LIFE ASSETS IN ACADEMICALLY TALENTED STUDENTS: CASE STUDY OF THE PARTICIPANTS IN INTERNATIONAL MATHEMATICS AND SCIENCE OLYMPAID 2013

NARATHIP SRICHANTR-INTR

A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF SCIENCE
(CLINICAL PSYCHOLOGY)
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY
2013

Thesis
entitled

LIFE ASSETS IN ACADEMICALLY TALENTED STUDENTS: CASE STUDY OF THE PARTICIPANTS IN INTERNATIONAL MATHEMATICS AND SCIENCE OLYMPAID 2013

Narathip Srichantr-intr

Miss Narathip Srichantr-intr
Candidate

Panom Ketumarn

Asst. Prof. Panom Ketumarn,
M.D., Dip. Child and Adolescent Psychiatry
Major advisor

Suriyadeo Tripathi

Lect. Suriyadeo Tripathi,
M.D., Dip. Thai Board of Pediatrics
Co-advisor

B. Mahaisavariya

Prof. Banchong Mahaisavariya,
M.D., Dip. Thai Board of Orthopedics
Dean
Faculty of Graduate Studies
Mahidol University

S. Phattha.

Assoc. Prof. Sucheera Phattharayuttawat,
Ph.D. (Psychology)
Program Director
Master of Science Program in
Clinical Psychology
Faculty of Medicine Siriraj Hospital
Mahidol University

Thesis
entitled

LIFE ASSETS IN ACADEMICALLY TALENTED STUDENTS: CASE STUDY OF THE PARTICIPANTS IN INTERNATIONAL MATHEMATICS AND OLYMPAID 2013

was submitted to the Faculty of Graduate Studies, Mahidol University
for the degree of Master of Science (Clinical Psychology)
on
October 17, 2013

Narathip Srichantr-intr
.....
Miss Narathip Srichantr-intr
Candidate

S. Phattha.
.....
Assoc. Prof. Sucheera Phattharayuttawat,
Ph.D. (Psychology)
Chair

Panom Ketumarn
.....
Asst. Prof. Panom Ketumarn,
M.D., Dip. Child and Adolescent Psychiatry
Member

Chaichana N.
.....
Asst. Prof. Chaichana Nimnuan,
M.D., Ph.D.
Member

Suriyadeo Tripathi
.....
Lect. Suriyadeo Tripathi,
M.D., Dip. Thai Board of Pediatrics
Member

B. Mahai
.....
Prof. Banchong Mahaisavariya,
M.D., Dip. Thai Board of Orthopedics
Dean
Faculty of Graduate Studies
Mahidol University

Udom K
.....
Clin. Prof. Udom Kachintorn,
M.D., Dip. Thai Board of Gastroenterol
Dean
Faculty of Medicine Siriraj Hospital
Mahidol University

ACKNOWLEDGEMENTS

This thesis would not have been possible without guidance, support and encouragement from the kind people around me.

First, I would like to express my deepest gratitude to my major advisor, Asst. Prof. Panom Ketumarn, for his valuable and constructive suggestions during the planning and development of this research work. His willingness to generously sacrifice his time has been highly appreciated. I would also like to express my sincere appreciation to Lect. Suriyadeo Tripathi, my co-advisor for his professional guidance, valuable support and an opportunity to use the Positive Modal Survey Tool of Life Assets of Thai Children and Youth (youth version).

Secondly, I would like to show my gratefulness to Assoc. Prof. Sucheera Phattharayuttawat, the chair of the thesis defense and Asst. Prof. Chaichana Nimnuan, an external examiner of the thesis defense who provided many formative recommendations.

My profound appreciation would be extended to all my concerned professors from the Master of Science Program in Clinical Psychology and the Faculty of Psychology, Chulalongkorn University for passing on valuable knowledge. I would also like to thank Ms. Supatra Chuenberkban and Mrs. Nunthaporn Wong-u-ra for their assistance throughout the study. Furthermore, this thesis was financially supported by the Siriraj Graduate Thesis Scholarship. I would like to thank Faculty of Medicine Siriraj Hospital for supporting.

Special thanks to Mrs. Duangsamorn Klongsara, the vice president of the Institute for the Promotion of Teaching Science and Technology (IPST), Miss Navarat Induwongs, the director of Academic Olympiad department, Mr. Auswin Tantiwikaikarn and all teachers for their generous support and facilitation during the data collection period, and to students who were willing to participate in this study as well as their parents who approved their participation.

Above all, my deepest gratitude goes to my lovely family and my dearest friends for their unconditional love and support all along.

Narathip Srichantr-intr

LIFE ASSETS IN ACADEMICALLY TALENTED STUDENTS: CASE STUDY OF THE PARTICIPANTS IN INTERNATIONAL MATHEMATICS AND SCIENCE OLYMPIAD 2013

NARATHIP SRICHANTR-INTR 5436560 SICP/M

M.Sc. (CLINICAL PSYCHOLOGY)

THESIS ADVISORY COMMITTEE: PANOM KETUMARN, M.D., Dip. (CHILD AND ADOLESCENT PSYCHIATRY), SURIYADEO TRIPATHI, M.D., Dip. (PEDIATRICS)

ABSTRACT

The aim of this study was to study life assets of academically talented students and also to investigate the relationship of personal information and life assets. Participants, obtained by purposive sampling, were 110 high school students who took part in the second workshop of the International Mathematics and Science Olympiad (2013). The participants completed two parts of a questionnaire i.e. 1) a demographic questionnaire: personal information and family background, 2) the Positive Model Survey Tool of Life Assets of Thai Children and Youth (Youth version). Afterwards, the data was analyzed. The Microsoft Excel program was used to calculate the life assets level according to the method developed by Team of Children and Youth Program. The additional information which was the relationship of personal information and life assets was examined by chi-square.

The result suggested that an overall life assets level of the participants was moderate. A detailed examination of 5 facets indicated that 4 powers passed the criteria while one failed; namely, the sample possessed an excellent level of power of family. Further, a power of self level was found to be good. A level of two powers i.e. power of intelligence and power of peer and activities were moderate. However, a power of community level was low hence it was considered to fail the criteria. Relationship analyses suggested that gender and education level did not relate to any power of life assets. As for parents' marital status, it was found to be significantly related with power of self at the significance level of .001, with power of family, power of wisdom and power of peer & activity at the significance level of .05. However, no relation was found with power of community.

This reflected that power of self and power of family were the strength of life assets of the participants. As for the power of wisdom, power of peer & activity and power of community, certain aspects should be improved, specifically extracurricular activities such as media, community wisdom, beneficial activities for public or volunteering as well as religious rituals and practices. Therefore, the author expected that concerned parties such as family, school and community would take notice of the situation and take part in creating necessary life assets for these adolescents.

KEY WORDS: LIFE ASSETS / THE POSITIVE MODEL SURVEY TOOL OF LIFE ASSETS OF THAI CHILDREN AND ADOLESCENTS / ACADEMICALLY TALENTED STUDENTS / INTERNATIONAL MATHEMATICS AND SCIENCE OLYMPIAD

114 pages

ต้นทุนชีวิตในนักเรียนที่มีความสามารถพิเศษทางวิชาการ: กรณีศึกษานักเรียนในโครงการโอลิมปิกวิชาการ ประจำปี 2556
LIFE ASSETS IN ACADEMICALLY TALENTED STUDENTS: CASE STUDY OF THE PARTICIPANTS IN INTERNATIONAL MATHEMATICS AND SCIENCE OLYMPIAD 2013

นราทิพย์ ศรีจันทร์อินทร์ 5436560 SICP/M

วท.ม. (จิตวิทยาคลินิก)

คณะกรรมการที่ปรึกษาวิทยานิพนธ์: พนม เกตุมาน, พ.บ., ว.ว. (จิตเวชศาสตร์), อ.ว. (จิตเวชศาสตร์เด็กและวัยรุ่น), สุริยเดว ทรีปาตี, พ.บ., ว.ว. (กุมารเวชศาสตร์)

บทคัดย่อ

งานวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาต้นทุนชีวิตในนักเรียนที่มีความสามารถพิเศษทางวิชาการ ส่วนวัตถุประสงค์รองเพื่อศึกษาความสัมพันธ์ระหว่างปัจจัยส่วนบุคคลกับต้นทุนชีวิตกลุ่มตัวอย่างได้มาจากการสุ่มแบบเฉพาะเจาะจง ในกลุ่มนักเรียนชั้นมัธยมศึกษาตอนปลายที่เข้าร่วมการอบรมคัดเลือกครั้งที่ 2 ในโครงการจัดส่งผู้แทนประเทศไทยไปแข่งขันคณิตศาสตร์วิทยาศาสตร์โอลิมปิกระหว่างประเทศ ประจำปี 2556 จำนวน 110 คน โดยการแจกแบบสอบถามชนิดตอบด้วยตนเองแบ่งออกเป็น 2 ส่วน คือ คือ 1) แบบสอบถามข้อมูลทั่วไป ประกอบด้วย ปัจจัยส่วนบุคคลและปัจจัยด้านครอบครัว และ 2) แบบสำรวจต้นทุนชีวิตเด็กและเยาวชนไทย (ฉบับเยาวชน) จากนั้นทำการวิเคราะห์ข้อมูลต้นทุนชีวิตด้วยโปรแกรมการคำนวณข้อมูลต้นทุนชีวิตเด็กและเยาวชน ซึ่งพัฒนาขึ้นโดยทีมแผนงานสุขภาวะเด็กและเยาวชนส่วนการวิเคราะห์ความสัมพันธ์ระหว่างปัจจัยส่วนบุคคลกับต้นทุนชีวิตนั้น วิเคราะห์โดยใช้สถิติChi-square

ผลการวิจัยพบว่า ต้นทุนชีวิตโดยรวมอยู่ในระดับปานกลาง เมื่อพิจารณาต้นทุนชีวิตในรายพลัง พบว่า กลุ่มตัวอย่างมีต้นทุนชีวิตผ่านเกณฑ์ 4 ใน 5 พลัง ได้แก่ พลังครอบครัว อยู่ในระดับดีมาก, พลังตัวตน อยู่ในระดับดี, พลังสร้างปัญญาและพลังเพื่อนและกิจกรรม อยู่ในระดับปานกลาง ส่วนพลังชุมชน อยู่ในระดับค่อนข้างน้อย ซึ่งถือว่าไม่ผ่านเกณฑ์ ส่วนการวิเคราะห์ความสัมพันธ์พบว่าเพศและชั้นเรียนไม่มีความสัมพันธ์กับต้นทุนชีวิตในทุกพลัง ส่วนสถานภาพครอบครัวมีความสัมพันธ์กับต้นทุนชีวิตด้านพลังตัวตนอย่างมีนัยสำคัญทางสถิติที่ระดับ .001 และด้านพลังครอบครัว พลังสร้างปัญญา และพลังเพื่อนและกิจกรรมที่ระดับ .05ขณะที่ด้านพลังชุมชนไม่พบความสัมพันธ์

แสดงให้เห็นว่ากลุ่มตัวอย่างมีต้นทุนชีวิตเข้มแข็งในพลังตัวตนและครอบครัว ส่วนพลังสร้างปัญญา พลังเพื่อนและกิจกรรม และพลังชุมชน ยังคงมีบางเรื่องที่ควรได้รับการพัฒนาส่งเสริมโดยเฉพาะอย่างยิ่งกิจกรรมการเรียนรู้นอกห้องเรียน ไม่ว่าจะเป็นเรื่องสื่อ ภูมิปัญญาท้องถิ่น การเข้าร่วมกิจกรรมบำเพ็ญประโยชน์เพื่อส่วนรวมหรือจิตอาสา หรือแม้กระทั่งการเข้าร่วมประกอบพิธีกรรมทางศาสนา ทั้งนี้ต้องอาศัยการส่งเสริมให้เกิดกระบวนการมีส่วนร่วมของเยาวชน ครอบครัว โรงเรียนและชุมชนให้มากยิ่งขึ้น

114 หน้า

CONTENTS

	Page
ACKNOWLEDGEMENTS	**iii**
ABSTRACT (ENGLISH)	**iv**
ABSTRACT (THAI)	**v**
LIST OF TABLES	**ix**
LIST OF FIGURES	**x**
CHAPTER I INTRODUCTION	
1.1 Background and significance of the problem	1
1.2 Research question	4
1.3 Objective of the research	5
1.4 Scope of the research	5
1.5 Implications	5
1.6 Definition of terms	6
CHAPTER II LITERATURE REVIEW	
2.1 Positive youth development concept	9
2.1.1 Conceptual framework of developmental assets and life assets	11
2.1.2 Definition of life assets	13
2.1.3 Significance of life assets	14
2.1.4 Structure of life assets	15
2.1.5 Measurement of life assets and tool	16
2.2 Adolescence concept	22
2.2.1 Definition of adolescence	22
2.2.2 Development of adolescent	23
2.2.2.1 Physical development	23
2.2.2.2 Psychological development	24
2.2.2.3 Social development	25

CONTENTS (cont.)

	Page
2.3 Academically talented student concept	26
2.3.1 Definition of academically talented student	26
2.3.2 Characteristics of academically talented student	27
2.4 Introduction about International Science and Olympiad	29
2.4.1 History of International Science Olympiad	29
2.4.2 Background information about International Science and Mathematics Olympiad	29
2.4.3 Competent authorities	35
2.4.3.1 Institute for the Promotion of Teaching Science and Technology (IPST)	35
2.4.3.2 Promotion of Academic Olympiad and Development of Science Education Foundation under the patronage of Her Royal Highness Princess Galyani Vadhana Krom Luang Naradhiwas Rajanagarindra (POSN)	35
2.5 Relevant research	42
2.6 Conceptual framework of the study	49
CHAPTER III MATERIALS AND METHODOLOGY	
3.1 Methodology	50
3.2 Population and sample	50
3.3 Materials	52
3.4 Data Collection	54
3.5 Data Analysis	55

CONTENTS (cont.)

		Page
CHAPTER IV RESULTS		
Section 1: Demographic information of the sample		56
Section 2: Analysis of life assets of the sample		59
Section 3: An additional analysis		69
CHAPTER V DISCUSSIONS, SUMMARIES AND SUGGESTIONS		
Results Summaries		75
Discussion		78
Summary		89
Limitations		89
Suggestions		90
REFERENCES		**92**
APPENDICES		**100**
Appendix A	Certificate of Approval	101
Appendix B	Participant Information Sheet	102
	Consent Form	105
	Assent Form	107
Appendix C	Research Instrument	110
BIOGRAPHY		**114**

LIST OF TABLES

Table		Page
2.1	Scores and their interpretation of overall DAP score	19
2.2	A list of local centers and Bangkok centers	37
3.1	Score Examination Criteria	54
4.1	Demographic information (n=110)	57
4.2	Means, standard deviations, percentages and results of life assets (n=110)	60
4.3	Frequency distributions and percentages of 5 powers of life assets of the sample (n=110)	61
4.4	Items of the weakest and the strongest life assets in different powers (n=110)	62
4.5	The top 10 weakest life assets according to their percentages (n= 110)	64
4.6	The top 10 strongest life assets according to their percentages (n = 110)	67
4.7	Relationship between gender and five powers of life assets (n= 110)	70
4.8	Relationship between education level and five powers of life assets (n= 110)	71
4.9	Relationship between parents' marital status and five powers of life assets (n= 110)	72

LIST OF FIGURES

Figure		Page
2.1	The conceptual structure of positive youth development	10
2.2	Participant selection	32
2.3	The national competitions	33
2.4	Training and selection of the nation representatives	34
2.5	The relationship of academic achievement and life assets of children in 1998	45
2.6	The relationship of academic achievement and life assets of children from a longitudinal study from 1997 to 2001	45
2.7	The relationship between developmental assets and risk behaviors	47
2.8	The relationship between developmental assets and good behaviors	47
2.9	The relationship between substance use and developmental assets	48

CHAPTER I
INTRODUCTION

1.1 Background and Significance of the Problem

The 21st century is the century where globalization i.e. international interaction and integration occurs. Globalization is a prominent phenomenon. Thus, Thailand as a part of the world society is inevitably influenced (Gotiram, 2009). Advance information technology, interchange of culture among different nations and materialistic value transmitting from other countries affect Thai old values. This change results in various kinds of problem such as crimes, economic problems as well as social and cultural deterioration. Clearly, different aspects of children and adolescence development such as physical, psychological, cognitive, emotional and values are directly affected. Consequentially, they may be prone to practice risk behaviors (Tripathi, 2011a). Therefore, young generation requires skills to adapt and handle changes in a society (Panich, 2011).

