78.9	62.5	84.0	**74.7**	231
Youth's age								
15-19	68.5	90.5	68.2	80.8	58.3	81.3	**75.9**	227
20-24	67.1	91.4	67.3	78.9	55.3	75.5	**74.0**	206
Prim. guard.'s gender								
Male	68.0	90.7	67.6	80.2	56.3	78.2	**74.9**	297
Female	67.6	91.4	68.1	79.3	58.1	79.4	**75.1**	136
Prim. guard.'s age								
Less than 45	66.9	91.2	66.6	73.9	58.0	77.8	**73.6**	189
45 and over	68.7	90.7	68.6	84.7	55.9	79.2	**76.1**	244
Prim. guard.'s educ.								
Primary school	68.1	92.1	64.9	82.4	52.9	77.6	**74.9**	246
Lower sec. school	66.3	91.9	65.6	75.3	58.0	78.0	**73.5**	72
Upper sec. school	68.6	87.7	74.8	77.4	62.5	80.7	**76.1**	102
College and over	67.5	88.5	78.0	78.9	81.3	84.8	**77.7**	13
Prim. guard.'s occ.								
Not working	71.6	90.7	58.3	72.0	70.0	70.6	**73.2**	6
Professional	70.4	88.5	81.0	74.9	71.6	82.4	**77.3**	32
Sales and service	69.2	89.6	76.4	78.5	61.2	82.6	**76.8**	103
Agriculture	67.7	91.0	65.0	85.1	50.7	77.0	**74.6**	123
Labourer	66.3	92.5	58.7	76.8	57.7	77.6	**73.2**	109
Household size								
4 and lower	67.1	90.6	68.3	78.5	59.5	79.5	**74.7**	287
more than 4	69.7	91.5	66.5	83.3	50.9	76.6	**75.8**	146
Residential area								
Urban	69.0	91.1	78.1	74.8	62.7	81.0	**76.9**	128
Rural	67.4	90.8	63.4	82.0	54.5	77.5	**74.3**	305

5.2 Relationship between Family and Youths' Quality of Life Indicators (KDSS, 2001 and 2004)

The definitions of youths' quality of life reveal that education, smoking, and alcohol drinking are contained in the youths' quality of life indicators. Thus, it is essential to examine the association between these indicators and family structure by using the longitudinal data of the Kanchanaburi Demographic Surveillance System (KDSS).

Tables 5.6 to 5.8 show the relationships between the dependent variables and each independent and control variable. Table 5.6 shows the relationship between school/college enrolment and each independent and control variable. There were 1,391 youth (67.1%) who were not enrolled school/college, while only 681 youth (32.9%) were still enrolled school/college in 2004. A higher proportion of youth in two-parent families were enrolled school/college in 2004 (34.6%). Considering living in extended households, a higher proportion of those who were enrolled school/college (45.9%) were residing in extended household with grandparents. A lower proportion of those who were faced with changing family structure were enrolled school/college. The proportions of youth enrolled in school/college in 2004 declines as the age of youth increases, especially after they were 15 years old, the age they finish lower secondary school. Higher proportions of youth who had more highly educated primary guardians were enrolled school in 2004, similar to those with higher standards of living and higher household assets. The lowest proportion of youth enrolled in school/college was among youth who reside in upland areas (20%).

Table 5.6 Relationship between Independent Variables, Control Variables, and Youth's School/College Enrolment, KDSS 2001 and 2004

Variables	Not enrolled		Enrolled		Total (100%)	χ^2
	N	%	N	%		
Family structure in 2001						13.375***
Two-parent family	947	65.4	500	34.6	1,447	
Single-parent family	223	66.4	113	33.6	336	
Non-parent family	221	76.5	68	23.5	289	
Total	1,391	67.1	681	32.9	2,072	
Living in extended household						25.435***
Nuclear household	1,105	69.1	494	30.9	1,599	
Extended hh. with grandparents	153	54.1	130	45.9	283	
Extended hh. without grandparents	133	70.0	57	30.0	190	
Family structure stability						50.984***
No change in family structure since 2001	975	62.9	576	37.1	1,551	
Change in family structure since 2001	416	79.8	105	20.2	521	
Youth's gender						1.646
Male	640	68.6	293	31.4	933	
Female	751	65.9	388	34.1	1,139	
Youth's age						396.357***
13	146	37.6	242	62.4	388	
14	184	46.6	211	53.4	395	
15	311	72.2	120	27.8	431	
16	302	84.6	55	15.4	357	
17	266	88.1	36	11.9	302	
18	182	91.5	17	8.5	199	
Living in Thai speaking household						8.319**
Thai	1,270	66.3	646	33.7	1,916	
Non-Thai	121	77.6	35	22.4	156	
Primary guardian's gender						0.959
Male	947	67.8	449	32.2	1,396	
Female	444	65.7	232	34.3	676	
Primary guardian's age						89.488**
25-29	32	76.2	10	23.8	42	
30-34	95	60.9	61	39.1	156	
35-39	234	57.2	175	42.8	409	
40-44	422	69.9	182	30.1	604	
45-49	266	66.0	137	34.0	403	
50-54	140	72.2	54	27.8	194	
55-59	69	77.5	20	22.5	89	
60 and above	133	76.0	42	24.0	175	
Primary guardian's education						56.642***
No schooling	107	76.4	33	23.6	140	
Primary school	928	69.6	405	30.4	1,333	
Lower secondary school	129	59.2	89	40.8	218	
Upper secondary school	142	61.7	88	38.3	230	
College and over	85	56.3	66	43.7	151	

Table 5.6 Relationship between Independent Variables, Control Variables, and Youth's School/College Enrolment, KDSS 2001 and 2004 (Continued)

Variables	Not enrolled		Enrolled		Total (100%)	χ^2
	N	%	N	%		
Primary guardian's occupation						5.889
Not working	113	71.1	46	28.9	159	
Professional and managerial	93	61.6	58	38.4	151	
Sales and services	184	64.1	103	35.9	287	
Agriculture	781	68.6	358	31.4	1,139	
Labourer and transport workers	220	65.5	116	34.5	336	
Percentage of smokers						49.935**
None	640	61.7	398	38.3	1,038	
1-24	328	71.9	128	28.1	456	
25-49	364	72.8	136	27.2	500	
50 and above	59	75.6	19	24.4	78	
Percentage of alcohol drinkers						29.783
None	435	63.4	251	36.6	686	
1-24	313	65.8	163	34.2	476	
25-49	480	70.6	200	29.4	680	
50 and above	163	70.9	67	29.1	230	
Standard of living						16.906**
Lowest	311	72.5	118	27.5	429	
Low	292	71.6	116	28.4	408	
Medium	196	61.1	125	38.9	321	
High	544	64.8	296	35.2	840	
Highest	48	64.9	26	35.1	74	
Household assets						5.131***
Lowest	315	76.1	99	23.9	414	
Low	297	71.6	118	28.4	415	
Medium	275	66.4	139	33.6	414	
High	258	62.3	156	37.7	414	
Highest	246	59.3	169	40.7	415	
Household size						14.408
2-4	668	67.7	318	32.3	986	
5-7	605	66.2	309	33.8	914	
8 and above	118	68.6	54	31.4	172	
Residential area						46.369***
Urban/semi-urban	296	57.9	215	42.1	511	
Rice field	308	67.4	149	32.6	457	
Plantation	203	66.6	102	33.4	305	
Upland	284	80.0	71	20.0	355	
Mixed economy	300	67.6	144	32.4	444	

Note: *p<0.05; **p<0.01; ***p<0.001

Table 5.7 shows the relationship between youth smoking and each independent and control variable. There were 2,004 youth (96.1%) not smoking, while only 68 youth (3.3%) were smoking in 2004. A higher proportion of youth in two-parent

families smoked in 2004 (3.6%). A lower percentage of those who were residing in extended household with grandparents reported smoking than others (2.1%). However, the lowest proportion of smoking youth was in non-parent families. There were no females involved in smoking, while 7% of males were smoking in 2004. The proportion of youth that smoked in 2004 increased as the age of youth increased. The highest proportion of youth that smoked was among those who had a non-working primary guardian when compared with those who had working primary guardian. The highest proportion of youth who resided in plantation areas were involved in smoking compared to other residential areas.