Social changes led to the foundation of the leading educational organization in the USA that is known as Partnership for 21st Century Skills. The organization urges the addition of skills for future into the educational curriculum. Ken Kay, the president and co-Founder, discussed the learning framework for the 21st century. The important 21st century skills included 1) learning and innovation skills such as creativity and innovation, critical thinking and problem solving as well as communication and collaboration 2) life and career skills e.g., flexibility and adaptability, initiative and self-direction, social and cross-cultural skills, productivity and accountability, and leadership and responsibility and 3) information, media and technology skills. These skills help a person learn and adapt to everyday changes (Bellanca & Brandt, 2010).

Likewise, Thailand deems the issue to be important. The concept of holistic integrated development is stated as the essential framework in the Eleventh National Economic and Social Development Plan (2012-2016). The concept

emphasizes a person as the target to be developed so that the person is ready to cope with changes in different levels such as individual, family, community, society and country. A person is urged to continuously develop their skills across life-span in order to be prepared to be a part of ASEAN Economic Community and to have good awareness (National Economic and Social Development Board, 2008). This person development framework aims to shape a child and an adolescence, who would contribute to the country development in the long term, to be good-natured, has public consciousness as well as abilities, skills and fundamental knowledge required in daily life. The framework concurs with the policy to develop adolescence of the nation to enter the 21st century of the Ministry of Education. The policy promotes students to have morals, to be patriotic, to have critical and creative thinking skills, to be skillful in technology, to be able to work and live with others in the society peacefully (Ministry of Education, 2008). Evidently, the policy suggests that the development of national resources, in particular human resources, is important if we aim to build the country that is ready for the world change in the 21st century (Office of the Permanent Secretary, Ministry of Education, 2012).

It is advisable that human resources development should be encouraged since a person is in their childhood until when they are adolescent because life is established in these periods. Therefore, family and community are influential parties in the process of shaping and promoting children and adolescence development. Clearly, it is due to the fact that they engage in creating good life assets ensuring that children and adolescence would grow up beautifully (Tripathi, 2011b). The creation of life assets for children and adolescence is highly important because they strengthen adolescence, family and society. Furthermore, life assets are considered to be important factors helping adolescents to be capable of adapting and coping with changes (Phonork, 2013). As a result, several countries e.g., Russia, France, Canada, China, Japan and Vietnam emphasize the establishment of desirable qualities. In particular, the 40 developmental assets index was formulated to assess adolescence desirable qualities in the United States of America (Search Institute, 2012). Currently, the index is widely used in the country. A number of research found that the number of the developmental assets and the likelihood of an adolescent practicing risk behaviors negatively correlated. Specifically, the higher the number of developmental

assets an adolescent had, the likelihood of them practicing risk behaviors such as substance use, violent behaviors or engage in sexual intercourse significantly reduced. Meanwhile, the number of developmental assets positively correlated with good behaviors. In other words, if an adolescent had a high number of these assets, they would be more likely to engage in positive behaviors such as to be successful in school or to be altruistic (Murphey, Lamonda, Carney, & Duncan, 2004; Search Institute, 2004). In Thailand, Suriyadeo Tripathi (M.D.), the Director of the National Institute for Child and Family Development utilized the developmental assets concept to build the Positive Model Survey Tool of Life Assets of Thai Children and Youth that is suitable for Thai social and cultural context and it has been used across the nation since 2008. The survey being used nowadays consists of 48 assets that can be divided into 5 powers i.e., power of self, power of family, power of wisdom, power of peer and activity and power of community (Tripathi et al., 2012a).

Life assets are desirable qualities regarding a person's mind, emotion and society. They are established and shaped since birth until adulthood by both internal and external factors such as family, school and community. These factors help a person grow up healthily and live happily in the society. Life assets concept diverts the focus of children and youth program i.e., from solving the problem to prevent the problem while enhancing the protection by working with positive outlook. Furthermore, this concept does not only accentuate behavioral change but it also focuses on internal change by instilling positive consciousness to the society. Therefore, it can be said that the life assets concept is an essential part of a children and youth program. It is used in different policies such as educational, children and youth program as well as government policy as illustrated in the National Child and Youth Development Plan B.E. 2555 - 2559 (Tripathi et al., 2011a).

A moderate amount of research documented life assets in different contexts such as in Thailand and abroad, in normal adolescents, in adolescents who commits risk behaviors and among underprivileged adolescence. However, the author believes that additional work is still required because certain samples are not yet studied. Specifically, life assets of academically talented students have not been investigated either in Thailand or other countries. This triggered the interest of the author to explore the life assets of academically talented students. Among these

students, the author is particularly interested in those who excel in science, mathematics and technology. Science and technology have taken significant part in several aspects of country development. As advance science and technology is more ubiquitous in a developed country where the economy is good, it can be said that science and technology are the fundamental elements in country development (The institute for the Promotion of Teaching Science and Technology [IPST], 2008). Likewise, it would be rather reasonable to infer that, students who excel in science, mathematics and technology are the teenagers that would contribute to the prospective growth and development of the country. This assumption is in accordance with the research concerning academically talented students suggesting that, this group of adolescents should be encouraged. Specifically, if they receive support since early on, their skills would potentially lead to the creation of innovative and efficient work that benefits the society (Policy on Lifelong Learning and Educational Opportunity Bureau, 2010). In addition to provide these students with academic support, they should receive other types of support as well. Intelligence is not the only means that would make one become successful. Other life assets are equally important. Hence, to build and/or maintain life assets of academically talented students are deemed as substantial because it facilitates them to be a good quality citizen (Tabeunggarn, 2011; Tripathi et al., 2011b).

Following the aforementioned background and rationales, the author would document life assets of academically talented students, specifically the students that took part in the International Mathematics and Science Olympiad (2013). The author expects that the finding from this research would be used to develop appropriate life assets for this group of students in hope that they would be able to reach their potential and use their abilities to develop the country as well as to live in the society happily.

1.2 Research Question

This study aims to investigate that whether the academically talented students' 5 power of life assets pass the criteria.

1.3 Objective of the Research

Main objective

The current work attempts to document the life assets of academically talented students.

Additional objective

This study also aims to investigate the relationship of personal information and life assets of academically talented students.

1.4 Scope of the research

To study the life assets of academically talented students, 2 sets of questionnaire were used: a demographic questionnaire and the Positive Model Survey Tool of Life Assets of Thai Children and Youth (Youth Version). One hundred and ten high school students who took part in the second training of the International Mathematics and Science Olympiad (2013) were recruited to participate in the study by purposive sampling.

1.5 Implications

1. The level of the life assets of academically talented students would be demonstrated.

2. The present study would provide the information regarding life assets of academically talented students. Thus, concerned parties such as parents, school, community and authorized agency would be aware of the situation and the necessity of creating life assets for academically talented students. Consequentially, an appropriate action to manage the life assets of this group of students could be made.

3. The finding from this work could be used as a resource by a researcher who would study about academically talented students in the future.

1.6 Definition of Terms

1. Life assets are desirable qualities regarding a person's mind, society and culture that influence the person's thinking process, decision process and behavior. They are shaped since birth until adulthood. Life assets comprise of 5 powers (Tripathi, 2011b). The details are as follows:

1.1 Power of self: It is an accumulation of power to realize the worth of oneself, power to be faithful and believe in oneself and power to build life skills e.g., to live in the society peacefully, to help others, to have a solid standpoint, to have justice, to not discriminate, to be loyal and responsible as well as to be able to avoid practicing risk behavior.

1.2 Power of family: It is power of love and care, the power that derives from having discipline and a role model in the family and from being supported and aided in a positive way and from living in a warm and safe family that the members are polite towards each other.

1.3 Power of wisdom: It is power of being determined to develop their intelligence, the power resulting from being supported and encouraged to learn in and out school as well as to learn local wisdom.

1.4 Power of peer and activity: It is power to participate in an activity that is beneficial to the society, community with friends, the power to involve in activities that promote discipline among peer. The activities can take many forms such as arts, music, sports or religious activities.

1.5 Power of community: It is power of people who live together in the community with kindness, understanding, friendliness, the power resulting from a community that is organized and where a good role model is presented, a warm and safe community where the members are polite towards each other and have activities within the community.

Life assets could be measured with the Positive Model Survey Tool of Life Assets of Thai Children and Youth (Youth Version). The survey was developed by Tripathi et al. (2012). It is used by respondents who are between 12 and 25 years old. The survey consists of 48 items. The items are divided into 5 powers: power of self, power of the family, power of wisdom, power of peer and activity and power of

community. Levels of the life assets are low, moderate, good and excellent. The level of a power is examined by percentage of a score of items in each power.

2. Academically talented students are high school students who participate in the International Mathematics and Science Olympiad. They are the students that are acknowledged to excel in one or more of the following fields: mathematics, science and informatics.

3. International Mathematics and Science Olympiad is a project co-administered by The Institute for the Promotion of Teaching Science and Technology (IPST) and The Promotion of Academic Olympiads and Development of Science Education Foundation under the patronage of Her Royal Highness Princess Galyani Vadhana Krom Luang Naradhiwas Rajanagarindra (POSN). The purpose of the project is to prepare and select the nation representatives to compete in the International Olympiad in 5 subjects that are mathematics, informatics, chemistry, biology and physics.

CHAPTER II
LITERATURE REVIEW

The researcher studied relevant concepts and theories from documents, textbooks, articles and research in order to establish the framework and approach of the present work i.e. the life assets of academically talented students: Case study of the participants in the International Mathematics and Science Olympiad (2013). Details are as follows:

1. Positive youth development concept
    - 1.1 Conceptual framework of developmental assets and life assets
    - 1.2 Definition of life assets
    - 1.3 Significance of life assets
    - 1.4 Structure of life assets
    - 1.5 Measurement of life assets and tool
2. Adolescence concept
    - 2.1 Definition of adolescence
    - 2.2 Development of adolescent
        - 2.2.1 Physical development
        - 2.2.2 Psychological development
        - 2.2.3 Social development
3. Academically talented student concept
    - 3.1 Definition of academically talented student
    - 3.2 Characteristics of academically talented student
4. Introduction about International Science and Mathematics Olympiad
    - 4.1 History of International Science and Mathematics Olympiad
    - 4.2 Background information about International Science and Mathematics Olympiad
    - 4.3 Competent authorities

4.3.1 Institute for the Promotion of Teaching Science and Technology (IPST)

4.3.2 Promotion of Academic Olympiad and Development of Science Education Foundation under the patronage of Her Royal Highness Princess Galyani Vadhana Krom Luang Naradhiwas Rajanagarindra (POSN)

5. Relevant research

2.1 Positive youth development concept

Since 1990, the United States of America has a rather abundant number of crime and juvenile delinquency. Therefore, there was budget allocation to the project that studied and improved adolescents in the country by determining contributive factors and means to raise a well-behaved adolescent. The desirable characteristics found in the research were to have skill to build a relationship with other people, to have skill to choose friends, to have ability to control themselves, to be disciplined, to be independent, to be able to solve a problem, to have critical thinking skill, to be able to acknowledge the significance of learning and to be fond of it and to be able to avoid engaging in risk behaviors that affect their well-being (Catalano et al., 2004). The research led to the foundation of positive youth development concept. It is a strategy that aims to promote potential and abilities of adolescents, to make them realize that they are worthy and they are loved and attached to other people. The concept emphasizes an adolescent and the social environment that influences their development. It also encourages other people and community to give adolescents an opportunity, acknowledgement and access to a source that supports their development as these are resources that would prevent them from committing crime, risky and violent behaviors, and abusing substance (Lerner, 2005).

Benson, Scales, Hamilton and Sesma (2006) discussed the conceptual structure of positive youth development. They asserted that there are 3 important elements as illustrated in Figure 2.1 and as the following details.

1. Developmental contexts: It refers to the environment of a person such as family, school, friends, community that they live in as well as where they

participate in the community activities, where they receive an opportunity and access to the source of social support.

2. Person

2.1 View of the child, nature of the child and the fundamental ability to improve themselves and to connect with social support

2.2 Developmental strength including skills, abilities and values

3. Developmental success

3.1 Reduction in high-risk behaviors

3.2 Promotion of health well-being thriving

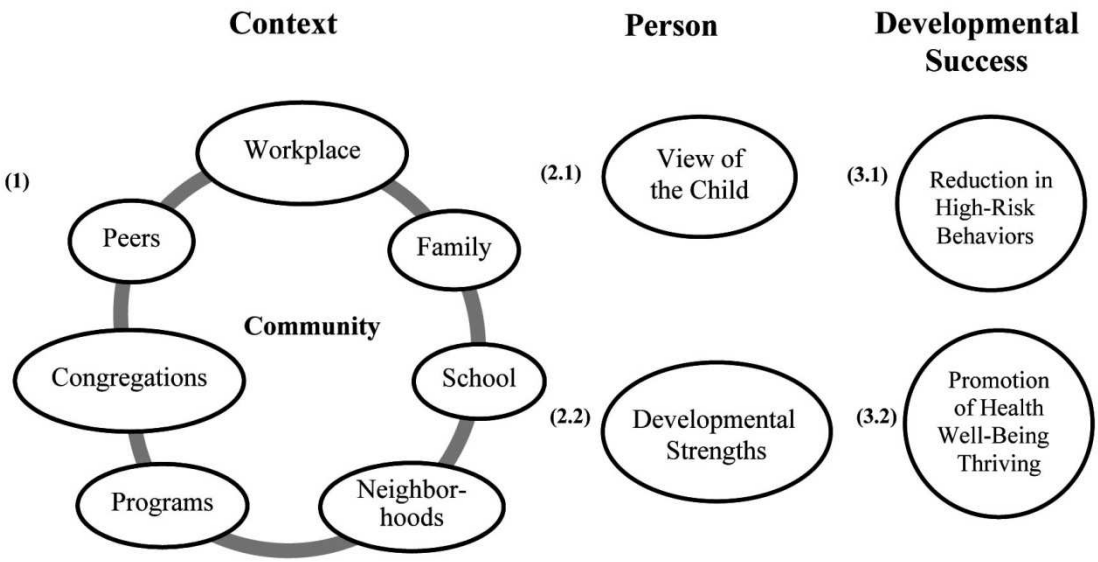


Figure 2.1 The conceptual structure of positive youth development (Benson et al., 2006)

As illustrated in Figure 2.1, it can be seen that the main idea of the positive youth development concept is the emphasis of the relationship of a person and their social environment influencing human development. This concept is the starting point of the following concepts of developmental assets and life assets.

2.1.1 Conceptual framework of developmental assets and life assets

Developmental assets

Benson (2002) stated that the developmental assets concept is a new idea related to the positive youth development. It takes personal factors and social contexts of the person into consideration. The main point is that, good characteristics of adolescents would prevent or stop risk behaviors while increase the chance of a person to develop in positive way.

The developmental assets framework was constructed in 1990 by Benson, Leffert, Scales and Blyth who were researchers at Search Institute in Minneapolis. It was the result of the combination of an abundant amount of empirical studies documenting child and adolescence development and the applied research concerning risk behaviors prevention (e.g., substance abuse, violent behaviors and having sexual intercourse), healthy behaviors promotion (for instance, to be academically successful and to be altruistic) and resiliency. The aforementioned work was systematically carried out in different samples i.e. people with diversity in sex, ethnicity, family income etc (Benson, 1999).

In addition to the research mentioned above, the developmental assets concept also utilized Bronfenbrenner's ecological model of human development (Bronfenbrenner, 1986) that emphasizes social factors that influence development of children and adolescents in various ways such as interpersonal interaction, social experiences, social environment or social norms. These are immediate interactions and relationships that systematically expand further from an individual i.e. it begins at family, school, community, society and country respectively.

Based on the aforementioned concept and a plentiful amount of research, Search Institute specified 30 indicators in 1990 and conducted additional research looking into adolescence development. In 1996, Benson (2002) collected data from 250,000 high school students in the USA and used this data to constitute 40 developmental assets. There were 20 internal assets that could be divided into 4 categories namely positive identity, positive values, commitment to learning and social competencies. Twenty external assets could also be categorized into 4 groups that are support, empowerment, boundaries and expectations and constructive use of time.

Life Assets

In Thailand, Tripathi (2007) utilizes the developmental assets concept to construct life assets concept that is suitable for Thai context. The positive youth development and the ecological model of human development remained as the main ideas. The life assets consisted of 48 indicators that could be grouped into 5 powers i.e., power of self, power of family, power of wisdom, power of peer and activity, and power of community. The concept is to work with adolescents by focusing on their good traits and having positive outlook about them namely:

1. Adolescence is an age that creativity and potential are evident.
2. Seeking beneficial factors or positive characteristics of an adolescent, a family and a community
3. Emphasizing on group activities
4. Promoting life assets creation for them to be a shield from risky state
5. Actively participating in community activities
6. Solving a problem holistically, especially in a local community
7. Being able to solve a problem by providing numerous solutions for adolescents
8. It is possible to be carried out in any local community according to the resources in the community.
9. Illustrating the importance of community and family participation
10. Finding a systematic and sustainable solution

Furthermore, Tripathi wrote in his book “Creating Life Assets: You Can Do It” (Saang ton-toon chee-wit khun tam daai) that a person possesses a certain amount of life assets since birth. However, they can be increased if a person is raised by parents who are loving, understanding and willing to raise their child effectively that they grow up beautifully in physical and psychological aspect. Additionally, instilling positive values regarding the society, the culture, the tradition and the environment also promotes creation of life assets: internal and external. Because the society has changed i.e. it is presently in an era that technology is advance, a highly competitive era and an era that the society is interfered by materialistic value, the existing life assets are affected. Inevitably, the deterioration of life assets potentially leads to behavioral problems. (Tripathi, 2009, p.1)

As the previous concepts suggests, it can be conclude that the life assets are factors combining life skills, conscience of children and adolescents as well as environments that influence their life such as their family, cognition construction process, community and friends. The life assets use these elements as the tangible indicators to specify a direction that a community could take in order to promote development of children and adolescents and to create beneficial activities that require participation of local community. Ultimately, the purpose is to strive for sustainable development.

2.1.2 Definition of life assets

Search Institute (2012) refers to developmental assets as 40 indicators of good characteristics of an adolescent that are a function of interaction of internal factors and social context. The assets influence choices young people make. Moreover, they facilitate a teenager to become a capable, considerate, responsible and successful adult.

Tripathi (2011a, 2011b) defined the life assets as constructed factors or desirable qualities that consist of psychological, social and cultural aspect. Life assets influence a person's thinking process, decision process and behavior. They are shaped since birth until adulthood by personal characteristics of the person and external influences e.g., family, school, friends and community. If these factors are appropriately managed, a child or a teenager would possess life assets that facilitate their growth, their ability to live in a society peacefully and their sustainable well-being.

Based on the definitions stated above, the author thus concluded that life assets are fundamental assets that affect psychological, cognitive and social development. They are contributing factors that influence a person's thinking process, decision making and behaviors. Life assets are shaped since birth until adulthood by personal characteristics of the child and environmental factors such as family, school, friends and community that help a child growing into a good adult who can live in a society peacefully.

2.1.3 Significance of life assets

Creation of life assets in children and young people are vital because they are one of the important factors that strengthen the adolescents, family and society. As a result, several countries e.g., Russia, France, Canada, China, Japan and Vietnam emphasize the establishment of these qualities. Particularly, in the United States of America (Search Institute, 2012) the 40 developmental assets index was formulated to assess youth desirable qualities. Further, people who involved with teenagers e.g., guardians, teachers were instructed of techniques that would improve assets that failed the criteria. Currently, this index is being used widely in the USA. A number of research found that, the higher the number of developmental assets an adolescent has, the likelihood that they would practice risk behaviors such as substance use, violent behaviors or engage in sexual intercourse significantly reduces. Meanwhile, the higher the number of these developmental assets an adolescent has, they would be more likely to engage in positive behaviors such as to be successful in school or to be altruistic (Murphey, Lamonda, Carney, & Duncan, 2004; Search Institute, 2004).

Tripathi (2007) summarized 5 characteristics about the creation of life assets in children and teenagers as follows,

1. The higher the number of life assets, the lower the chance that risk behaviors would be committed.
2. The higher the number of life assets, the longer it takes for risk behaviors to commence.
3. Life assets contribute to risk behaviors more than the socioeconomic status of family.
4. Life assets are holistically associated with other productive behaviors.
5. A certain life asset or a certain group of life assets are important in risk behaviors prevention.

From the above characteristics, the author acknowledged the importance of life assets of children and adolescents. Two main points are that, life assets induce desirable behaviors whilst they are capable of reducing risk behaviors.

2.1.4 Structure of Life Assets

Tripathi (2011a, 2011b) stated that life assets comprised of 5 powers that are,

1) Power of self refers to inborn asset that could be promoted later. It is a vital power for people in every age group especially for young people. Power of self is considered to be an important core. It is an accumulation of power to realize the worth of oneself, power to be faithful and believe in oneself and power to build life skills such as an ability to live in a society peacefully, to help others, to have a solid standpoint, to have justice, to not discriminate, to be loyal, responsible and to be able to avoid practicing risk behavior.

2) Power of family is the most influential power to children particularly in the first three years of life as it is the period where a child needs to be taken care of by their family. It is power of love and care, power that derives from having discipline and a role model in the family and from being supported and aided in a positive way and from living in a warm and safe family that the members are polite towards each other. Therefore, power of family is seemingly a life shield.

3) Power of wisdom is an essential power in school age. Teachers have a role that is as important as that of parents. It is power of being determined to develop their intelligence, power resulting from being supported and encouraged to learn in and out school as well as to learn local wisdom.

4) Power of peer and activity is very important to adolescents because they are at the age when they mostly pay their attention to friends and activities. It is power to participate in any activity that is beneficial to the society and community with friends, power to involve in activities that promote discipline among peer. These activities can take many forms such as arts, music, sports or religious activities.

5) Power of community is power of people who live together in the community with kindness, understanding, friendliness, power deriving from a community that is organized and where a good role model is presented, a warm and safe community where the members are polite towards each other and have activities within the community. An important element of power of community is public consciousness. To learn to contribute to a community and to learn to live with other

members in the community in harmony would help build power of self through power of community. Hence, power of self would consequentially be stronger as well.

Clearly, 5 powers of life assets namely power of self, power of family, power of wisdom, power of peer and activity and power of community influence young people in various ways. Therefore, the present research takes interest in every aspect of life assets in order to thoroughly examine social, psychological and cognitive aspects of youth.

2.1.5 Measurement of life assets and tool

Search Institute (2005) identified 40 indicators for developmental assets of teenagers known as Developmental Assets Profile (DAP) in 2004. They could be divided into 2 broad categories i.e. external assets and internal assets. Each category consisted of 4 groups which are,

External Assets

1. Support

1.1 Family support: An adolescent is provided with love and support by their family members.

1.2 Positive family communication: Parents and a young person communicate with each other in a constructive way and the young person is aware that they can consult their parents.

1.3 Other adult relationships: A teenager is supported by three or more adults who are not parents.

1.4 Caring neighborhood: An adolescent feels that their neighborhood is caring.

1.5 Caring school climate: To be in a school that encourages and cares about them

1.6 Parent involvement in schooling: To have a parent or parents who facilitate and encourage them to be accomplished in school

2. Empowerment

2.1 Community values youth: A young person feels that older neighbors appreciate them.

2.2 Youth as resources: To receive tasks contributing to their community

2.3 Services to others: An adolescent engages in any activity for community at least one hour weekly.

2.4 Safety: A young person feels that their home, school and neighborhood are safe.

3. Boundaries and expectations

3.1 Family boundaries: Clear rules and consequences are set by family. A location of the children of the family is known.

3.2 School boundaries: Clear rules and consequences are set by school.

3.3 Neighborhood boundaries: Neighbors help monitoring teenagers' behaviors.

3.4 Adult role model: Adults portray themselves as good examples for adolescents.

3.5 Positive peer influence: A young person has peer who behaves positively and responsibly.

3.6 High expectations: Parents and teachers would like the adolescents to do well.

4. Constructive use of time

4.1 Creative activities: A teenager spends at least 3 hours weekly in studying or practicing music or arts.

4.2 Youth programs: An adolescent spends at least 3 hours weekly playing sports, participating in clubs or organizations at school and/or in community.

4.3 Religious community: A young person spends at least 3 hours weekly engaging in religious activities.

4.4 Time at home: In a week, a teenager does not go out of home for more than a few nights.

Internal Assets

1. Commitment to learning

1.1 Academic achievement: An adolescent has motivation to do well in school.

1.2 School engagement: A young person takes interest in learning.

1.3 Homework: On every school day, a teenager reports doing at least one hours of homework.

1.4 Bonding to school: An adolescent is fond of their school.

1.5 Reading for pleasure: A young person leisurely reads at least 3 hours weekly.

2. Positive values

2.1 Caring: An adolescent sees the importance of helping others.

2.2 Equality and justice: A teenager takes the significance of equality and reducing hunger and poverty.

2.3 Integrity: A young person has firm beliefs and to stand for them.

2.4 Honesty: Although it is not easy, they tell the truth.

2.5 Responsibility: An adolescent acknowledges and takes their responsibility.

2.6 Restraint: A young person understands that they should not engage in risk behaviors such as being sexually active, using alcohol or substances.

3. Social competencies

3.1 Planning and decision making: An adolescent learns how to plan and make choices.

3.2 Interpersonal competence: A young person has empathy, sensitivity and social skills.

3.3 Cultural competence: A teenager is aware of and is comfortable with people whose culture, race and/or ethnicity are different.

3.4 Resistance skills: An adolescent knows how to withstand negative peer pressure and risky situations.

3.5 Peaceful conflict resolution: A young person does not resolve conflict in a violent way.

4. Positive identity

4.1 Personal power: A teenager believes that they have control over things that happen to them.

4.2 Self-esteem: An adolescent realizes their worth.

4.3 Sense of purpose: A young person feels that there is a purpose in their life.

4.4 Positive view of personal future: A teenager has good feelings regarding their future.

This survey consists of 58 items. The Cronbach's alpha coefficient of internal consistency of the survey was between .85 - .97 (Sesma, 2004 cited in Carvalho, 2007). Interpretation of scores (DAP User Manual, 2005 cited in Galligan, 2010) is displayed in Table 2.1.

Table 2.1 Scores and their interpretation of overall DAP score (Galligan, 2010)

DAP Score Range	Interpretation
51-60	Excellent
41-50	Good
30-40	Fair
0-29	Low

Interpretation in the table indicates that, a person whose overall DAP score is high has a higher amount of developmental assets than those whose overall DAP score is lower.

With support from Thai Health Promotion Foundation, Tripathi et al. (2008) constructed the Positive Model Survey Tool of Life Assets of Thai Children and Youth (Youth version) for those who are between 12 and 25 years old. The survey had been consistently revised before being used in pilot tests. Steps taken for the survey construction were as follows:

1. Opinions and suggestions of 7 experts were used to rectify a draft of the survey.

2. A meeting of the experts and people whose work is related to adolescents was held in order to gather relevant information regarding the survey construction and an appropriate data collection with children, parents or guardians, teachers etc.

3. The survey and a manual of the survey were constructed.

4. Pilot tests to examine the survey quality were conducted.

5. The result from the survey was examined. The reliability of the survey was analyzed.

6. The second meeting (with the attendees from number 1 and 2) was held in order to polish the survey.

7. The implication was summarized and the complete research report was written. These procedures resulted in the first version of the survey. It had 46 indicators consisting of 43 positive questions and 3 negative questions. The negative questions were constructed to check the attention of the respondents in completion of the questionnaire.

This questionnaire had been utilized in different samples and study and it led to various obstacles and feedbacks regarding several aspects of the survey. Therefore, another revision took place before the survey was being tested more expansively. The revised questionnaire that was published and used in different projects and areas consisted of 45 indicators with no negative questions. The new version of the survey was rectified i.e. the indicators were categorized into 5 powers in order to make it more suitable to be used in the context of social and culture.

After the new questionnaire that consisted of 45 indicators was tested, suggestions and judgments from different projects were taken into account to rectify the survey once more. It was not until 2009 that the present version of the Positive Model Survey Tool of Life Assets of Thai Children and Youth (Youth version) consisting of 48 indicators that are categorized into 5 powers was constructed. The indicators were improved to make them more congruent and more comprehensible. Acquiring from symposiums, questions concerning media which is also considered to be important were also included in this version of the survey. Currently, the Positive Model Survey Tool of Life Assets of Thai Children and Youth (Youth version) is

being used widely by Thai Health Promotion Foundation and other organizations that are interested.

The format of the Positive Model Survey Tool of Life Assets of Thai Children and Youth (Youth version) that was used in this research was self-rating scale. The questionnaire is formed by 48 positive questions that were grouped into 5 powers i.e. power of self, power of family, power of wisdom, power of peer and activity and power of community. The Cronbach's alpha coefficient of internal consistency of the questionnaire was .89. The reliability coefficients of the 5 power facets were .75 for power of self, .67 for power of the family, .73 for power of wisdom, .64 for power of peer and activity and .83 for power of community. In addition, the questionnaire was approved to have content validity by experts and by a qualitative examination i.e. focus group.

Four criteria of life assets according to a level of an asset were low (lower than 60%), moderate (60-70%), good (70-80%) and excellent (80% and higher). A criterion could be calculated from the percentage of the each question. By analyzing the score closely, the first five or ten items that have the lowest percentages can be seen in which power they are.

The present study aimed to examine life assets of academically talented students by utilizing the Positive Model Survey Tool of Life Assets of Thai Children and Youth (Youth version) that was developed by Tripathi et al (2009). The reason for adopting this survey was because it was a comprehensible questionnaire. It included positive items that covered every aspect of life assets. It was congruent to the social context of Thailand. Its reliability was validated and it was approved by experts. It was also effective in terms of adolescent prevention from present risk environments and factors. Furthermore, assessment of teenagers' life assets would clarify the lack of life assets, if any. This could lead to prospective provision or improvement of life assets.

2.2 Adolescence concept

2.2.1 Definition of adolescence

The term adolescence stemmed from a Latin word “adolescere” that means to grow to maturity or to grow to adulthood. Thus, adolescence is similar to the bridge connecting childhood and adulthood. It is the age that a person grows and changes in almost every aspect e.g., physical, emotional, social and cognitive (Kaochim, 2006). There were other scholars who gave definitions of adolescences as well.

Dusek (1987) referred to adolescence as the age that connects childhood and adulthood. It is the period requiring behavioral modification from childish behaviors to mature behaviors that the society accepts. Hence, becoming an adolescent does not only involve physical growth but it also includes social growth that is pertaining to the local culture.

Steinberg (1996) gave the meaning of adolescence as the age to grow into adulthood. An age range of adolescence is 10-20 years old. Each child is varied as to when they become an adolescent since their development could be different from each other.

Chanaim (1997) stated that adolescence is the age that separates childhood and adulthood. The beginning and the end of the age cannot be clearly defined. She also described characteristics of adolescence as following

1. Period of reconstruction: Physical growth is rapid in this age but it slows down in the latter period of the age.

2. Period of transformation: It is the age that several changes occur e.g., physical, psychological and thoughts.

3. Period of independence: A person in this age begins to be independent. They would like to learn from their mistakes rather than learn from doctrines of others. They tend to argue.

4. Period of problems: This age is the connecting age as it is the age that a person rapidly transforms into adult. Adaption is needed as well as learning how to solve their problems by themselves.

From the definitions of adolescence above, the author concluded that adolescence is the transitional stage from childhood to adulthood, involving multiple physical, emotional, social and cognitive changes. This period requires adaptation and behavioral modification from behaving in a childish manner to a more socially acceptable one.