Table 5.7 Relationship between Independent Variables, Control Variables, and Youth's Smoking, KDSS 2001 and 2004

Variables	Not smoke		Smoke		Total (100%)	χ^2
	N	%	N	%		
Family structure in 2001						2.635
Two-parent family	1,395	96.4	52	3.6	1,447	
Single-parent family	325	96.7	11	3.3	336	
Non-parent family	284	98.3	5	1.7	289	
Total	2,004	96.7	68	3.3	2,072	
Living in extended household						1.859
Nuclear household	1,542	96.4	57	3.6	1,599	
Extended hh. with grandparents	277	97.9	6	2.1	283	
Extended hh. w/o grandparents	185	97.4	5	2.6	190	
Family structure stability						50.984***
No change in family structure since 2001	1,494	96.3	57	3.7	1,551	
Change in family structure since 2001	510	97.9	11	2.1	521	
Youth's gender						85.831***
Male	865	92.7	68	7.3	933	
Female	1,139	100.0	-	-	1,139	
Youth' s age						7.244
13	383	98.7	5	1.3	388	
14	380	96.2	15	3.8	395	
15	416	96.5	15	3.5	431	
16	342	95.8	15	4.2	357	
17	293	97.0	9	3.0	302	
18	190	95.5	9	4.5	199	
Living in Thai speaking household						0.274
Thai	1,852	96.7	64	3.3	1,916	
Non-Thai	152	97.4	4	2.6	156	
Primary guardian's gender						0.002
Male	1,350	96.7	46	3.3	1,396	
Female	654	96.7	22	3.3	676	

Table 5.7 Relationship between Independent Variables, Control Variables, and Youth's Smoking, KDSS 2001 and 2004 (Continued)

Variables	Not smoke		Smoke		Total (100%)	χ^2
	N	%	N	%		
Primary guardian's age						55.338
25-29	40	95.2	2	4.8	42	
30-34	152	97.4	4	2.6	156	
35-39	392	95.8	17	4.2	409	
40-44	585	96.9	19	3.1	604	
45-49	389	96.5	14	3.5	403	
50-54	189	97.4	5	2.6	194	
55-59	87	97.8	2	2.2	89	
60 and above	170	97.1	5	2.9	175	
Primary guardian's education						20.880
No schooling	137	97.9	3	2.1	140	
Primary school	1,286	96.5	47	3.5	1,333	
Lower secondary school	209	95.9	9	4.1	218	
Upper secondary school	225	97.8	5	2.2	230	
College and over	147	97.4	4	2.6	151	
Primary guardian's occupation						4.796
Not working	150	94.3	9	5.7	159	
Professional and managerial	149	98.7	2	1.3	151	
Sales and services	277	96.5	10	3.5	287	
Agriculture	1,102	96.8	37	3.2	1,139	
Labourer and transport workers	326	97.0	10	3.0	336	
Percentage of smokers						41.791*
None	1,018	98.1	20	1.9	1,038	
1-24	431	94.5	25	5.5	456	
25-49	481	96.2	19	3.8	500	
50 and above	74	94.9	4	5.1	78	
Percentage of alcohol drinkers						60.961***
None	674	98.3	12	1.7	686	
1-24	459	96.4	17	3.6	476	
25-49	653	96.0	27	4.0	680	
50 and above	218	94.8	12	5.2	230	
Standard of living						3.862
Lowest	417	97.2	12	2.8	429	
Low	391	95.8	17	4.2	408	
Medium	315	98.1	6	1.9	321	
High	809	96.3	31	3.7	840	
Highest	72	97.3	2	2.7	74	
Household assets						2.702
Lowest	399	96.4	15	3.6	414	
Low	404	97.3	11	2.7	415	
Medium	396	95.7	18	4.3	414	
High	401	96.9	13	3.1	414	
Highest	404	97.3	11	2.7	415	

Table 5.7 Relationship between Independent Variables, Control Variables, and Youth's Smoking, KDSS 2001 and 2004 (Continued)

Variables	Not smoke		Smoke		Total (100%)	χ^2
	N	%	N	%		
Household size						9.957
2-4	954	96.8	32	3.2	986	
5-7	884	96.7	30	3.3	914	
8 and above	166	96.5	6	3.5	172	
Residential area						10.725*
Urban/semi-urban	492	96.3	19	3.7	511	
Rice field	438	95.8	19	4.2	457	
Plantation	290	95.1	15	4.9	305	
Upland	345	97.2	10	2.8	355	
Mixed economy	439	98.9	5	1.1	444	

Note: *p<0.05; **p<0.01; ***p<0.001

Table 5.8 shows the relationship between alcohol drinking and each independent and control variable. There were 1,842 youth (88.9%) who did not drink alcohol, while only 68 youth (11.1%) drank alcohol in 2004. The highest proportion of youth in two-parent families drank alcohol in 2004 (10.2%). However, only a small proportion of youth drank alcohol in non-parent families. Only a small proportion of females (2.5%) were involved in alcohol drinking, while 21.7% of males drank alcohol in 2004. The proportions of youth that drank alcohol in 2004 were declined as the age of youth's primary guardian increased. A higher proportion of youth in household where many other household members drank alcohol also drank alcohol.

Table 5.8 Relationship between Independent Variables, Control Variables, and Youth's Alcohol Drinking, KDSS 2001 and 2004

Variables	Not drink		Drink		Total (100%)	χ^2
	N	%	N	%		
Family structure in 2001						10.601**
Two-parent family	1,272	87.9	175	12.1	1,447	
Single-parent family	297	88.4	39	11.6	336	
Non-parent family	273	94.5	16	5.5	289	
Total	1,842	88.9	230	11.1	2,072	
Living in extended household						1.533
Nuclear household	1,424	89.1	175	10.9	1,599	
Extended hh. with grandparents	254	89.8	29	10.2	283	
Extended hh. without grandparents	164	86.3	26	13.7	190	
Family structure stability						18.709***
No change in family structure since 2001	1,352	87.2	199	12.8	1,551	
Change in family structure since 2001	490	94.0	31	6.0	521	
Youth's gender						191.439***
Male	731	78.3	202	21.7	933	
Female	1,111	97.5	28	2.5	1,139	
Youth's age						4.023
13	342	88.1	46	11.9	388	
14	343	86.8	52	13.2	395	
15	388	90.0	43	10.0	431	
16	316	88.5	41	11.5	357	
17	275	91.1	27	8.9	302	
18	178	89.4	21	10.6	199	
Living in Thai speaking household						3.761*
Thai	1,696	88.5	220	11.5	1,916	
Non-Thai	146	93.6	10	6.4	156	
Primary guardian's gender						0.092
Male	1,239	88.8	157	11.2	1,396	
Female	603	89.2	73	10.8	676	
Primary guardian's age						66.050
25-29	36	85.7	6	14.3	42	
30-34	138	88.5	18	11.5	156	
35-39	362	88.5	47	11.5	409	
40-44	531	87.9	73	12.1	604	
45-49	356	88.3	47	11.7	403	
50-54	176	90.7	18	9.3	194	
55-59	83	93.3	6	6.7	89	
60 and above	160	91.4	15	8.6	175	