2.2.2 Development of adolescence

Adolescence is considered to be an important age of life. Because this age connects childhood and adulthood, different changes occur and a person needs to adapt to these changes. Kaewkangwan (2010) sorted adolescence into 3 periods which are,

1. Early adolescence is the beginning of a child to become an adolescent. The age range is 12-15 years old. Adolescents in this period experience abrupt and intense physical changes that require adaptation in different aspects such as physical, emotion and social.

2. Middle adolescence is between 15-18 years old. It is the period after adaptation to changes.

3. Late adolescence is between 18-25 years old. It is the period before adulthood.

The author would only refer to middle adolescence that is the sample of this study. There are 3 prominent aspects of development in this period (Ketumarn, 2007; Rittakananon, 2007; Arikul, 2010).

2.2.2.1 Physical development

Bodily and sexual changes occur in adolescence because secretion of sex hormones and growth hormones significantly and rapidly increase. For boys, their fat transforms to muscle, they are physically stronger, their voice breaks, mustache grows and they begin to experience wet dream. Meanwhile for girls, fat accumulates in different part throughout their body, breast size increases, hips are wider and the first menstrual period occurs etc.

Middle adolescence is the age that growth and bodily changes begin to stop. Their physical and sexual development are almost identical to that of an

adult. Their excitement, anxiety and curiosity regarding these changes decrease. Their bodies are ready for puberty. In this period, most teenagers embrace changes. However, they pay attention and time to take care of their appearance in order to attract people.

2.2.2.2 Psychological development

1) Cognitive change: This period concurs with the formal operation stage that is the 4th stage of cognitive development according to Piaget (1974 cited in Fleming, 2004). In other words, in this stage a person has better understanding regarding social rules, they have an ability to solve the problems logically, they could understand and test assumptions and their ability to think, analyze as well as synthesize increase. However, a person in this age may lack restraint, they may be impulsive and do not deliberate.

2) Self-awareness: A person in this age begins to develop the ability to be aware of themselves in different aspects.

2.1 Identity: According to the social development theory of Erikson (1968 cited in Fleming, 2004), middle adolescence is congruent with stage 5, identity-role confusion i.e. it is the age that a person builds their identity. They have an ability to know themselves. They know where they stand in terms of abilities, aptitiudes, interests as well as their roles. They prepare to make a choice concerning their education and job. If a person is not able to build their identity, they would be confused, anxious and clueless about their roles.

2.2 Self-image: Young people tend to evaluate themselves by their physical appearances. Moreover, they compare themselves to their ideal person. This is the reason for adolescents to pay more attention and time to their appearance more than other ages. If they have more disadvantages than others, they would be apprehensive and embarrassed.

2.3 Acceptance: A person in this age highly needs acceptance from peer. Acceptance promotes security, safety, self-esteem and self-confidence.

2.4 Self-esteem: It is a major key to success in life. The development of a positive self-concept or healthy self-esteem is extremely important to the happiness and success of children and teenagers.

2.5 Independence: People in this age want freedom. They are fond of privacy. They would like to be independence and self-sufficient. They value their thoughts and beliefs. If they succeed without help from others their self-confidence is boosted. Furthermore, they are highly curious and this may lead to risk behaviors if they lack self-restraint.

2.6 Self-control: People in this age learn to control their thoughts. They learn to be cautious and think systematically in order to think efficiently and live with others. However, they may not be able to control themselves completely.

2.7 Mood: Adolescence was believed to be an age that has intense and unstable mood that is known as storm and stress (Hall, 1949 cited in Kaochim, 2006). Nonetheless, later research suggested that this characteristic was not universally found i.e. it does not occur in everyone. However, emotional states of adolescents such as unsteady, confused, emotional, unstable were found. Intensity of emotion depends on a stimulus and temperament of each teenager. An adolescent may be easily depressed without a cause. These negative emotions may trigger mischievous or aggressive behaviors that potentially affect studying and daily life.

3) Moral development: According to moral development theory of Kohlberg (1984), middle adolescence coincides with the 4th stage i.e. authority and social order maintaining orientation. It is the stage of role abidance. Young people do not abide by the rules because they fear of punishment or that they want to be rewarded. People in this age learn the rules that people in the society adhere to and follow them. They mostly have idealistic views because by this age they are able to distinguish right and wrong. They have their morals. They want righteousness and justice in the society. They tend to help others. They want to be good and likeable. Note that moral development stems from learning from immediate people such as parents, teachers and peer. Therefore, having a good role model would promote moral development of teenagers.

2.2.2.3 Social development

This age experiences attitude change as well as social behaviors in every aspect. Teenagers want freedom that is freedom to think, to behave, to choose friends, to be attracted in opposite sex. They also want privacy. These needs

may lead to clash in opinions with adults thus young people may be closer to their friends than their family. They are dedicated when choosing friends. They would choose friends who hold similar values and interests because it generally leads to acceptance, confidence and safety. To have friendship helps an adolescent adapt to the society. They learn to cherish friendship. They learn to understand themselves. They also learn to listen to other's opinion. Social adaptation is considered to be the most difficult development of adolescence.

Clearly, adolescence is the age of rapid changes i.e. bodily, psychologically and social. Specifically, middle adolescence is the age to develop their self, to find their identity, to be rather greatly invested in peer, activities and society. Hence, having life assets and being in a good context are important as it would facilitate appropriate development. They would become an adult who has grown up beautifully to be an adult with value to themselves, their family and their society.

2.3 Academically talented student concept

2.3.1 Definition of academically talented students

Organizations and educationists gave the following meanings for academically talented students.

The U.S. Commissioner of Education (1972) stated that academically talented students are children or adolescents that display outstanding ability or those that are acknowledged to have potential when compared to other students in the same age, environment and experience. Their ability in intelligence, creativity and/or arts or music is shown. They have leadership skills or excel in any field of academics. They need to be in the curriculum separating from ordinary students.

Renzulli (1978) argued that academically talented students are made off 3 interconnected dimensions. The dimensions are a part of Three-Ring Model and they are,

1. above average ability
2. task-commitment

3. creativity

In the Strategies for Gifted Children and Youth Development (B.E. 2549-2559), Office of the Education Council (2005) defined the gifted students as a student who demonstrates exceptional level of competence in one domain or more compared to other students in the same age, environment or experiences. The competence ranges from cognitive skills, creativity, languages, leadership skills, creative and performing arts, music, athletics to academics.

The definitions of gifted students above construed the definition of academically talented students in the current work as the students who demonstrate outstanding competence intellectually and academically when being compared to other students in the same age, environment or experience in one of the following field or more: mathematics, science and computer.

2.3.2 Characteristics of academically talented students

Because the researcher aimed to study academically talented students in science, technology and mathematics which are parts of academically talented students, therefore a certain amount of literature regarding these students would be documented as follows,

The Institute for the Promotion of Teaching Science and Technology (IPST; 1982) researched and found 6 characteristics of gifted students stated below.

1. Highly intellectual, it refers to have a high level of learning ability. It could be seen as good grades and passing the criterion of different aptitude tests such as verbal, numerical, reasoning and spatial relationship.

2. A high level of knowledge, it means having a good grade in science and mathematics as well as having a high score in aptitude tests in science and mathematics.

3. Being scientifically creative or having an ability to be inventive as well as to be able to research, test their assumptions and seek for answers in different ways and/or have high creativity score.

4. Interested in science such as dedicate more time to science activities than to other kinds of activities, voluntarily participating in science activities. This could be seen from observation and/or from a score of science interest.

5. Having an attitude like a scientist which is to have opinions or to react to the subject of science and science activities. These require scientific knowledge and principal. This attitude could be measured by the attitude test.

6. Having scientist characteristics such as curious, interested in their environment, likes to question and research, enthusiastic in solving challenging problems, committed and determined to a goal, highly responsible, willing to change their viewpoint if more plausible information is present, independent and is not fond of being in a group etc.

Prapapot (1997) conducted a survey in Thai youth of 10 that participated in Mathematics Olympiad from 1989-1994 in order to find the characteristics of academically talented students in mathematics. The characteristics of these students are demonstrated below.

1. They have an ability to learn part by part or to understand a textbook that is disorganizedly written or a teacher who teaches in a non-orderly manner.

2. They spend less time learning new knowledge than others due to an ability to detect the principles of the knowledge. They have deeper understanding as well.

3. They tend to compare new knowledge to the one they have already learnt in order to find incongruence, if there is none they would believe in the new knowledge.

4. They are able to deduce drive or motivation behind a theory. Thus, they feel like they established the theory themselves which makes them proud.

5. They can apply logics and perspective taking and it helps them correctly assuming an answer for multiple choice questions.

6. They have an ability to construct an abstract aspect of a problem which enables them to see the problem clearly and are not distracted by details.

7. They can learn by themselves. Furthermore, their thought process allows them to meaningfully learn.

8. Their numerical memory is evident since childhood.

The above characteristics suggest that the characteristics of academically talented students in the present work are students whose general characteristics such as learning behaviors and creativity behaviors correspond to the general characteristics of

gifted students. However, they also have additional special characteristics. They are academically capable. They have a high level of specific knowledge, thoughts, memory, interest and skills in science, technology or mathematics. They also have different qualities than other groups of students.

2.4 Introduction about International Science Olympiad

2.4.1 History of International Science Olympiad

International Science Olympiad is a competition of students from every center of The Promotion of Academic Olympiad and Development of Science Education Foundation under the patronage of Her Royal Highness Princess Galyani Vadhana Krom Luang Naradhiwas Rajanagarindra (POSN) in Thailand. The duration of competition can be varied among the centers. POSN then selects certain students according to the result of the competition and send them to a training operating by The Institute for the Promotion of Teaching Science and Technology (IPST). This is followed by the selection for the country representatives for the International Science Olympiad in 5 areas of science i.e. mathematics, computer, chemistry, biology and physics (IPST, 2010b).

2.4.2 Background information about International Science and Mathematics Olympiad

In 1989, Thailand sent its first group of participants to compete in the International Mathematics Olympiad. Since then, representatives of the country consistently participated in the Olympiad. International Science and Mathematics Olympiad is an academic competition of students from different countries in 5 fields of science which are mathematics, computer, chemistry, biology and physics. The reason of the competition is the belief that there is an academic genius across the globe. Given that there is an academic competition, intellectual potential of a student would be boosted (IPST, 2010b).

Objectives of International Science and Mathematics Olympiad are as follows:

1. To build an academic environment that would bring interest of young people to mathematics and science. This would lead to improvement and development of curriculum, education system as well as an appropriate and better assessment that is equivalent to that of developed countries.

2. To encourage and allow a teenager to show their cognitive ability and improve their potential by competing with capable peers from worldwide.

3. To enable teachers and adolescents to gain experience and exchange knowledge and opinions with teachers and adolescents from other countries.

4. To promote relationship and alliance between worldwide teachers and teenagers.

Process

1. A selection of students to participate in a project (carried out by POSN), illustrated in Figure 2.2.

1.1 POSN announces the application.

1.2 Applicants undergo a selection test.

1.3 There are 2 POSN training camps.

1.3.1 The first camp (in October)

1.3.2 The second camp (in March)

2. A national competition (POSN is an organizer) as in Figure 2.3.

2.1 National competitions (in April)

In mathematics, computer, chemistry and physics

2.2 A national competition (in October)

In biology

3. Training for prospective country representatives. Then, the country representatives are selected (carried out by IPST), illustrated in Figure 2.4.

3.1 The first training

The training is 3 weeks long. It is typically on the third and the fourth week of October to the first week of November.

3.2 The second training, it is divided into 2 phases which are,

Phase 1 is 3 weeks training.

Approximately, it is from the second week to the fourth week of March.

Phase 2 is 2 weeks training.

Approximately, it is on the third and the fourth week of April.

3.3 The nation representative selection

Mathematics: 6 students are chosen to be the representatives.

Physics: 5 students are chosen to be the representatives.

Computer, chemistry and biology: 4 students are chosen to be the representatives in each subject.

4. The nation representative selection

July: there is a competition in mathematics, biology, chemistry and physics.

August: there is a competition in computer.

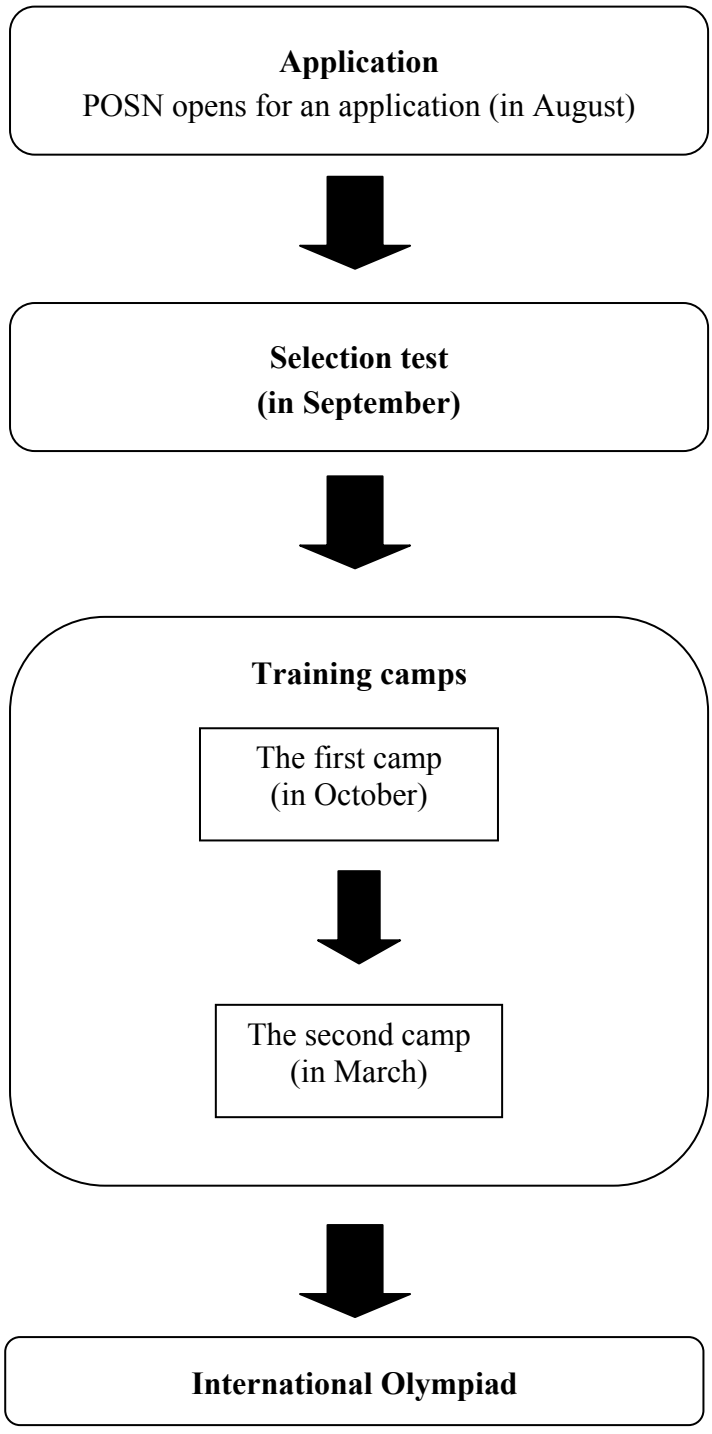


Figure 2.2 Participant selection (IPST, 2010b)

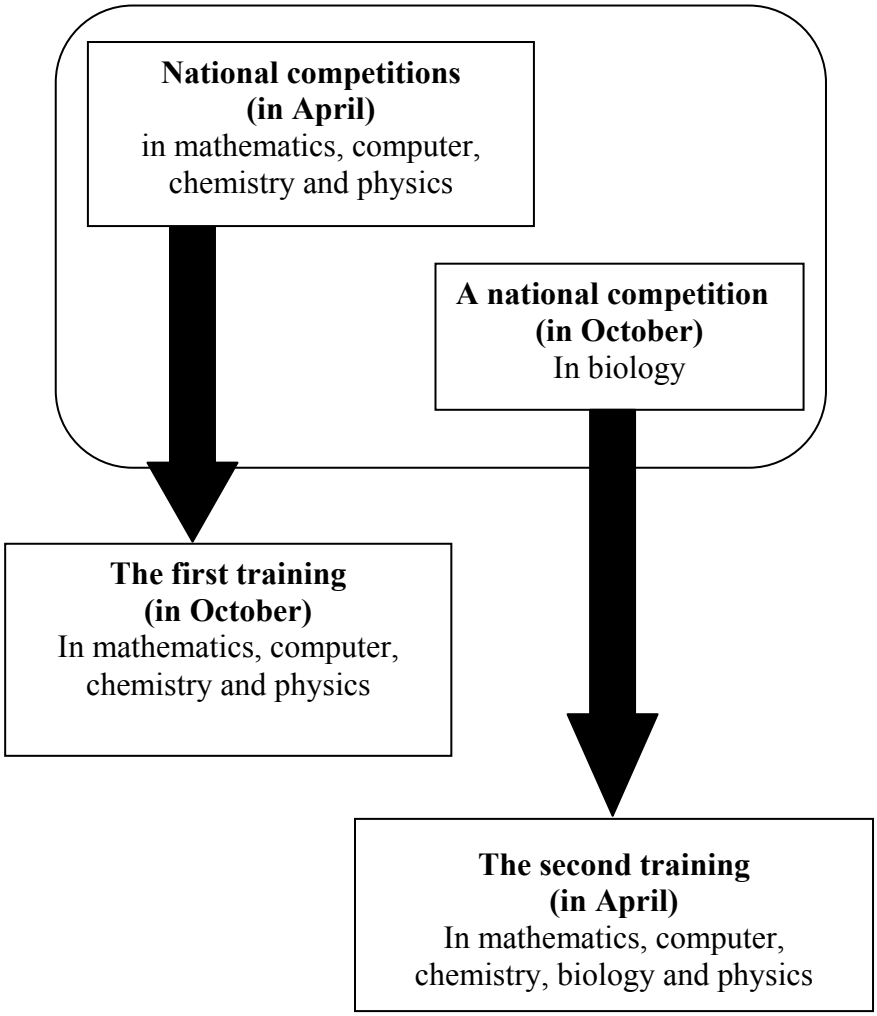


Figure 2.3 The national competitions (IPST, 2010b)

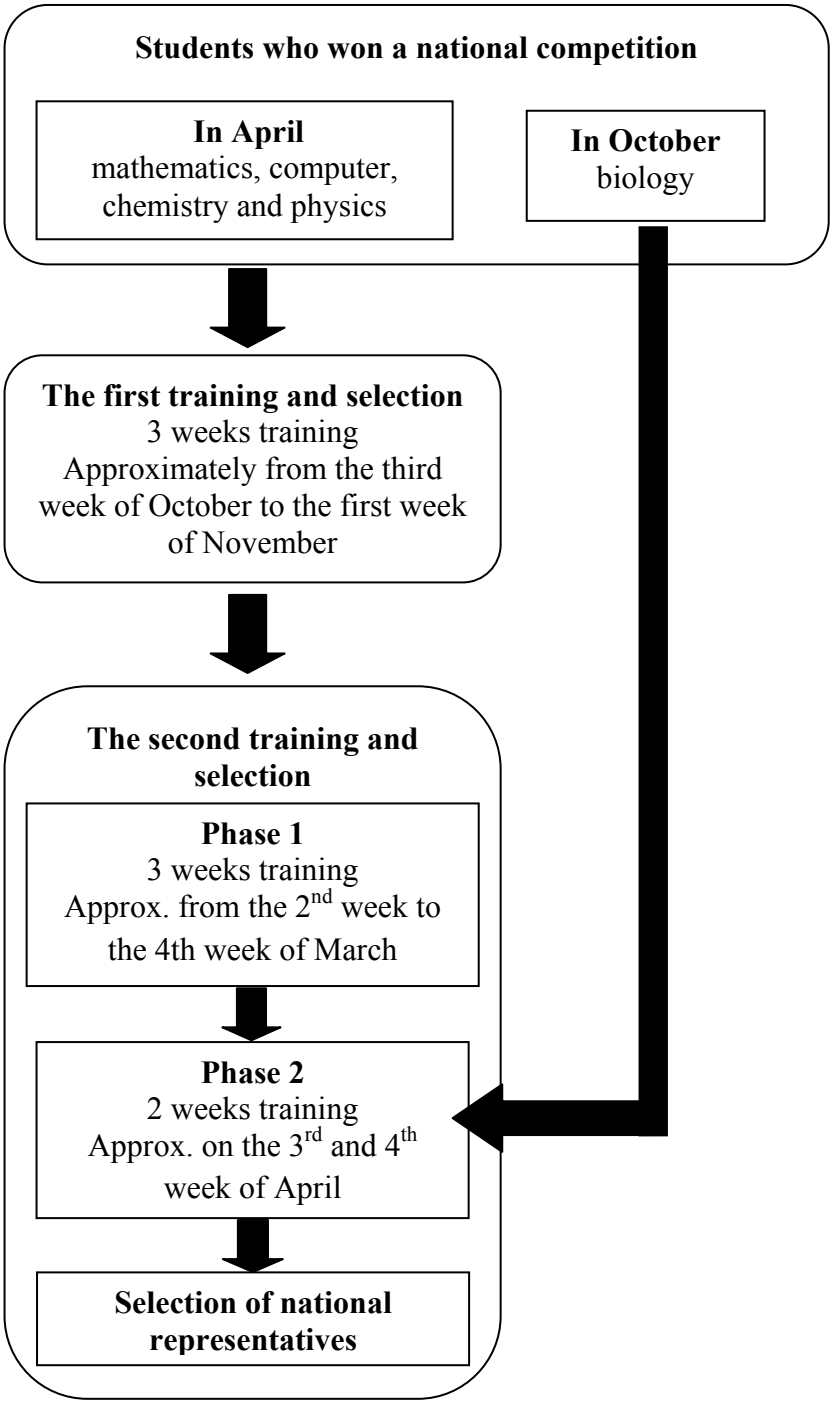


Figure 2.4 Training and selection of the nation representatives (IPST, 2010b)

The figure 2.2 - 2.4 demonstrated the selection process of the nation representatives for International Science Olympiad.

2.4.3 Competent authorities

2.4.3.1 Institute for the Promotion of Teaching Science and Technology (IPST)

IPST was founded at 16 January 1972 in order to manage teaching of science, mathematics and technology, to develop science and mathematics curriculum for high schools and vocational schools, to initiate Development and Promotion of Science and Technology Talents Project (DPST) including training teachers so they could utilize the curriculum in the teaching effectively. IPST also administers other academic projects such as research and development of national curriculum, development of educational media and tools, development of a science and technology teaching center as well as to organize International Science Olympiad. IPST become an autonomous entity by virtue of the Institute for the Promotion of Teaching Science and Technology Act 2541 B.E. (1998). IPST is an agency that is not a part of the government or public enterprises. It has a duty and role according to the law to provide the nation with teaching of science, mathematics and technology with the objective to be equivalent to other countries (IPST, 2010a).

2.4.3.2 Promotion of Academic Olympiads and Development of Science Education Foundation under the patronage of Her Royal Highness Princess Galyani Vadhana Krom Luang Naradhiwas Rajanagarindra (POSN)

Her Royal Highness Princess Galyani Vadhana Krom Luang Naradhiwas Rajanagarindra had supported International Science Olympiad because she was informed about flaws regarding learning of science, mathematics and computer in Thai schools when comparing to other countries' from the teachers who accompanied students to take part in the Olympiad, from the participating students as well as from other concerned parties. She believed that development of science and mathematics knowledge of students across the country could not be done in a short period of time. The first thing that could be done is to encourage students who have potential. She trusted that an autonomous agency which is more independent and is not constrained by bureaucracy would accomplish the objective more quickly. Therefore, in 1999 she allocated a part of her personal funds to Professor Sakda Siripan (the chair of The Science Society of Thailand under the Patronage of His Majesty the King at that moment) to establish The Promotion of Academic Olympiads and Development

of Science Education Foundation under the patronage of Her Royal Highness Princess Galyani Vadhana Krom Luang Naradhiwas Rajanagarindra or the POSN. She was the honorary patron. Presently, Her Royal Highness Princess Maha Chakri Sirindhorn is the honorary patron who has maintained major goals of POSN until now (POSN, 2009).

Two main objectives are as follows:

1. To encourage high school students across the country who have high competency in science and mathematics to improve their potential in mathematics, computer, chemistry, biology and physics as appropriate, in theoretical and practical aspect so that they can analyze and synthesize complex problems and be ready to participate in International Science Olympiad.

2. To improve teaching of science, mathematics and computer in schools to be equivalent to international standard. POSN has been supported by Ministry of Education, Faculty of Science of 20 universities across the country and IPST. The budget was allocated by the government (through IPST), public sector as well as private sector.

It comprises centers in schools and universities that can be divided into 2 categories which are,

1. Local centers: There are 15 local centers across different parts of the country. Faculty of science of 13 universities is responsible in students and teachers development in assigning provinces. There is at least 1 networking school in a province that facilitates the process. There are 6 fields of study i.e. mathematics, computer, chemistry, biology, physics and astronomy. The first training accepts 35 students to take part while the second training admits 20 students. Local centers are listed in Table 2.2.

2. Bangkok centers: There are 6 academic centers with schools as main centers and 7 universities as academic mentors. Each mentor manages 175 students as demonstrated in Table 2.2.

Table 2.2 A list of local centers and Bangkok centers (POSN, 2009)

Local centers	Bangkok centers	
	School	**Mentor university**
1. Chiang Mai University	1. Samsenwittayalai School	1. Chulalongkorn University
2. Naresuan University	2. Suankularb Wittayalai School	2. Mahidol University
3. Khon Kaen University	3. Debsirin School	3. Srinakarinwirot University
4. Ubon Ratchathani University	4. Bodindecha (Sing Singhaseni) School	4. Ramkhamhaeng University
5. Suranaree University of Technology	5. Triam Udom Suksa School	5. Thammasat University
6. Burapha University	6. Chulalongkorn University (Department of Physics, Faculty of Science)	6. King Mongkut's Institute of Technology Ladkrabang
7. Silpakorn University		7. King Mongkut's University of Technology Thonburi
8. Kasetsart University		
9. King Mongkut's University of Technology North Bangkok		
10. Prince of Songkla University		
11. Thaksin University		
12. Walailak University		
13. Armed Forces Academies Preparatory School		
14. Mahidol Wittayanusorn School		

POSN organizes International Science Olympiad in corresponding with IPST in 5 subjects which are mathematics, physics, chemistry, biology and computer in order to select students to train with IPST and select the nation representatives afterwards. Details of a competition in each area are following (POSN, 2009).

1. Thai Mathematical Olympiad (TMO)

The first TMO was held in 2004 at Faculty of Science, Khon Kaen University. It is a competition for mathematics between representatives from POSN

centers across the country in the same format as International Mathematical Olympiad (IMO).

The competition is divided into 2 tests i.e. multiple choices test and open-ended test.

1. Multiple choices questions: the test encompasses every topic. Duration of the test is 3 hours. Takers must solve the problems quickly.

2. Open-ended questions: the test is integrated and includes every topic. Duration of the test is 4 hours. Takers need to solve the problems systematically. The ratio between scores of multiple choices test and scores of open-ended test is 1:2. A committee from POSN passes the tests and keys to the general board of POSN that would select, rectify and add to the test in order to construct a test that is of universally standard. Teachers from different centers could take part in an analysis and examination of the test.

The test results are divided to be excellent, very good, good or honorable. They are the standard criteria that were jointly decided by the general board of POSN and teachers from different centers. Afterwards, takers who rank in the top 40 would be selected to compete in the International Science Olympiad organizing by IPST.

2. Thailand Physics Olympiad (TphO)

POSN arranges an annually physics competition for high school students. This is an individual contest that is called POSN Physics Olympiad (POSN-PhO).

The contest takes place for 2 days. Day 1 is for theoretical test and day 2 is for practical test. Duration for each test is 4 hours. Advisably, a number of the theoretical test should be three while a number of the practical test should be one or two.

During the test, contestants are allowed to use drawing tools. However, the contestants must bring them themselves. Calculators that have mathematics or physics formulas are not allowed.

Content of the theoretical test should cover at least 3 topics in physics curriculum written by POSN. The practical test should consist of theoretical analysis, experiment and result analysis.

The competition organizer decides scores for each item of the tests. However, there should be 30 scores for the theoretical test and 20 scores for the practical test.

Winners and their award are decided by their scores accordingly,

- An average score of 3 competitors that have the highest scores is equal to 100%.
- Competitors who score 90% or higher earn an excellent award.
- Competitors who score from 78% to 90% earn a very good award.
- Competitors who score from 65% to 78% earn a good award.
- Competitors who score from 50% to 65% earn an honorable award.
- Competitors who score less than 50% receive a certificate for the participation.

If a score is a fraction, the smallest integer value that is closest to the original value is decided to be a finalized score. The competitor who has the highest score receives a special award which is arranged by the organizer.

3. Thailand Chemistry Olympiad (TChO)

POSN arranges an annually chemistry contest for high school students. The contest is for individuals. It is known as POSN Chemistry Olympiad or POSN-ChO.

The contest takes place for 2 days. Day 1 is for a theoretical test. Following, day 2 is for a practical test. Duration for each test is 5 hours. The theoretical test includes the following contents in chemistry.

Item 1: inorganic chemistry

Item 2: organic chemistry

Item 3: physical chemistry

Item 4: analytical chemistry

Item 5: biochemistry

As for environmental chemistry, the content will be included in the aforementioned items. The practical test emphasizes process and skills regarding experiments in chemistry.

A ratio of scores of the two tests is 60:40 for theoretical test and practical test respectively. Winners receive excellent, very good and good award according to their scores. The contestant that has the highest score receives a special award. Additionally, the organizer could arrange another special award as appropriate.

4. Thailand Biology Olympiad (TBO)

POSN organizes an annually biology contest for high school students. This competition is for individuals. It is called Thailand Biology Olympiad or TBO.

The contest is divided into 2 parts which are a theoretical test and a practical test. Each test takes place for 3 hours.

1. There are two versions for a theoretical test

1.1 Multiple choice questions that are decided to be 100 scores.

1.2 Multiple choice questions or short answer open-ended questions that are decided to be 100 scores.

2. A practical test emphasizes experimental skills. The organizer or the host university is responsible for the test construction.

Awards of the competition are gold medal, silver medal and bronze medal. Standard criterion is jointly decided by POSN biology general board and teachers from centers. Approximately, 60 students who have the highest score would be selected for 3 weeks training at IPST. Then, 4 students would be selected to be the nation representatives for International Science Olympiad.

Criteria and qualities of students who could take the tests of Thailand Biology Olympiad since 2011 are as follows:

1. An applicant must be in their final year of a junior high school or in a high school.

2. A student who is in the first training but fails a test to pursue the second training is eligible to retest. A student cannot take part in the first training more than twice (however, if a training center is not the same one, the training can be up to 4 times). A student can also reapply for the first training in the next year by informing the center that a student used to train at in writing.

3. A student who passes the first training but fails the second training is not eligible to reapply for the training. Nonetheless, they can apply for the second

training to be the nation representatives in the next year. They have to inform the center that they used to train at in writing.

4. A student who competes in a national contest but is not selected to be trained at IPST is eligible to apply for the second training to be the nation representatives in the next year (however, they cannot take part in a national contest for more than twice). They must inform the center where they used to be trained at in writing.

5. A student who is chosen to be trained at IPST but is not selected to be the nation representatives can participate in the next international contest. They can inform IPST that would further select 10-15 competitors. A student is not allowed to compete internationally for more than twice.

5. Thailand Olympiad Informatics (TOI)

Gathering information form Informatics Olympiad, every country agreed that training new generation to understand how to solve problems and teaching them about computational science is more important than teaching them skills and how to use computer. Foremost, computer science requires deep understanding of principles of science and computational. The purpose of the competition is thus to utilize computer to solve highly complex problems. A student must be able to find a solution and technique to solve the problem albeit the time for finding a solution is limited. The first TOI was held in 2005 at Faculty of Science of Kasetsart University.

Process of the competition is as follows,

1. A preliminary competition is held. The host must arrange a preliminary competition for students before a real competition. A format and environment of the preliminary must be similar to those of the real competition.