Table 5.8 Relationship between Independent Variables, Control Variables, and Youth's Alcohol Drinking, KDSS 2001 and 2004 (Continued)

Variables	Not drink		Drink		Total (100%)	χ^2
	N	%	N	%		
Primary guardian's education						17.628
No schooling	128	91.4	12	8.6	140	
Primary school	1,179	88.4	154	11.6	1,333	
Lower secondary school	189	86.7	29	13.3	218	
Upper secondary school	206	89.6	24	10.4	230	
College and over	140	92.7	11	7.3	151	
Primary guardian's occupation						3.152
Not working	139	87.4	20	12.6	159	
Professional and managerial	139	92.1	12	7.9	151	
Sales and services	252	87.8	35	12.2	287	
Agriculture	1,018	89.4	121	10.6	1,139	
Labourer and transport workers	294	87.5	42	12.5	336	
Percentage of smokers						23.249
None	921	88.7	117	11.3	1,038	
1-24	405	88.8	51	11.2	456	
25-49	445	89.0	55	11.0	500	
50 and above	71	91.0	7	9.0	78	
Percentage of alcohol drinkers						34.036
None	625	91.1	61	8.9	686	
1-24	426	89.5	50	10.5	476	
25-49	597	87.8	83	12.2	680	
50 and above	194	84.3	36	15.7	230	
Standard of living						3.479
Lowest	387	90.2	42	9.8	429	
Low	370	90.7	38	9.3	408	
Medium	281	87.5	40	12.5	321	
High	739	88.0	101	12.0	840	
Highest	65	87.8	9	12.2	74	
Household assets						5.896
Lowest	378	91.3	36	8.7	414	
Low	372	89.6	43	10.4	415	
Medium	357	86.2	57	13.8	414	
High	365	88.2	49	11.8	414	
Highest	370	89.2	45	10.8	415	
Household size						13.594
2-4	870	88.2	116	11.8	986	
5-7	820	89.7	94	10.3	914	
8 and above	152	88.4	20	11.6	172	
Residential area						18.331***
Urban/semi-urban	444	86.9	67	13.1	511	
Rice field	396	86.7	61	13.3	457	
Plantation	267	87.5	38	12.5	305	
Upland	337	94.9	18	5.1	355	
Mixed economy	398	89.6	46	10.4	444	

Note: *p<0.05; **p<0.01; ***p<0.001

5.3 The Impact of Family Structure on Youths' Quality of Life Indicators (KDSS, 2001 and 2004)

The results from the first objective portray the general picture of youths' quality of life. School/college enrolment, smoking, and alcohol drinking were shown as indicators of youths' quality of life in Kanchanaburi province, by using the Happiness Indicator Survey. Thus, this study will use school/college enrolment, smoking, and alcohol drinking as "youths' quality of life indicators" to examine the impact of family structure by using KDSS data.

In order to look at the relationship between family structure and youths' quality of life as indicated by three dependent variables including whether they were enrolled school/college, smoked, and drank alcohol in 2004, the study makes use of three binary logistic regression models. As the outcome variables are dichotomous in nature, binary logistic regression is the most appropriate method. The method is used to model the odds of reporting school/college enrolment, smoking, and alcohol drinking versus not report it. It is important to note that the values shown in Table 5.10 to 5.12 are odds ratio; as such, values greater than one indicate greater odds of reporting enroll school/college, smoking, and alcohol drinking.

There are two models in each of the three following binary logistic regression analyses. In the first model, the relation between all control variables and youths' quality of life indicator is examined without family structure. In the second model, relation between family structure and youths' quality of life is examined while controlling for all control variables. Both models are shown in each of the three following tables, with each table using one of the three dependent variables including school/college enrolment, smoking, and alcohol drinking. Results are shown in Table 5.10 to 5.12.

5.3.1 School/College Enrolment

This indicator is essentially related with youth development. In Thailand, section 17 of the National Education Act requires all children aged seven years or over to enroll in school, and has made education compulsory until the age of 16 years or Grade 9, with the exception of those people who have already completed Grade 9.

Although youth aged 15-24 are considered to have finished compulsory education, higher education would provide the opportunities for growth, supported by the human development concept. Most youth in the KDSS were working (60.4%) and only 6.7 percent were not working or looking for a job (Table 5.9). However, it is worthwhile to examine whether or not they enrolled school/college in order to improve their human capital in the future by using logistic regression analysis.

Table 5.9 Working Status of Youth in 2004

Working Status of Youth in 2004	N	Percent
Working	1,252	60.4
Studying	681	32.9
Not working/ Looking for a job	139	6.7
Total	2,072	100.0

Model 1: While controlling the effects of other variables in the model, Table 5.10 shows that youth who are living in extended household with grandparents were more likely to enroll school/college than those in nuclear households. Those who had a stable family structure, which had no change in family structure since 2001, were more likely to enroll school/college. Males and older youth were less likely to enroll school/college than those who were not. Living in households with higher levels of assets increased the probability on youth's school/college enrolment. Residential strata have strongly influenced youth's school/college enrolment. Youth who were residing in urban and semi-urban stratum were more likely to enroll in school/college than those who were not.

Model 2: The second model adds the independent variable, family structure, to the control variables. Family structure has no association with youth's school/college enrolment. When family structure was controlled, the control variables retained the same associations with youth's school/college enrolment.

Table 5.10 The Odds Ratios of Logistic Regression Analysis of the Impact of Family Structure on Youth's School/College Enrolment, KDSS 2001 and 2004

Variables	School/College Enrolment			
	Model 1		Model 2	
	Exp(B)	SE(B)	Exp(B)	SE(B)
Living in extended household				
Extended household with grandparents	1.686***	.296	1.742**	.298
Extended household without grandparents	.851	.176	.882	.178
Nuclear household (ref.)	-------	-------	-------	-------
Family structure stability				
No change in family structure since 2001	2.827***	.425	2.877***	.424
Change in family structure since 2001 (ref.)	-------	-------	-------	-------
Youth's gender				
Male	.784*	.087	.786*	.087
Female (ref.)	-------	-------	-------	-------
Youth's age	.476***	.020	.476***	.020
Living in Thai speaking household				
Thai	.836	.205	.829	.203
Non-Thai (ref.)	-------	-------	-------	-------
Primary guardian's gender				
Male	1.027	.153	1.021	.132
Female (ref.)	-------	-------	-------	-------
Primary guardian's age	1.000	.007	.999	.007
Primary guardian's education				
Primary school	.813	.208	.824	.209
Lower secondary school	1.196	.370	1.206	.369
Upper secondary school	1.130	.357	1.131	.355
College and over	1.015	.393	1.000	.385
No schooling (ref.)	-------	-------	-------	-------
Primary guardian's occupation				
Professional and managerial	.892	.308	.928	.317
Sales and service	1.013	.277	1.041	.282
Agriculture	1.082	.264	1.109	.269
Labourer and transport worker	.985	.268	1.005	.272
Not working (ref.)	-------	-------	-------	-------
Percentage of smokers in household	.991*	.004	.991*	.004
Percentage of alcohol drinkers in household	.998	.003	.999	.003
Standard of living				
Lower	1.161	.214	1.155	.212
Medium	1.171	.234	1.173	.234
Higher	1.110	.193	1.105	.191
Highest	.769	.275	.777	.277
Lowest (ref.)	-------	-------	-------	-------