2. There are 2 types of test in the real competition. They are a test that requires answers as programs while another test requires a set of folder ordering by a program. The test is designed to be solved by algorithm.

Awards are categorized as excellent, very good, good and honorable. Giving an award is in accordance with criteria that are decided by test verifying and result judging committee.

As explained above, it can be summarized that International Science Olympiad is a contest that is capable of academically selection and it can systematically select national representatives whose academic knowledge is outstanding. Its quality is considered to be equivalent to the universal standard. The sample of the present study is the students who participate in the second training. They have passed a test of an international project that has high standard and they are now the nation representatives. Clearly, their academic knowledge is superior to their peer. Therefore, students in this project have a high level of academic knowledge.

2.5 Relevant research

Research in the nation

Tripathi et al. (2006) conducted a research in the topic of quality of youth: Case study of high school students and vocational students in Bangkok, Chonburi, Chiang Mai, Nakhonratchasima and Songkla. The developmental assets index were used in the study. The sample was 3,318 students consisting of junior high school students, high school students and vocational students. There were 5 assets founding to be at the lowest amount namely,

1. To participate in community activities for at least 1 hour weekly (28.2%)
2. To be given a task that is useful and beneficial to the community (29.1%)
3. Neighbors take part in monitoring young people's behaviors (41.2%)
4. To participate in religious or spiritual activities (for instance activities at a temple, praying, listening to monks, meditation) for at least 1 hour weekly (41.5%)
5. To always tell the truth even though it is not easy to do so (51.9%)

The Office of the Basic Education Commission and Team of Children and Youth Program of the National Institute for Child and Family Development, Mahidol University collaborated on a project naming "Exploring Life Assets of Thai Children and Youth in School B.E. 2552" (Tripathi, 2011a). The sample was 12,200 students

who were 14 to 18 years old and studying in high school under control of the Office of the Basic Education Commission across the country. Life assets that were found to be the assets with lowest amount were,

1. I frequently have a conversation about stories covered by press such as radio, television and other media with teachers (53.13%).
2. I am given a task that is useful and beneficial to the community (55.92%).
3. I frequently take part in activities that are beneficial to the community (56.74%).
4. I stand up for my beliefs e.g., I express my opinions although sometimes it is different from those of others (58.31%).
5. I do homework and study every day (58.91%).

Tripathi et al. (2012b) documented life assets of 6,940 Thai children and youth who were 12 to 25 years old in 9 provinces as the "Life Assets-Inducing Activities to Creating Cultural Context" in December of 2011 to June 2012. The 5 assets found to be at the lowest amount were,

1. I am given a task that is useful and beneficial to the community (59.84%).
2. I frequently take part in activities that are beneficial to the community (60.37%).
3. I frequently have a conversation about stories covered by press such as radio, television and other media with teachers (60.93%).
4. I do homework and study every day (63.04%).
5. I have a neighbor who cares and supports me (63.05%).

The results above suggested overall, the lowest amount of the life assets that Thai children and youth had were associated to power of community. Specifically, it was evident in the item enquiring about whether they are given a useful and beneficial task to the community and the item regarding participation in community activities. The percentages of the possession of these assets were consistently low in every research aforementioned. Clearly, there is a gap between young people and community especially the participation of them in beneficial activities. Thus, the author believes that it is interesting to learn about life assets of academic talent

students: Would their life assets level be similar or different and in what way. This is the research question.

Research in other countries

In 2003, Scales and Roehlkepartain conducted a research "Boosting student achievement: New research on the power of developmental assets". It was a longitudinal study carried out from 1998-2001. It concerned the role of developmental assets of 370 students in grade 6 to grade 8 who lived in St. Louis Park in Minnesota. It was found that developmental assets were significantly related to academic accomplishment (see more at Figure at 2.5 and 2.6). Summaries from the research were as follows:

1. A child who had higher level of developmental assets had higher grade.
2. Developmental assets were important indicators as they could predict academic achievement.
3. A stable high level or increasing level of life assets significantly and positively influenced academic achievement.
4. Regardless of ethnicity, a child who had a high level of life assets tends to be accomplished academically.
5. Academic achievement was present in a child whose life assets were at a high level, although they came from a family whose socioeconomic status is low. There was no difference for a child whose family economic status was high.

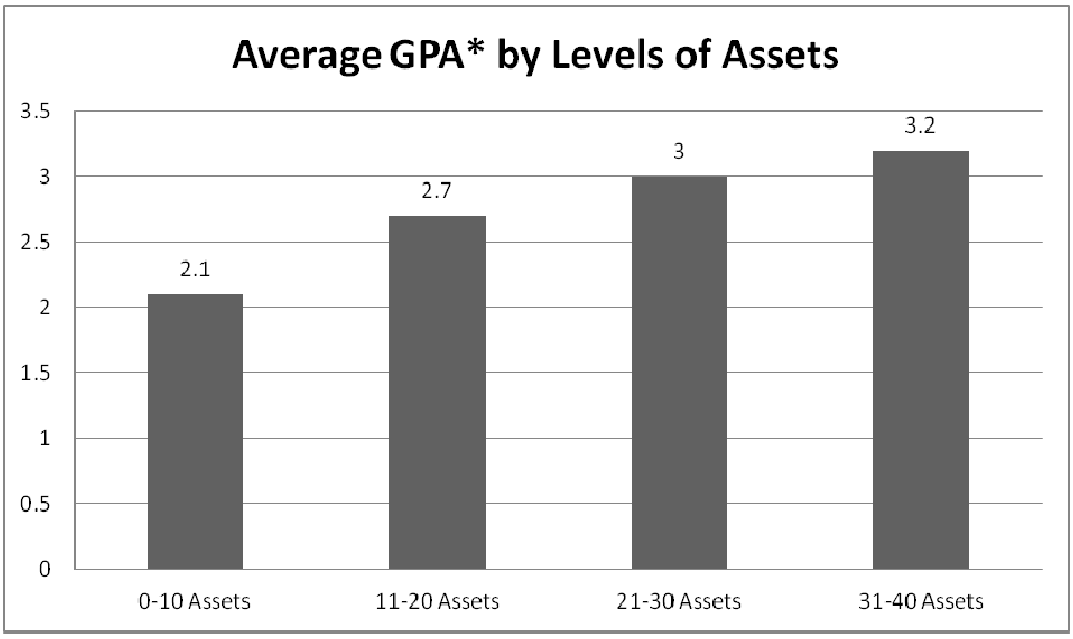


Figure 2.5 The relationship of academic achievement and life assets of children in 1998 (Scales & Roehlkepartain, 2003)

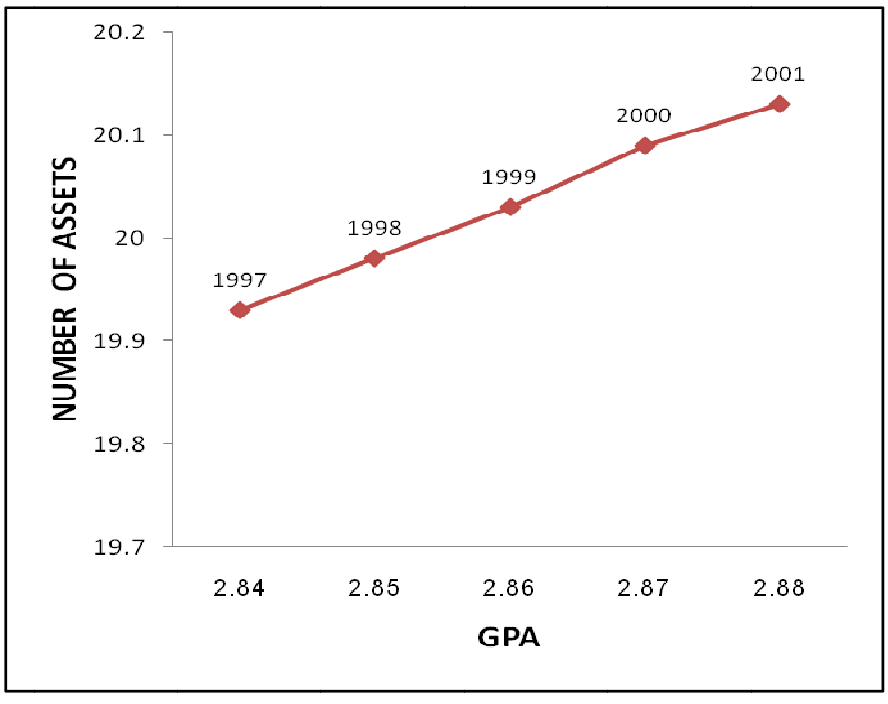


Figure 2.6 The relationship of academic achievement and life assets of children from a longitudinal study from 1997 to 2001 (Scales & Roehlkepartain, 2003)

A study of Murphey et al. (2004) regarding relationships of a brief measure of youth assets to health-promoting and risk behaviors indicated that there were 7 important indicators that promote developmental assets of youth that would subsequently be influential to quality of teenager, family, school and community are as follows:

1. Academic achievement: An adolescent has motivation to do well in school.

2. Parental connectedness: Parents monitor performance of their child as well as giving advices, tutoring and following-up.

3. Youth program participation in non-school program: An adolescent takes part in recreational activities and sports for at least 3 hours per week respectively.

4. Volunteer in the community: A young person voluntarily participates in an activity that is beneficial to the community.

5. Empowerment/valued by community: Adults in the community acknowledge value of an adolescent and give them a task that is useful to the community.

6. Planning decision making: A teenager is capable of making a decision and to be able to foresee a potential advantage and/or disadvantage of the decision.

7. Positive family communication: Family members encourage each other and are opened to discuss anything.

The 7 indicators is a brief measure with the purpose to easily monitor adolescents' behaviors. It was found that a teenager who possesses a higher amount of the indicators significantly has better behaviors such as to exercise, to use seatbelt and to wear a helmet. Whilst, a chance to commit risk behaviors, for instance to engage in risk sexual behavior, to use substance, to behave violently or to plan for suicide, is significantly low. These relationships are displayed in figure 2.7 and 2.8.

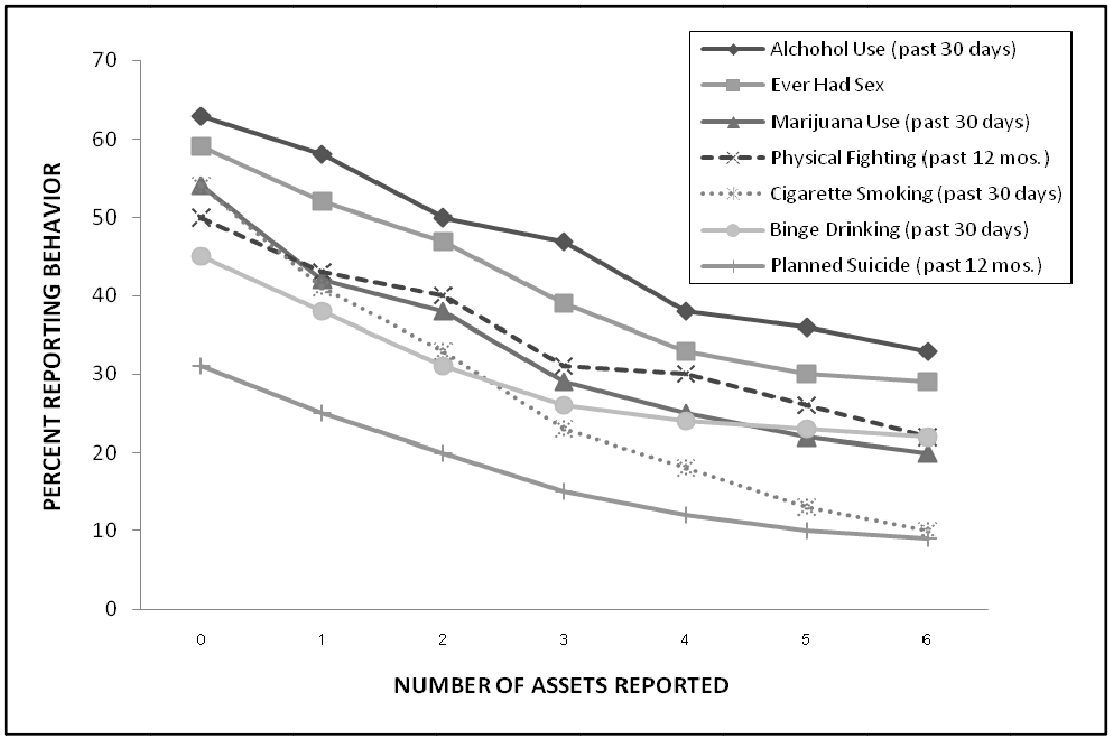


Figure 2.7 The relationship between developmental assets and risk behaviors (Murphey et al., 2004)

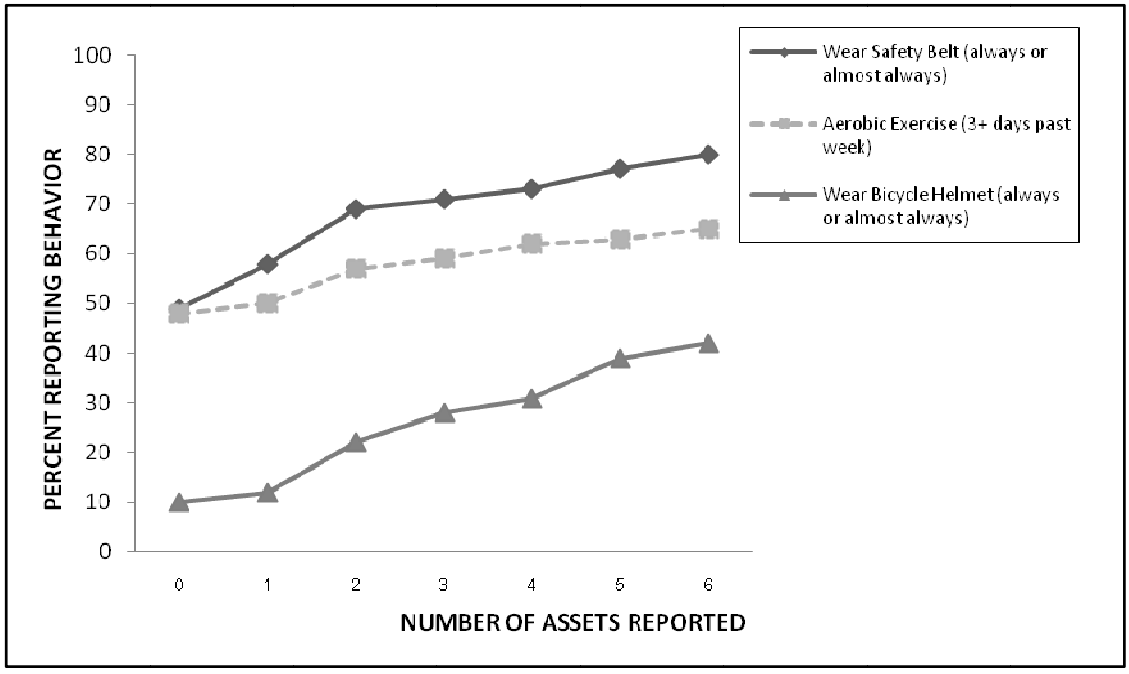


Figure 2.8 The relationship between developmental assets and good behaviors (Murphey et al., 2004)

In 2004, Search Institute conducted a research "Tapping the power of community: building assets to strengthen substance abuse prevention". The sample was 217,277 students in grade 6 to grade 12 across the USA. The finding suggested that if the number of developmental assets increases, the use of substances such as alcohol, tobacco, marijuana, volatile organic compound, will decrease. The result was consistently found across sample that differed in sex, ethnicity, family and socioeconomic status. Thus, it is clear that developmental assets of teenagers in a community are important factors as they reduce the use of substances (Benson et al., 2004). This is portrayed in Figure 2.9.