Table 5.10 The Odds of Logistic Regression for the Impact of Family Structure on Youth's School/College Enrolment, KDSS 2001 and 2004 (Continued)

Variables	School/College Enrolment			
	Model 1		Model 2	
	Exp(B)	SE(B)	Exp(B)	SE(B)
Household assets				
Lower	1.149	.225	1.137	.222
Medium	1.525*	.302	1.517*	.300
Higher	1.779**	.363	1.772**	.360
Highest	1.592**	.375	1.582**	.372
Lowest (ref.)	-------	-------	-------	-------
Household size	.951	.034	.946	.033
Residential area				
Rice field	.470***	.088	.470***	.088
Plantation	.534***	.108	.536***	.109
Upland	.282***	.063	.282***	.063
Mixed economy	.551**	.098	.553**	.098
Urban and semi-urban (ref.)	-------	-------	-------	-------
Family structure				
Single-parent family			1.048	.196
Non-parent family			.866	.175
Two-parent family (ref.)			-------	-------
-2 Log likelihood	1017.924		1017.578	

Note: *p<0.05; **p<0.01; ***p<0.001

5.3.2 Smoking

This indicator is essentially related with youth health. In Thailand, The Consumer Protecting Act 1992 in effect penalizes smoking in public places and selling cigarettes to children under the age of 18 years. The relatively high rate of smoking among male youth, however, may be partly due to the failure of law enforcement and aggressive advertisement of tobacco companies with heavy targeting of adolescents. It is worthwhile to determine the factors related with youth smoking in order to improve youth's health in the future by using logistic regression analysis.

In order to look at the relation between family structure and smoking, binary logistic regression was used. Because the dependent variable is binary in nature, binary logistic regression was the most appropriate method. The focus here is to determine the relationship between family structure and smoking while controlling for youth, primary guardian, and household characteristics.

Model 1: It was found that family structure stability has an association with youth's smoking (Table 5.11). Youth who were living in a stable family structure were less likely to smoke cigarettes. Older youth and those who had younger primary guardians were more likely to smoke when compared with those who did not. Occupation of primary guardian is strongly associated with youth's smoking. Youth who had employed primary guardians were less likely to smoke than youth who had unemployed primary guardians. Percentage of smokers and alcohol drinkers in the household influenced youth's smoking. Higher percentages of smokers and alcohol drinkers increased the chance of youth's smoking. Youth who were residing in upland and mixed economy stratum were less likely to smoke cigarettes, when compared with those in urban and semi-urban stratum.

Model 2: When family structure was included in the model 2, it was found that family structure has no association with youth's smoking. However, the effect ofsome control variables did change when family structure was added. The significant relationship of family structure stability and primary guardian's age disappeared, while living in extended households with grandparents and household size appear to have significant relations with youth's smoking.

Table 5.11 The Odds of Logistic Regression for the Impact of Family Structure on Youth's Smoking, KDSS 2001 and 2004

Variables	Smoking			
	Model 1		Model 2	
	Exp(B)	SE(B)	Exp(B)	SE(B)
Living in extended household				
Extended household with grandparents	.516	.296	.477*	.232
Extended household without grandparents	.414	.207	.590	.313
Nuclear household (ref.)	-------	-------	-------	-------
Family structure stability				
No change in family structure since 2001	.494*	.273	1.972	.740
Change in family structure since 2001 (ref.)	-------	-------	-------	-------
Youth's gender				
Male	.000	.000	.000	.000
Female (ref.)	-------	-------	-------	-------
Youth's age	1.199**	.104	1.201**	.103
Living in Thai speaking household				
Thai	1.181	.722	1.102	.667
Non-Thai (ref.)	-------	-------	-------	-------
Primary guardian's gender				
Male	1.003	.370	.917	.288
Female (ref.)	-------	-------	-------	-------
Primary guardian's age	.965*	.019	.962	.017
Primary guardian's education				
Primary school	.999	.729	1.133	.807
Lower secondary school	1.210	1.007	1.379	1.123
Upper secondary school	.625	.574	.641	.581
College and over	1.333	1.445	1.265	1.370
No schooling (ref.)	-------	-------	-------	-------
Primary guardian's occupation				
Professional and managerial	.097**	.097	.112**	.110
Sales and service	.295*	.167	.317*	.179
Agriculture	.318*	.149	.342*	.160
Labourer and transport worker	.268**	.155	.279**	.160
Not working (ref.)	-------	-------	-------	-------
Percentage of smokers in household	1.021**	.009	1.020**	.009
Percentage of alcohol drinkers in household	1.013**	.007	1.014**	.007
Standard of living				
Lower	1.621	.698	1.578	.676
Medium	.751	.426	.757	.426
Higher	1.539	.668	1.514	.651
Highest	1.631	1.558	1.717	1.629
Lowest (ref.)	-------	-------	-------	-------
Household assets				
Lower	.603	.282	.611	.283
Medium	.984	.428	1.019	.440
Higher	.826	.387	.827	.382
Highest	.716	.413	.707	.401
Lowest (ref.)	-------	-------	-------	-------

Table 5.11 The Odds of Logistic Regression for the Impact of Family Structure on Youth's Smoking, KDSS 2001 and 2004 (Continued)

Variables	Smoking			
	Model 1		Model 2	
	Exp(B)	SE(B)	Exp(B)	SE(B)
Household size	1.167	.099	1.129*	.091
Residential area				
Rice field	.896	.375	.884	.369
Plantation	.989	.447	1.004	.452
Upland	.348*	.183	.361*	.189
Mixed economy	.196**	.110	.198**	.111
Urban and semi-urban (ref.)	-------	-------	-------	-------
Family structure				
Single-parent family			.000	.000
Non-parent family			1.265	.575
Two-parent family (ref.)			-------	-------
-2 Log likelihood	216.259		215.311	

Note: *p<0.05; **p<0.01; ***p<0.001

5.3.3 Alcohol Drinking

This indicator is essentially related with youth health. Trends of alcohol drinking reveal that there has been an increase in alcohol consumption in youth and the starting age is becoming much younger. Aside from the direct health effect, alcohol drinking among adolescents is closely linked with traffic accidents and unsafe sex. Traffic accidents and HIV/AIDS are two of main causes of death and disability among youth; therefore, effective measures are urgently needed. It is important to determine the factors related to drinking alcohol in order to improve their health in the future by using logistic regression analysis.

In order to look at the relation between family structure and alcohol drinking, binary logistic regression was used. Alcohol drinking is a dichotomous variable that is used as the dependent variable in the binary logistic regression analysis.

Model 1: All of the control variables are examined in the first model (Table 5.12) and it was found that, surprisingly, youth who lived in stable family structures were more likely to drink alcohol than those who were living in unstable family structure. Male youth were more likely to drink alcohol than female youth. Primary guardian's age, education, and occupation are significantly associated with youth's alcohol drinking. Youth who were older, those who had primary guardians with

college and higher educations, and those who had primary guardians working in agriculture were less likely to drink alcohol. Youth who were residing in households with higher percentages of alcohol drinkers were more likely to drink alcohol than those who were not. Residential strata are associated with youth's alcohol drinking. Youth who were living in upland and mixed economy stratum were less likely to drink alcohol than those in urban and semi-urban stratum.

Model 2: It was found that family structure has a significant association with youth's alcohol drinking. Youth in non-parent families were less likely to drink alcohol than those in two-parent families. When family structure was added in the model, the significant relationship of primary guardian's age disappeared, while the effect of the other control variables remained the same.

Table 5.12 Odds Ratios of Logistic Regression Analysis of the Impact of Family Structure on Youth's Alcohol Drinking, KDSS 2001 and 2004

Variables	Alcohol Drinking			
	Model 1		Model 2	
	Exp(B)	SE(B)	Exp(B)	SE(B)
Living in extended household				
Extended household with grandparents	.772	.198	.842	.211
Extended household without grandparents	1.200	.327	1.315	.347
Nuclear household (ref.)	-------	-------	-------	-------
Family structure stability				
No change in family structure since 2001	2.328***	.527	2.523***	.562
Change in family structure since 2001 (ref.)	-------	-------	-------	-------
Youth's gender				
Male	11.927***	2.520	11.949***	2.522
Female (ref.)	-------	-------	-------	-------
Youth's age	.943	.047	.943	.047
Living in Thai speaking household				
Thai	1.269	0.490	1.224	.470
Non-Thai (ref.)	-------	-------	-------	-------
Primary guardian's gender				
Male	1.077	.230	1.108	.200
Female (ref.)	-------	-------	-------	-------
Primary guardian's age	.984**	.011	.979	.010

Table 5.12 The Odds of Logistic Regression for the Impact of Family Structure on Youth's Alcohol Drinking, KDSS 2001 and 2004 (Continued)

Variables	Alcohol Drinking			
	Model 1		Model 2	
	Exp(B)	SE(B)	Exp(B)	SE(B)
Primary guardian's education				
Primary school	.555	.216	.626	.238
Lower secondary school	.613	.276	.698	.308
Upper secondary school	.453	.215	.486*	.229
College and over	.284*	.173	.308*	.185
No schooling (ref.)	-------	-------	-------	-------
Primary guardian's occupation				
Professional and managerial	.417	.212	.449	.225
Sales and service	.594	.213	.634	.225
Agriculture	.538*	.170	.577*	.181
Labourer and transport worker	.586	.209	.611	.217
Not working (ref.)	-------	-------	-------	-------
Percentage of smokers in household	.997	.006	.997	.006
Percentage of alcohol drinkers in household	1.014***	.004	1.014***	.004
Standard of living				
Lower	.864	.229	.856	.226
Medium	1.162	.320	1.167	.320
Higher	1.073	.259	1.069	.257
Highest	1.488	.742	1.553	.770
Lowest (ref.)	-------	-------	-------	-------
Household assets				
Lower	.960	.267	.958	.265
Medium	1.226	.337	1.241	.340
Higher	.888	.254	.894	.255
Highest	.868	.286	.853	.278
Lowest (ref.)	-------	-------	-------	-------
Household size	1.021	0.052	1.007	.050
Residential area				
Rice field	.741	.182	.725	.178
Plantation	.662	.180	.666	.181
Upland	.219***	.076	.224***	.078
Mixed economy	.571**	.139	.567**	.138
Urban and semi-urban (ref.)	-------	-------	-------	-------
Family structure				
Single-parent family			.994	.261
Non-parent family			.553**	.183
Two-parent family (ref.)			-------	-------
-2 Log likelihood	579.192		577.402	

Note: *p<0.05; **p<0.01; ***p<0.001

5.4 Discussion

To identify youths' quality of life from secondary data, previous study provided a way to determine the components through factor analysis (Sutthangkul, 1999), while re-scaling method was applied for measuring the level of quality of life based on the criteria of indicators (UNDP, 1999). The present study applied factor analysis and the rescaling method to obtain a score for each component.

Univariate analyses showed the youth's family structure in cohort data in 2001-2004. The two-parent nuclear family is the major family structure in Kanchanaburi DSS, which is consistent with the characteristic of stem family in Thailand where the mechanism of family life cycle are still important (Richter & Podhisita, 1991-1992). It was found that higher percentages of rural youth than urban youth were living in two-parent nuclear families because the stem family cycle is common in rural area, which family structure have variants in the cycle of nuclear and stem (extended) family in order to confirm the findings from the previous anthropological studies on family structure in Thailand (Foster, 1975; Potter, 1976).

The findings of the cohort data used in this study, 2001-2004, indicated that the proportions of extended families are increasing, which is also supported by the evidence from the Thai national survey (NationalStatisticalOffice, 2006). The possible reasons are because of the effects of population aging and family life cycle of Thai people. Increases in life expectancy have made grandparenthood more prevalent. Longer life expectancy has also led to a longer periods of grandparenthood. Once someone becomes a grandparent, they will have that status for a much longer time than previous generations. Increasing life expectancy in Thailand leads to increase the size of aging population and the chance of grandparenthood. Furthermore, increasing extended families are also considered as a consequence of family life cycle in the stage of stem family. Nuclear families become stem, or extended, families when one of the children marries and joins the parents. In the period of being youth, some sibling of youth, or even the youth themselves, tend to live with their parents after their marriage, leading to change from nuclear to extended families. High fertility in the past three decades created the large family size and the longer period of extended families. In other words, youth have more siblings and their sibling would get married and stay with parents until the younger siblings get married, leading to youth stay

longer in extended families than before. This cycle is dominated in Thai rural areas, which is supported by the result of increasing extended families in the results from the KDSS.

A total of 6 components and 35 indicators of youths' quality of life in Kanchanaburi province were developed from a total of 38 initial variables. These 6 components are considered as the main youths' quality of life components, which were also used in many previous studies (Cummins, 1996; Meuleners, Binns, & Lower, 2003). The results revealed that youth in Kanchanaburi province have the highest score in the standard of physical environment component, meaning that most youth are residing in good environments. In addition, youth in Kanchanaburi province had the lowest score in the cultural belief activities component. Although the cultural belief activities component derives from the set of questions about religious practice, it could indicate youth's way of thinking about moral and ethical issues, which could reflect their way of life. This study selected only those who are Buddhist, because very few cases (n = 7) were not Bhuddist, so they were deleted from the analysis. It is proposed that only some youth in Kanchanaburi province practiced in cultural belief activities activities. However, the secondary data could not cover all of youths' quality of life indicators including family relations, peer influences, and leisure activities, which are considered as the aspects of youth's life that previous researches have included (Soonthornthada et al., 2005; Steinberg, 1996).

Bivariate analysis indicated that youth in non-parent families had the lowest score in quality of life when compared with other family structures, especially in terms of standard of emotion, social capital, and physical health. This result suggests that living with parents provided better subjective quality of life for youth. Youth in extended households had higher scores only in social capital. This result is not supported by previous studies, which found that other adults in the household, especially grandparents, could improve their grandchild's quality of life and well-being (Deleire & Kalil, 2002). Youth in extended households has lower quality of life score in standard of emotion than those in nuclear households. The reason might be that the grandparents and other adults in the household may increase the likelihood of interfering in childrearing and increase the family conflict, which may have the effect of increasing stress and deviant behavior (Na Manorom, 1991).

It is expected that youth in single-parent families would have a much more lower of quality of life than those in two-parent families, especially regarding standard of emotion and standard of living. Previous study shows that the effect of parent's marital discord and parental conflict in single-parent families reduce the psychological well-being of children (Amato & Sobolewski, 2001). Youth in single-parent families are expected to have a lower standard of living due to the economic deprivation of father or mother-only families (Cancian & Reed, 2001). The multivariate results of this study, however, showed that there are no differences between two-parent families and single-parent families in the Thai context. The reason might be that the Thai kinship system can reduce the negative effect of single-parent families among Thai people.