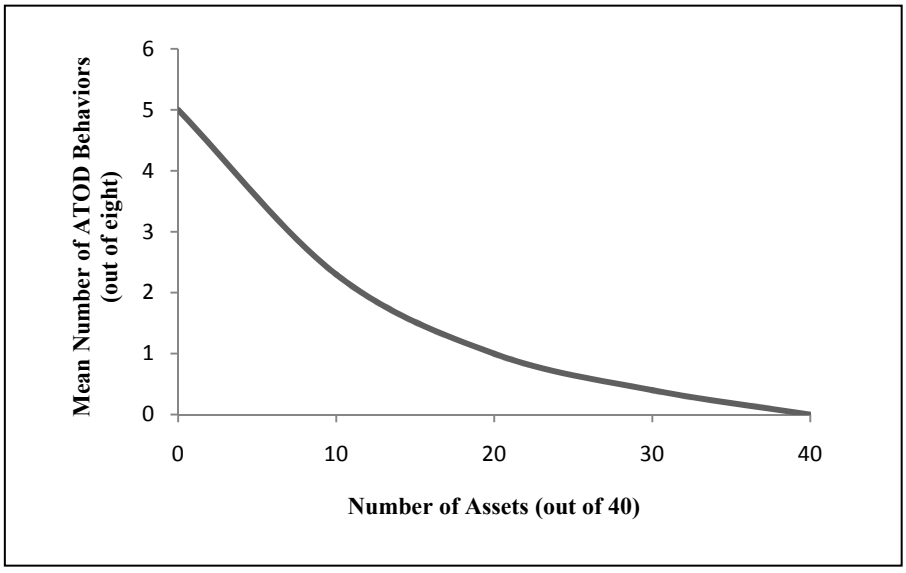
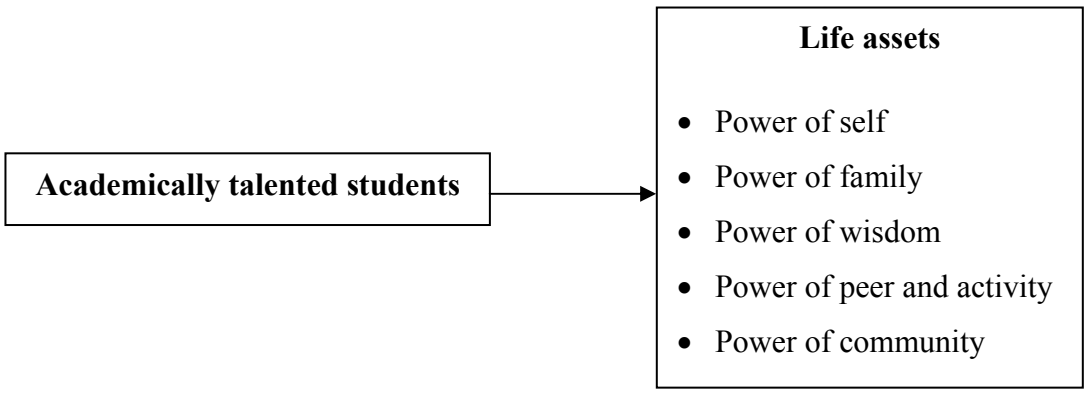


Figure 2.9 The relationship between substance use and developmental assets (Benson et al., 2004)

The research mentioned above suggested that developmental assets are related to academic achievement i.e. a child or a teenager who has a high number of developmental assets is more likely to be accomplish in school. At the same time, possession of the assets also significantly reduces the chance for young people to commit risk behaviors. It is important that findings were similar regardless of differences in sex, ethnicity, family and socioeconomic status of samples.

2.6 Conceptual Framework of the study

After revisiting the relevant documents and research that addressed life assets in the country and abroad, in different samples such as normal adolescents, teenagers who commit risk behaviors, underprivileged adolescents, the author noted that the research in the topic is still insufficient as it has yet to examine life assets in other contexts. Specifically, life assets of academically talented students are not yet documented neither in the country or abroad. This group of students is a driving force in the country development and they cannot be overlooked. The author recognized the fact and thus is intrigued to study life assets of academically talented students: Case study of the participants in the International Mathematics and Science Olympiad (2013). The purpose of the current work is to examine life assets of this group of teenagers and to see that whether their 5 facets of life assets pass the criteria. The author believed that the information found in the present research would be beneficial to parents, school and other related parties. They could use the finding from this study in planning an appropriate and creative plan to create life assets of these adolescents. Given that this group of adolescents is supported to reach their potential, ultimately they would use their knowledge and ability in a positive way and contribute to themselves, their family, their community and their country.



CHAPTER III
MATERIALS AND METHODOLOGY

The present work is a descriptive research addressing life assets of academically talented students: Case study of the participants in International Mathematics and Science Olympiad (2013). Details regarding the research methodology are as follow.

3.1 Methodology

The researcher employed 2 explorative research methods that are:

1. Document study: It is a technique aiming to collect necessary and relevant information from textbooks, brochures, journals, research reports, theses, dissertations as well as electronic media in order to establish the framework and guideline of the present research.

2. Field study: Conducted in the target population by the following procedures.

3.2 Population and Sample

Population

The target population of the current research was high school students who participated in the International Mathematics and Science Olympiad (2013).

Sample

The sample was 110 participants who took part in the second training of the International Mathematics and Science Olympiad (2013).

Sample Size

Because the population size was unknown, the researcher thus used the following sample size estimation formula of Cochran (1963) to determine the sample size for the present study.

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

where n is number of sample size

Z is the abscissa of the normal curve that cuts off an area α at the tails. (1- α equals the desired confidence level, e.g., 95%) Hence, the z-value of this research equals 1.96.

P is the estimated proportion of an attribute that is present in the population. The p of this study was 26.92% or 0.2692. This number was required from the pilot study. Because the sample in the current work had not been investigated in previous studies, there was no comparative target population. Thus, a statistician recommended the researcher to conduct a pilot study in similar sample. The pilot study took place in October 2012. The sample was high school students who studied in science and mathematics classes of Triamudom Suksa School whose GPA exceeded 3.50. The number of the sample was 26 with 13 male participants and 13 female participants. The survey used in the pilot study was the Positive Model Survey Tool of Life Assets of Thai Children and Youth (Tripathi et al., 2012). The result indicated that from 26 respondents, there were 7 respondents whose 5 facets of life asset passed the criteria. Therefore, the proportion that the researcher attempted to estimate in the population was 26.92%.

d is an allowable error. In this study it was +9% or +0.09.

According to the formula,

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

$$= \frac{0.2692(1-0.2692) \times (1.96)^2}{(0.09)^2}$$

$$= \frac{3.84 \times 0.2}{0.0081} = 94.81$$

Evidently, the advisable sample size for the main study that was the sufficient amount sample size in terms of statistics was 95. However, the researcher increased the sample size by 10% in order to prevent insufficiently sample size that might arise if there are numerous incomplete questionnaires. Therefore, the final sample size was 110.

Random Sampling

Students who held the following criteria were purposively sampled to be the participants in the research.

1. Those that was a high school student that participated in the International Mathematics and Science Olympiad (2013)

2. Those that was 15 years old and older

3. Those that voluntarily participated and signed the consent form to be a survey respondent of this research

3.3 Materials

The materials used in the present study consisted of 2 parts.

1. Personal information of a respondent. The format of the questions was close-ended checklist. The questions comprised of personal information and family background.

2. The Positive Model Survey Tool of Life Assets of Thai Children and Youth (Youth version). The survey was for respondents who were between 12 and 25

years old. It was developed by Tripathi et al. (2012). The questions format was 4 points rating scale. There was 48 positive items. The items were divided into 5 power facets: power of self (15 items), power of the family (8 items), power of wisdom (11 items), power of peer and activity (6 items) and power of community (8 items).

The Cronbach's alpha coefficient of internal consistency of the questionnaire was .89. The reliability coefficients of the 5 power facets were .75 for power of self, .67 for power of the family, .73 for power of wisdom, .64 for power of peer and activity and .83 for power of community. In addition, the questionnaire was approved to have content validity by an expert and by a qualitative examination i.e. focus group.

The format of the questionnaire was 4 points rating scale aiming to obtain an honest answer from a respondent in every item. Each point was calculated as follows:

Always = 3 points
Often = 2 points
Sometimes = 1 point
Never = 0 point

Points were grouped into 5 facets. A calculated score was a percent of the point of each item.

$$\text{percent of each item score} = \frac{\text{sum score of each item} \times 100}{\text{total score of each item}}$$

Note: total score of each item = number of participant x 3

To date, the method to calculate the score that was developed by Team of Children and Youth Program (2010) can be executed by using Microsoft Excel. The criteria to examine the score are portrayed in Table 3.1.

Table 3.1 Score Examination Criteria (Tripathi et al., 2012a)

Life assets level	Percentage of the items (Grade)	Result
Low	lower than 60 (Grade F)	Fail
Moderate	60-70 (Grade C)	Pass
Good	70-80 (Grade B)	Pass
Excellent	Higher than 80 (Grade A)	Pass

By analyzing the score closely, the first five or ten items that have the lowest percentages can be seen in which facet they are. Afterwards, an appropriate action and activity plan can be developed in order to improve the deficient facet.

3.4 Data Collection

The procedure of the data collection is as follows:

1. The research was examined and approved by the Center of Ethical Reinforcement for Human Research.

2. The researcher asked for the permission to use the questionnaire from the questionnaire developer.

3. The researcher requested a meeting with the director of the Institute for the Promotion of Teaching Science and Technology (IPST) in order to illustrate the objective of the research and seek the permission to collect the data.

4. The researcher and the research assistant (who was trained to be capable and familiar with questionnaires usage) collected the data from participants that were preliminarily divided into groups. The participants were aware of the fact that they could withdraw from the study at any time.

5. The questionnaires were checked if they were completed. Afterwards, they were scored according to the criteria aforementioned. Finally, they were statistically analyzed.

3.5 Data Analysis

The researcher analyzed the data by using the following computer package programs.

1. Microsoft Excel program was used to calculate scores of each power of life assets according to the method developed by Team of Children and Youth Program (2010). The scores reflected percentages of each item in each power. This information is used in order to answer the research question i.e. to demonstrate a level of five powers of life assets of academically talented students.

2. Statistic Package for the Social Science (SPSS) program

2.1 SPSS was used to analyze descriptive data regarding the sample and the variables in the study. The descriptive data were percentage, frequency, arithmetic mean and standard deviation.

2.2 An additional data analysis that was operated on SPSS was:

2.2.1 Chi-Square: It was carried out in order to investigate the relationship of personal information and life assets of academically talented students.

CHAPTER IV
RESULTS

The main purpose of the present research was to study life assets of academically talented students: Case study of International Science Olympiad (2013). Examinations were carried out in order to answer the research question. The results were sorted into 3 sections as follows:

Section 1: Demographic information of the sample

Section 2: Analysis of life assets of the sample by using descriptive methods consisting of,

2.1 Descriptive statistics of life assets

2.2 Life assets of the sample

2.3 The strength and weakness of life assets

Section 3: An additional analysis which is,

3.1 Relationship between demographic information and life assets of academically talented students by Chi-square: test of independence.

Section 1: Demographic information of the sample

This section of the result analyses introduces frequency distributions and percentages of the sample including gender, age, education level, grade point average (GPA), aptitude, major subject, religion, parents' marital status and living situation. Details are illustrated in the Table 4.1.

Table 4.1 Demographic information (n = 110)

Demographic information	Frequency	Percentage
Gender		
Male	94	85.45
Female	16	14.55
Total	110	100
Age (years old)		
15	13	11.82
16	28	25.46
17	50	45.45
18	19	17.27
(Mean = 16.69, *SD* = .916, Min = 15, Max = 18)		
Total	110	100
Education level		
High school (first year)	27	24.55
High school (second year)	60	54.55
High school (third year)	23	20.90
Total	110	100
GPA		
3.3 – 3.39	1	0.90
3.4 – 3.49	0	0
3.5 – 3.59	3	2.73
3.6 – 3.69	3	2.73
3.7 – 3.79	4	3.64
3.8 – 3.89	16	14.55
3.9 – 3.99	46	41.82
4.00	30	27.28
unidentified	7	6.37
(Mean = 3.92, *SD* = .129, Min = 3.31, Max = 4)		
Total	110	100

Table 4.1 Demographic information (n = 110) (cont.)

Demographic information	Frequency	Percentage
Aptitude		
Mathematics	19	17.27
Computer	18	16.36
Chemistry	32	29.09
Biology	33	30
Physics	8	7.27
Total	110	100
Religion		
Buddhism	109	99.09
Christianity	1	0.91
Islam	0	0
Others	0	0
Total	110	100
Parents' marital status		
Together	103	93.64
Separated	5	4.55
Divorced	2	1.81
Father passed	0	0
Mother passed	0	0
Both parents passed	0	0
Others	0	0
Total	110	100
Living situation		
With parents	66	60
With father	1	0.91
With mother	10	9.09
With siblings (not with parents)	4	3.64
With relatives (who are not parent)	3	2.73
With friends/acquaintances	22	20
Alone	4	3.64
Total	110	100
Hometown		
Bangkok or its vicinities	76	69.09
Other provinces	34	30.91
Total	110	100

Table 4.1 describes demographic information of the sample as follows:

The sample was 110 high school students who participated in the second training for the International Science Olympiad in mathematics, informatics, chemistry, biology and physics (2013). They were 94 male students. This number equaled 85.45%. There were 16 female students. This number equaled 14.55%. The average age of the participants was 16.69 years old. Most participants were in their second year in high school (54.55%). There was 24.55% and 20.91% of the participants who were in their first and third year in high school respectively. There were 83.65% of the samples who had GPA in the range of 3.80-4.00. Aptitudes of the samples were biology (30%) and chemistry (29.09%). Next, 17.27% of the participants had an aptitude for mathematics while 16.36% and 7.27% had an aptitude for informatics and physics respectively. Almost all the samples were Buddhist which was 99.09% of the participants. The parents' marital status of most participants (93.64%) was together. Most students were living with their parents (60%). Finally, hometown of most students was Bangkok or its vicinities (69.09%).

Section 2: Life assets of the sample

Analysis of life assets of the sample consists of 3 parts which are 1) analysis of descriptive statistics of life assets 2) analysis of life assets of the sample and 3) analysis of levels of life assets. Following are details.

2.1 Analysis of descriptive statistics of life assets

Results presented in this section are descriptive statistics e.g. mean, standard deviation, percentages of life assets and their result. Levels of life assets and their meanings would be demonstrated. Details are in Table 4.2.

Table 4.2 Means, standard deviations, percentages and results of life assets (n = 110)

Life assets (Power)	*Mean*	*SD*	%	Level	Result
Power of self	2.22	.19	74.06	Good	Pass
Power of family	2.47	.21	82.39	Excellent	Pass
Power of wisdom	2.06	.44	68.82	Moderate	Pass
Power of peer and activity	1.89	.28	63.08	Moderate	Pass
Power of community	1.51	.42	50.45	Low	Fail
Total	2.04	.34	68.94	Moderate	Pass

Note M was mean of life assets score. The maximum score was 3.

> "Level of life asset" referred to the interpretation of score of a life asset, according to the percentage of the life asset score. The criteria were: lower than 60% was considered to be at the low level; 60%-69.99% was considered to be at the moderate level, 70% to 79.99% was considered to be at the good level and 80% and higher was considered to be at the excellent level.
>
> "Result" indicated that whether a level of life asset passed the criteria explained above. The percentage from 60% was considered to "pass" the criteria. On the other hand, the percentage less than 60% was considered to "fail" the criteria.

It could be seen from Table 4.2 that overall life assets of the sample was 68.94% which was considered to be at the moderate level. Thorough examinations of 5 power results indicated that 4 power of the sample passed the criteria. The highest to the lowest power that passed the criteria were: power of family (82.39%) which was considered to be at the excellent level, power of self (74.06%) which was considered to be at the good level, power of wisdom (68.82%) and power of peer and activity (63.08%), both were considered to be at the moderate level (M = 2.47, SD = 0.21; M = 2.22, SD = 0.19; M = 2.06, SD = 0.44; M = 1.89, SD = 0.28 respectively).

However, power of community failed the criteria. It was found to be at 50.45% which was considered to be at the low level (M = 1.51, SD = 0.42).

2.2 Analysis of life assets of the sample

This section presents analyses of frequency distributions and percentages of 5 powers of life assets of the sample. Details are in Table 4.3.