Bivariate and multivariate analyses provided the important results in this study. According to previous research in Kanchanaburi province, it was expected that youth in other family structures besides two-parent families might be less likely to enroll school/college because of the effects of economic deprivation (Astone & McLanahan, 1991). However, youth in extended households with grandparents had a greater probability of enrolling in school/college than those who were living in nuclear households. The explanation that may account for this result is that family structure may well be a proxy for other variables that affect outcomes for children such as family resources (e.g., money, assets). Having an extended household with the presence of grandparents interacts with socioeconomic status and is particularly beneficial among low-income families. Among these families, grandparents may contribute in ways that benefit children relative to what parents can do by themselves (Deleire & Kalil, 2002). The economic benefits in extended households were supported by the positive impact of household assets on school/college enrolment in the first regression model. The significant association of other residential area when compared with urban and semi-urban strata on youth's school/college enrolment suggested that youth in other residential area were less likely to enroll in school/college due to the shortage of secondary schools and higher in the area (Mahaarcha & Kittisuksathit, 2007). However, this study could not follow those who were staying in dormitory or had migrated to other provinces.

There was no association between family structure and smoking behavior. In the second regression model, youth in extended households with grandparents had a lower probability of smoking than those in nuclear households. The reason might be that the role of grandparents in extended households in the Thai context is still important in terms of socialization of their grandchildren (Mangthanee, Buarapha, & Visutthangkul, 2005). Grandparents in Thai families are considered as the people who provide the moral and ethical guidance to grandchildren in order to reduce their risk behavior. Grandparents in the household may reduce the negative effect of parents in the labour force on children's delinquency. They can spend the time to nurture their grandchildren. The results showed that primary guardian's occupation is associated with youth's smoking. Youth who have employed primary guardians are less likely to smoke than those who have unemployed primary guardians. Higher percentages of smokers and alcohol drinkers in the household are related with a higher probability of smoking among youth due to imitation behavior in which the behavior of each person both influences and is explained by the movement of others within the system in the family system context.

Surprisingly, youth in non-parent families had a reduced chance to drink alcohol when compared with those who were in two-parent families. The significant association occurred even when mediating variables were controlled for. Non-parent families can refer living with relatives and employers. The reason might be that non-parental adults can control the behavior of youth better in terms of alcohol drinking than parental adults. Especially in employer households, the rules and discipline of employers are considered much stronger than parent's in nature.

The crucial point is that family structure stability has a significant association with youth's school/college enrolment and alcohol drinking. Youth in stable family structures are more likely to enroll in school and less likely to drink alcohol; however, there is no difference between youth in stable and unstable family structure regarding smoking. However, the present study could not explore the effect of parent's marital transition on youth because very few cases (n=10) were facing marital transition during the KDSS 2001-2004. Thus, the effect of changing types of family structure during the KDSS 2001 and 2004 have been explored as a substitute.

CHAPTER VI
CONCLUSION AND RECOMMENDATIONS

This concluding chapter summarizes the major findings in light of the research objectives of this study given in chapter one. The whole study has revolved around the questions: What are the indicators and components of youths' quality of life in Kanchanaburi province?; and Does family structure have any association with youths' quality of life indicators regarding school/college enrolment, smoking, and alcohol drinking? In order to answer these questions, the study takes advantage of the cross-sectional data of the Happiness Indicator Survey to answer the first question and the longitudinal data of the Kanchanaburi Demographic Surveillance System (KDSS), both of which were collected by the Institution for Population and Social Research, Mahidol University. This chapter also contributes recommendations from the present study and recommendations for future research.

6.1 Conclusion of Results

6.1.1 Objective 1: To Identify Youths' Quality of Life in Kanchanaburi Province

Thai youth have made lasting contributions to Thailand's political and economic development. Although economic development in Thailand has improved the standard of living of Thai youth, social problems relating with Thai youth behaviors are increasingly occurred. Thus, it is crucial to find out what the youth's needs are and what the level of youths' quality of life is. Secondary data derived from focus-group discussions, expert recommendations, and literature reviews were used for identifying the indicators and components of youths' quality of life.

From the literature reviews and data availability, 38 variables were prepared for analysis. The results revealed that there are 35 indicators of 6 youths' quality of life components; standard of emotion, standard of physical health environment,

standard of living, social capital, cultural belief activities, and physical health. The results revealed (1) the indicators and components; and (2) the score of youths' quality of life. The highest component score was for the standard of physical environment and the lowest component score was for cultural belief activities.

Youth in two-parent families had the highest total quality of life score when compared with those in single-parent families and non-parent families. In addition, youth who were living in nuclear households had a higher total quality of life score than those in extended households.

6.1.2 Objective 2: To Examine the Association between Family Structure and Youths' Quality of Life Indicators in the Kanchanaburi DSS

Growing attention has been paid to the idea that the different family structures provide different quality of life among youth, but there are limited studies on the impact of various types of family structure on youths' quality of life. Type of family structures is used as the main variable to predict youths' quality of life. Youth, primary guardian, and household characteristics are used as the control variables. It is expected that youth who were living outside two-parent families had poorer quality of life, which is a hypothesis in this study.

Due to lack of longitudinal data to explore the impact of family structure on total youths' quality of life, 4 rounds of the Kanchanaburi DSS, 2001-2004, were employed to explore the family structure on some youths' quality of life indicators, which are the indicators of youths' quality of life that have been identified from the first objective.

Descriptive statistics indicated that the trend of youth's family structure during four years of data is that the proportions of nuclear families are decreasing, while extended families are increasing due to population aging and youth's family life cycle, especially in rural area where the stem family system is common.

Multivariate results indicated that there is no difference in school/college enrolment among different family structures. The results revealed that living in extended households is associated with school/college enrolment due to the benefit of economic resources of this family structure. This reason is supported by the positive

impact of household assets, which was used as a control variable and that the significant association of living in extended household still exists. Male and older youth had less chance to enroll in school, similar to those who were living outside urban and semi-urban areas. A stable family structure was strongly associated with a greater chance to enroll in school.

There was no association between family structures on youth's smoking, while controlling for other variables. It can be said that individual factors have a stronger effect than family structure. It was found that youth in extended households were less likely to smoke when compared with those in nuclear households due to the grandparent's role of socialization in preventing youth's health risk behavior. For the association between family structure and alcohol drinking, youth in non-parent families had a lower probability to drink alcohol when compared with those in two-parent families. The reason might be that primary guardians in non-parent families could control about youth's health risk behavior more strictly than parent in general. Males were more likely to drink alcohol than females, and those who were living in urban and semi-urban areas were also more likely to drink alcohol than those living in other areas.

6.2 Recommendations

1. The results show that youth in Kanchanaburi province have the lowest quality of life score in the cultural belief activities component. This could suggest that cultural belief activities should be a greater concern of many government organizations that are responsible for children and youth development, such as the Ministry of Education and Ministry of Culture, in order to improve the way of thinking and promoting more moral and ethical concepts among youth in the context of Kanchanaburi province.

2. According to the descriptive findings, youth in two-parent and single-parent families were not different in terms of quality of life. The important factor is whether they are living in extended households. Youth in extended households with grandparent's presence had a higher probability of enrolling in school/college and not smoking compared to those in nuclear households. The economic and socializing benefits of extended households should be considered as important for youth's life,

especially the role of grandparents in the household. It is recommended to ministry of social development and human security that they should set a program for elderly who are grandparents to transmit moral and ethical matters and also traditional and cultural values to children and youth in the community. Furthermore, the benefits of grandparents in the household should be considered in terms of a policy that the government could reduce taxes for those who are having and taking care their elderly parents or grandparents in the household.

3. According to the multivariate findings, youth in non-parent families were less likely to drink alcohol when compared with those in two-parent families. This could suggest that the Ministry of Public Health should promote a stronger role of parents to socialize their children in order to avoid health risk behaviors.

6.3 Recommendations for Further Study

1. The secondary data used in this study could not provide all the youths' quality of life components that were reviewed from previous studies, such as family relationship, peer, school, and leisure. This could suggest that utilization of primary data is appropriate for further studies to cover youths' quality of life as a whole.

2. The findings show that there was no negative effect of single-parent families on youths' quality of life in the Thai context, while living in extended households had a much greater effect on youths' quality of life. Future studies of Thai family structure should focus and consider the effect of living in extended households in order to respond to the increasing trend of extended household in Thailand.

BIBLIOGRAPHY

Acock, A. C., & Demo, D. H. (1994). *Family Diversity and Well-being*. California: Sage Publication.

Amato, P. R., & Sobolewski, J. M. (2001). The Effects of Divorce and Marital Discord on Adult Children's Psychological Well-being. *American Sociological Review, 66*, 900-921.

Anh, T. S., Knodel, J., Lam, D., & Friedman, J. (1998). Family Size and Children's Education in Vietnam *Demography, 35*(1), 57-70.

Aseltine, R. (1996). Pathways Linking Parental Divorce with Adolescent Depression. *Journal of Health and Social Behavior, 37*, 133-148.

Astone, N. M., & McLanahan, S. (1991). Family Structure, Parental Practices and School Completion. *American Sociological Review, 56*(3), 309-320.

Bachman, J. G. (1983). Premature Affluence: Do High School Students Earn Too Much? . *Economic Outlook USA*, 64-67.

Battistella, G., & Gastardo-Conaco, M. C. (1996). *Impact of Labor Migration on the Children Left Behind*, . Manila.

Bender, B. G. (1996). Measurement of Quality of Life in Pediatric Asthma Clinical Trials. *Annals of Allergy, Asthma, & Immunology 77*, 438-445.

Berg, B. B., & R., K. (1979). The Measured Self-Esteem of Children from Broken, Rejected, and Accepted Families. *Journal of Divorce, 2*, 363-369.

Biblarz, T. J., & Raftery, A. E. (1999). Family Structure, Educational Attainment, and Socioeconomic Success: Rethinking the “Pathology of Matriarchy”. *American Journal of Sociology, 105*, 321-365.

Blake, J. (1989). *Family Size and Achievement*. Berkley: University of California Press.

Bock, J., & Johnson, S. E. *Male Migration, Remittances, and Child Outcome among the Okavango Delta Peoples of Botswana* (In C.S. Tamis-Lemonda and N.Cabrera ed.). Mahwah, New Jersey: Lawrence Eribaum Associates.

Brown, J. D., & Siegel, J. M. (1988). Attribution for Negative Life Events and Depression: The Role of Perceived Control. *Journal of Personality and Social Psychology, 54*, 316-322.

Brown, S. L. (2006). Family Structure Transitions and Adolescent Well-being. *Demography, 43*(3), 447-461.

Buhrmester, D., & Furman, W. (1987). The Development of Companionship and Intimacy. *Child Development, 58*, 1101-1113.

Cancian, M., & Reed, D. (2001). *Changes in Family Structure: Implications for Poverty and Related Policy*. New York: Russell Sage Foundation.

Cherlin, A. J., Chase-Lansdale, P. L., & McRae, C. (1998). Effects of Parental Divorce on Mental Health throughout the Life Course. *American Sociological Review, 63*(239-249).

Cummins, R. A. (1996). The Domain of Life Satisfaction: An Attempt to Order Chaos. *Social Indicators Research, 38*, 303-332.

Cummins, R. A. (1998, 4-6 March). *The Comprehensive Quality of Life Scale.* Paper presented at the The First International Conference on Quality of Life in Cities, Singapore.

Dalkey, N. C., & Rourke, D. L. (1973). *The Delphi Procedure and Rating Quality of Life Factors*. Washington DC: USGPO.

Deleire, T., & Kalil, A. (2002). Good Things Come in Threes: Single-Parent Multigenerational Family Structure and Adolescent Adjustment. *Demography, 39*(2), 393-413.

Doyal, L., & Gough, I. (1991). *A Theory of Human Need*: Macmillan.

Dunlop, R., Burns, A., & Bermingham, S. (2001). Parent-Child Relations and Adolescent Self-Image Following Divorce: A 10 Year Study. *Journal of Youth and Adolescence, 30*, 117-134.

Edlund, L., & Rahman, A. (2005). Household Structure and Child Outcomes: Nuclear vs Extended Families: Evidence from Bangladesh. 1-39 (in progress).

Entwistle, D. R., & Hayduk, L. A. (1988). Lasting Effects of Elementary School. . *Sociology of Education, 61*, 147-159.

ESCAP. (2000). *Youth in Thailand: A Review of the Youth Situation and National Policies and Programmes*. New York: United Nations.

Foster, B. L. (1975). Continuity and Change in Rural Thai Family Structure. *Journal of Anthropological Research, 31*, 34-50.

Gans, J. (1990). *America's Adolescents: How Healthy They are?* Chicago: American Medical Association.

Grob, A. (1998). *Adolescent's Subjective Well-being in Fourteen Cultural Contexts* (In Nurmi J-E ed.). London: Garland.

Hamilton, H. A. (2005). Extended Families and Adolescent Well-being. *Journal of Adolescent Health, 36*, 260-266.

Ingersoll, G. M., & Marrero, D. G. (1990). A Modified Quality-of-Life Measure for Youths: Psychometric Properties. *Diabetes Educator 17*, 114-120.

Johnstone, J. N. (1981). *Indicators of Education Systems*. London: UNESCO.

Knodel, J., Havanon, N., & Sittitrai, W. (1990). Family Size and the Education of Children in the Context of Rapidly Fertility Decline. *Population and Development Review, 16*, 31-62.

Larsen, R. J., & Buss, M. D. (2005). *Personality Psychology: Domains of Knowledge About Human Nature*. New York: McGraw-Hill Inc.

Larson, R. (1983). Adolescents' Daily Experience with Family and Friends: Contrasting Opportunity Systems. *Journal of Marriage and the Family*, 739-750.

Larson, R., & Richards, M. (1991). Daily Companionship in Late Childhood and Early Adolescence: Changing Developmental Contexts. *Child Development, 62*(284-300).

Lloyd, C. (1994). Investing in the Next Generation: The Implications of High Fertility at the Level of the Family. *Population and Development Review*, 181-202.

Mahaarcha, W., & Kittisuksathit, S. (2007). *Household Characteristics Affecting on Education of Youth in Kanchanaburi DSS, 2004.* Paper presented at the The 2007 Thai National Symposium on Population Studies, Twin Tower Hotel, Bangkok.

Mangthanee, T., Buarapha, H., & Visutthangkul, K. (2005). *Family Role on Cultivating Morality among Youth in Northeastern Thailand*. Khonkean: Faculty of Humanities and Social Science, Khonkean University.

McKeown, K., & Sweeny, J. (2001). *Family Well-being and Family Policy: A Review of Research on Benefits and Costs*. Dublin: Kiren McKeown Limited, Social and Economic Research Consultants.

McLanahan, S., & Sandefur, G. (1994). *Growing Up with a Single-Parent: What Hurts, What Helps*. Cambridge, MA: Harvard University Press.

Meuleners, L. B., A.H., L., Binns, L. C., & Lower, A. (2003). Quality of Life for Adolescents: Assessing Measurement Properties Using Structural Equation Modeling. *Quality of Life Research, 12*, 283-290.

Millstein, S., Petersen, A., & Nightingale, E. (1993). *Promoting the Health of Adolescents: New Directions for the Twenty-First Century*. New York: Oxford University Press.

Ministry of Interior. (2001). *Basic Human Needs Report 2001*. Bangkok.

Na Manorom, N. (1991). *Family Factor affecting on Children Mental Disorder: Case Study of Psychiatry Units, Siriraj Hospital* Thammasat University, Bangkok.

National Statistical Office. (2002). *Report of the Sport Played and Sport Watching Behavior Survey 2002*. Bangkok.

National Statistical Office. (2005). *The Cigarette Smoking and Alcohol Drinking Behavior Survey 2004*. Bangkok.

National Statistical Office. (2006). *Core Social Indicators of Thailand 2006*. Bangkok: Statistical Forecast Unit.

Natriello, G., & McDill, E. L. (1986). Performance Standards, Student Effort on Homework, and Academic Achievement. . *Sociology of Education, 59*, 18-31.

OECD. (2005). *Handbook on Constructing Composite Indicators: Methodology and User Guide*.

Oliver, J. P. J., Huxley, P., Bridges, K., & Mohamad, H. (1996). *Quality of Life and Mental Health Services*. London: Routledge.

Panichachivakul, P., & Pradubmuk, P. (1999). *Quality of Life of Northeastern Farmers: View from People*. Khonkean: Faculty of Nursing, Khonkean University.

Park, N. (2005). Life Satisfaction among Korean Children and Youth: A Developmental Perspective. *School Psychology International, 26*(2), 209-223.

Pattaravanich, U., Williams, L. B., Lyson, T. A., & Archavanitkul, K. (2005). Inequality and Educational Investment in Thai Children. *Rural Sociology, 70*(4), 561-583.

Polit, D. (1982). *Effects of Family Size: A Critical Review of Literature Since 1973*. Washington, D.C.: American Institutes for Research.

Popenoe, D. (1993). American Family Decline, 1960-1990: A Review and Appraisal. *Journal of Marriage and the Family, 55*, 527-542.

Potter, J. M. (1976). *Thai Peasant Social Structure*. Chicago: University of Chicago Press.

Pryor, J., & Rodgers, B. (2001). *Children in Changing Families: Life after Parental Separation*. Oxford: Blackwell.

Rapley, M. (2003). *Quality of Life Research: A Critical Introduction*. London: SAGE Publications Ltd.

Richter, K., & Podhisita, C. (1991-1992). Thai Family Demography: A Review an Research Prospects. *Journal of Population and Social Studies, 3*(1-2), 1-19.

Rogerson, R. (1995). *Environmental and Health-related Quality of Life: Methodological Issues and Problems*: Glasglow Quality of Life Group and Applied Population Research Unit, Department of Geography, University of Glasglow.

Santrock, J. W. (1996). *Adolescence: An Introduction*: Brown&Benchmark Publishers.

Seed, P., & Lloyd, G. (1997). *Qualtiy of Life*. London: Jessica Kingsley Publishers.

Shama, R. C. (1975). *Population and Socio-economic Development*. New Delhi: Dhanpat Rai & Sons.

Sharp, L., & Hanks, L. M. (1978). *Bag Chan: Social History of a Rural Community in Thailand*. Ithaca, New York: Cornell University Press.

Siltrakul, V. (1998). *Informal Education Model Development for Improving Quality of Life and Society by Using Sustainable Development Concept in Industrial Area*. Chulalongkorn University, Bangkok.

Sirikwanchai, S. (2005). *Quality of Life Indicators Development Using Participatory Approach.* Mahodol University, Nakhon Pathom

Sirinan Kittisuksathit, Wanippol Mahaarcha, Rossarin Gray, & Pungpond Rakumnuaykit. (2006, 22-23 November 2550). *Quality of Life and Happiness among Youth in Kanchanaburi Province.* Paper presented at the Thai Population Symposium, Bangkok.

Sokol-Katz, J., Dunham, R., & Zimmerman, R. (1997). Family Structure versus Parental Attachment in Controlling Adolescent Deviant Behavior: A Social Control Model. *Journal of Adolescence, 28*, 288-295.

Soonthornthada, A., Kittisuksathit, S., Punpuing, S., Varangrat, A., Malhotra, A., Curran, S. R., et al. (2005). *Youth at Odds: Thai Youth's Precarious Futures in a Globalized World*. Nakhon Pathom: Institute for Population and Social Research.

Steinberg, L. (1996). *Adolescence*. New York: McGrow-Hill Inc.

Steinberg, L., Fegley, S., & Dornbursh, S. (1993). Negative Impact of Part-Time Work on Adolescent Adjustment: Evidence from Longitudinal Study. *Developmental Psychology, 29*, 171-180.

Sulima, J. P. (1989). Groups Adopt Functional Definition of Family. *The Brown University Family Therapy Letter, 1*(4), 7.

Sun, Y. (2001). Family Environment and Adolescent's Well-being Before and After Parent's Marital Disruption: A Longitudinal Analysis. *Journal of Marriage and the Family, 63*, 697-713.

Sutthangkul, O. (1999). *Quality of Life and Living Security in Slum Area of Bangkok Metropolis.* Mahidol University, Nakhon Pathom.

Thompson, L., & Walker, A. (1989). Gender in Families: Women and Men in Marriage, Work, and Parenthood. *Journal of Marriage and the Family, 51*, 641-653.

Thornton, A., & Camburn, D. (1989). Religious Paticipation and Adolescent Sexual Behavior and Attitudes. *Journal of Marriage and the Family, 51*, 641-653.

UNDP. (1999). *Human Development Report*. New York.

United Nations. (2006). *World Population Prospect: The 2006 Revision.*

Upchurch, D. M., Levy-Storms, L., Sucoff, C. A., & Aneshensel, C. S. (1999). Neigborhood and Family Contexts of Adolescent Sexuality. *Journal of Marriage and the Family, 61*, 920-933.

VanderValk, I., Spruijt, E., DeGoode, M., Meeus, W., & Mass, C. (2004). Marital Status, Marital Process, and Parental Resources in Predicting Adolescent's Emotional Adjustment: A Multilevel Analysis. *Journal of Family Issues, 25*, 291-317.

Veenhoven, R. (1996). Happy Life-expectancy: A Comprehensive Measure of Quality-of-Life in Nations. *Social Indicators Research, 39*, 1-58.

W.H.O. (1998). *Strategies for Adolescent Health and Development South East Asia Region*. New Delhi: World Health Organization.

BIOGRAPHY

NAME	Mr. Wanippol Mahaarcha
DATE OF BIRTH	April 21, 1982
PLACE OF BIRTH	Phetchabun, Thailand
INSTITUTIONS ATTENDED	Thammasat University, 2000: Bachelor of Law (Law) Mahidol University, 2004: Master of Arts (Criminology and Criminal Justice) Mahidol University, 2008: Doctor of Philosophy (Demography)
SCHOLARSHIP	The Wellcome Trust, United Kingdom
HOME ADDRESS	2/41 M.9 Boromrajchonni 32, Boromrajchonni Road, Talingchan, Bangkok, Thailand, 10170
E-MAIL ADDRESS	wanippol@hotmail.com