Table 4.3 Frequency distributions and percentages of 5 powers of life assets of the sample (n = 110)

Life assets (power)	Result				Total	
	Pass		Fail			
	Frequency	%	Frequency	%	Frequency	%
Power of self	101	91.82	9	8.18	110	100
Power of family	101	91.82	9	8.18	110	100
Power of wisdom	84	76.36	26	23.64	110	100
Power of peer and activity	75	68.18	35	31.82	110	100
Power of community	37	33.64	73	66.36	110	100

It could be seen in Table 4.3 that in power of self and power of family, most participants passed i.e. there were 101 samples whose two powers passed the criteria which equaled to 91.82%. Next was power of wisdom that 84 participants (76.36%) passed. Seventy five or 68.18% of the samples' power of peer and activity passed the criteria. Finally, power of community of 37 or 33.64% of the participants passed the criteria.

2.3 The strength and weakness of life assets

Life assets could be divided broadly into two groups following their levels: strong and weak assets. Results in this section include 1) Analysis of the strength and weakness of life assets in each power and 2) Analysis of the strength and weakness of life assets according to their percentages. Following are details,

2.3.1 The strength and weakness of life assets in each power

This section regards results of frequency distributions and percentages of five powers of life assets. The strength and weakness of the five powers would be demonstrated in order to see which the strongest power was and which was the weakest. The details are in Table 4.4.

Table 4.4 Items of the weakest and the strongest life assets in different powers (n = 110)

No.	Power	the weakest	the strongest
1	Self	3) I dare to adhere to what I believe such as expressing opinion; although, sometimes, my opinion is different from others (65.45%).	10) I dare to reject risk behaviors (e.g. sexual intercourse, narcotics, violence and bad media) (83.64%).
2	Family	23) I can regularly talk to, and share learning about media, e.g. radio, TV and other media in my family (72.73%).	19) I feel safe, warm and happy while staying in my family (90.61%).
3	Wisdom	34) I can regularly talk to, and share learning about media, e.g. radio, TV and other media with my teacher (43.43%).	28) I want to have good academic achievements, not to take advantage of others, and have sharing with others (86.36%).
4	Peer and activity	38) I have regularly participated in religious activities or rites (46.36%).	35) I have close friends who are my good model, and persuade me to have good acts (73.03%)
5	Community	42) I have neighbors who pay attention to me and give me the spirit (35.76%).	48) I have other adults, except my guardian, who are my good models (73.94%)

Note Percentage is a percentage score of each item that can be calculated by this following formula:

$$\text{Percentage} = \frac{\text{sum score of each item} \times 100}{\text{total score of each item}}$$ (total score of each item = n x 3)

Result in Table 4.4 suggested the strongest life asset and the weakest life asset in each power are as following.

1) Power of self

The weakest life asset in this power was item number 3 “I dare to adhere to what I believe such as expressing opinion; although, sometimes, my opinion is different from others”. It was found that 65.45% of the sample had this asset.

On the other hand, the strongest life asset was item number 10 “I dare to reject risk behaviors (e.g. sexual intercourse, narcotics, violence and bad media)”. It was found that 83.64% of the sample had this asset.

2) Power of family

The evidence indicated that the weakest life asset in this power was item number 23 “I can regularly talk to, and share learning about media, e.g. radio, TV and other media in my family”. The data suggested that 72.73% of the sample had this asset.

Meanwhile, 90.61% of the sample had the asset of “I feel safe, warm and happy while staying in my family” (item number 19). This made it the strongest asset.

3) Power of wisdom

Item number 34 “I can regularly talk to, and share learning about media, e.g. radio, TV and other media with my teacher” was found to be the weakest asset in this power. It was found that 43.43% of the sample had this asset.

The item from this power that the sample had the strongest was item number 28 “I want to have good academic achievements, not to take advantage of others, and have sharing with others”. Specifically, 86.36% of the sample had this asset.

4) Power of peer and activity

The weakest asset was item number 38 “I have regularly participated in religious activities or rites”. It was found that 46.36% of the sample had this asset.

On the contrary, the strongest asset was item number 35 “I have close friends who are my good model, and persuade me to have good acts”. The result suggested that 73.03% of the sample had this asset.

5) Power of community

The weakest asset was found to be item number 42 “I have neighbors who pay attention to me and give me the spirit” that 35.76% of the sample had.

Finally, the strongest asset was item number 48 “I have other adults, except my guardian, who are my good models”. It was found that 73.94% had this asset.

2.3.2 The strength and weakness of life assets according to their percentages

Result analysis in this section addresses frequency distributions, maximum scores, average scores and percentages of life assets. The strength and weakness of life assets are demonstrated according to their percentages. Details are in Table 4.5 and 4.6.

Table 4.5 The top 10 weakest life assets according to their percentages (n= 110)

No.	Items	Power	Life assets		
			Maximum Score	Average Score	Percent
1	42) I have neighbors who pay attention to me and give me the spirit.	Community	330	118	35.76
2	45) I have regularly participated in voluntary activities in my community.	Community	330	133	40.30
	47) I have neighbors who have monitored and cared for children and youth’s behavior so that they behave appropriately.	Community	330	133	40.30
3	44) I am assigned to take roles and duties valuable and useful for my community.	Community	330	141	42.73
4	34) I can regularly talk to, and share learning about media, e.g. radio, TV and other media with my teacher.	Wisdom	330	143	43.33

Note Percentage is a percentage score of each item that can be calculated by this following formula:

$$\text{Percentage} = \frac{\text{sum score of each item} \times 100}{\text{total score of each item}}$$

(total score of each item = n x 3)

Table 4.5 The top 10 weakest life assets according to their percentages (cont.) (n= 110)

No.	Items	Power	Life assets		Percent
			Maximum Score	Average Score	
5	43) I feel that the community members have focused and valued the children and youth.	Community	330	151	45.76
6	38) I have regularly participated in religious activities or rites.	Peer and activity	330	153	46.36
7	33) I am eager for community wisdom and culture.	Wisdom	330	163	49.39
8	30) I do my homework or review my lessons every day.	Wisdom	330	169	51.21
9	41) I have relatives or adults apart from my guardian, who I can consult or ask for help pleasantly.	Community	330	203	61.52
10	39) My friends and I have regularly persuaded to do good activities.	Peer and activity	330	206	62.42

Note Percentage is a percentage score of each item that can be calculated by this following formula:

$$\text{Percentage} = \frac{\text{sum score of each item x 100}}{\text{total score of each item}} \quad \text{(total score of each item = n x 3)}$$

Data in Table 4.5 indicated that the sample had these following life assets of the lowest amount.

First, item number 42: I have neighbors who pay attention to me and give me the spirit (power of community) had the average score of 113 which equaled 35.76%.

Second, item number 45: I have regularly participated in voluntary activities in my community and number 47: I have neighbors who have monitored and cared for

children and youth's behavior so that they behave appropriately (both were in power of community). The average scores were found to be 133 which was equivalent to 40.30%.

Third, item number 44: I am assigned to take roles and duties valuable and useful for my community (power of community) had the average score of 141 or 42.73%.

Fourth, item number 34: I can regularly talk to, and share learning about media, e.g. radio, TV and other media with my teacher (power of wisdom), the average score was 143 which equaled 43.33%.

Fifth, item number 43: I feel that the community members have focused and valued the children and youth (power of community) was found to have the average score of 151 which equaled 45.76%.

Sixth, item number 38: I have regularly participated in religious activities or rites (power of peer and activity) had the average score of 153. That equaled 46.36%.

Seventh, item number 33: I am eager for community wisdom and culture (power of wisdom) had an average score of 163 which was equivalent to 49.36%.

Eighth, item number 30: I do my homework or review my lessons every day (power of wisdom) had an average score of 169. That equaled 51.21%.

Ninth, item number 41: I have relatives or adults apart from my guardian, who I can consult or ask for help pleasantly (power of community) had an average score of 203. That equaled 61.52.

Tenth, item number 39: My friends and I have regularly persuaded to do good activities (power of peer and activity) had an average score of 206. That equaled 62.42%.

Table 4.6 The top 10 strongest life assets according to their percentages (n = 110)

No.	Items	Power	Life assets		
			Maximum Score	Average Score	Percent
1	19) I feel safe, warm and happy while staying in my family.	Family	330	299	90.61
2	18) I have the guardian who promotes, supports and helps my learning.	Family	330	294	89.09
3	16) I have got love, warmth, care and good support from my family.	Family	330	293	88.79
4	28) I want to have good academic achievements, not take advantage of others, and have sharing with others.	Wisdom	330	285	86.36
5	21) I have the guardian who is my good model.	Family	330	280	84.85
6	10) I dare to reject risk behaviors (e.g. sexual intercourse, narcotics, violence and bad media).	Self	330	276	83.64
7	1) I believe that helping other people is so valuable.	Self	330	273	82.73
	22) I have the guardian who encourages me to do what I like or want to do.	Family	330	273	82.73
8	25) I feel safe while staying in my educational institute.	Wisdom	330	271	82.12

Note Percentage is a percentage score of each item that can be calculated by this following formula:

$$\text{Percentage} = \frac{\text{sum score of each item} \times 100}{\text{total score of each item}}$$

(total score of each item = n x 3)

Table 4.6 The top 10 strongest life assets according to their percentages (cont.) (n = 110)

No.	Items	Power	Life assets		Percent
			Maximum Score	Average Score	
9	11) I have tried to settle my conflicts by using my intelligence rather than emotions (no use of violence).	Self	330	265	80.30
10	15) I feel satisfied with my life.	Self	330	263	79.70

Note Percentage is a percentage score of each item that can be calculated by this following formula:

$$\text{Percentage} = \frac{\text{sum score of each item x 100}}{\text{total score of each item}}$$ (total score of each item = n x 3)

Data in Table 4.6 indicated that the sample had these following life assets of the highest amount.

First, item number 19: I feel safe, warm and happy while staying in my family (power of family) had the average score of 299 which equaled 90.61%.

Second, item number 18: I have the guardian who promotes, supports, and helps my learning (power of family). The average score was found to be 294 which equaled 89.09%.

Third, item number 16: I have got love, warmth, care and good support from my family (power of family) had an average score of 141. The percentage was 88.79.

Fourth, item number 28: I want to have good academic achievements, not to take advantage of others, and have sharing with others (power of wisdom), the average score was 285 which was equivalent to 86.36%.

Fifth, item number 21: I have the guardian who is my good model (power of family) was found to have the average score of 280 which equaled 84.85%.

Sixth, item number 10: I dare to reject risk behaviors (e.g. sexual intercourse, narcotics, violence and bad media; power of self) had the average score of 153. That was 46.36%.

Seventh, item number 1: I believe that helping other people is so valuable (power of self) and item number 22: I have the guardian who encourages me to do what I like or want to do (power of family) had an average score of 273 which was equivalent to 82.73%.

Eighth, item number 25: I feel safe while staying in my educational institute (power of wisdom) had an average score of 271. That was 82.12.

Ninth, item number 11: I have tried to settle my conflicts by using my intelligence rather than emotions (no use of violence; power of self), an average score was 265 which equaled 80.30%.

Tenth, item number 15: I feel satisfied with my life (power of self) had an average score of 263 which was equivalent to 79.70%.

Section 3: Additional analysis

The result that is presented in this section is the analysis of the relationship between demographic information and life assets of academically talented students. Details are as follows:

3.1 Relationship between demographic information and life assets of academically talented students

The author selectively presents an interesting data namely, analysis of relationship between life assets and the following variables: gender, educational level and parents' marital status. The data presented in this section are frequency distributions and percentages of those whose life assets passed, and life assets of those whose life assets failed the criteria along with the analysis of the relationship. Details are illustrated in Table 4.7 - 4.9

Table 4.7 Relationship between gender and five powers of life assets (n= 110)

Life assets	Male (n=94)		Female (n=16)		*p*-value
	Frequency	%	Frequency	%	
Power of self					
Pass	86	91.5	15	93.8	.760
Fail	8	8.5	1	6.3	
Total	94	100	16	100	
Power of family					
Pass	86	91.5	15	93.8	.760
Fail	8	8.5	1	6.3	
Total	94	100	16	100	
Power of wisdom					
Pass	72	76.6	12	75	.890
Fail	22	23.4	4	25	
Total	94	100	16	100	
Power of peer and activity					
Pass	66	70.2	9	56.3	.268
Fail	28	29.8	7	43.8	
Total	94	100	16	100	
Power of community					
Pass	30	31.9	7	43.8	.354
Fail	64	68.1	9	56.3	
Total	94	100	16	100	

Note Pass refers to those whose average score of life assets was 60% or higher.
Fail refers to those whose average score of life assets was lower than 60%.

Table 4.7 describes result analysis of relationship between gender and life assets by Chi-square test of independence. The results suggested that there were no relationship between gender and any power of life assets.

Table 4.8 Relationship between education level and five powers of life assets (n= 110)

Life assets	High school 1st Year (n=27)		High school 2nd Year (n=60)		High school 3rd Year (n=23)		*p*-value
	Frequency	%	Frequency	%	Frequency	%	
Power of self							
Pass	25	92.6	53	88.3	23	100	.219
Fail	2	7.4	7	11.7	0	0	
Total	27	100	60	100	23	100	
Power of family							
Pass	24	88.9	56	93.3	21	91.3	.779
Fail	3	11.1	4	6.7	2	8.7	
Total	27	100	60	100	23	100	
Power of wisdom							
Pass	21	77.8	43	71.7	20	87	.334
Fail	6	22.2	17	28.3	3	13	
Total	27	100	60	100	23	100	
Power of peer and activity							
Pass	17	63	41	68.3	17	73.9	.709
Fail	10	37	19	31.7	6	26.1	
Total	27	100	60	100	23	100	
Power of community							
Pass	9	33.3	20	33.3	8	34.8	.991
Fail	18	66.7	40	66.7	15	65.2	
Total	27	100	60	100	23	100	

Note Pass refers to those whose average score of life assets was 60% or higher.

Fail refers to those whose average score of life assets was lower than 60%.

Table 4.8 describes result analysis of relationship between education level and life assets by Chi-square test of independence. The results suggested that there were no relationship between education level and any power of life assets.

Table 4.9 Relationship between parents' marital status and five powers of life assets (n= 110)

Life assets	**Parents are together (n=103)**		**Parents are not together (n=7)**		***p*-value**
	Frequency	%	Frequency	%	
Power of self					
Pass	97	94.2	4	57.1	.001***
Fail	6	5.8	3	42.9	
Total	103	100	7	100	
Power of family					
Pass	96	93.2	5	71.4	.042*
Fail	7	6.8	2	28.6	
Total	103	100	7	100	
Power of wisdom					
Pass	81	78.6	3	42.9	.031*
Fail	22	21.4	4	57.1	
Total	103	100	7	100	
Power of peer and activity					
Pass	73	70.9	2	28.6	.020*
Fail	30	29.1	5	71.4	
Total	103	100	7	100	
Power of community					
Pass	37	35.9	0	0	.052
Fail	66	64.1	7	100	
Total	103	100	7	100	

Note Pass refers to those whose average score of life assets was 60% or higher.
Fail refers to those whose average score of life assets was lower than 60%.
* p< .05, ** p< .01, *** p< .001

Table 4.9 describes result analysis of relationship between parents' marital status and life assets by Chi-square test of independence. The results were as follows:

1) Power of self

The result suggested that the relation between parents' marital status and power of self was significant, $\chi^2 = 11.965$, $p < .001$.

A close examination of students whose power of self passed the criteria suggested that students whose parents were living together passed the criteria more than students whose parents were not living together (the percentage were 94.17 and 57.14 respectively).

Further examinations indicated that among students whose parents were living together, 5.83% failed the criteria. It was a smaller number compared to the number found among students whose parents were not living together which was 42.86%.

2) Power of family

The result suggested that the relation between parents' marital status and power of family was significant, $\chi^2 = 4.137$, $p < .05$.

A close examination of students whose power of family passed the criteria suggested that students whose parents were living together passed the criteria more than students whose parents were not living together (the percentage were 93.20 and 71.43 respectively).

Further examinations indicated that among students whose parents were living together, 6.80% failed the criteria. It was a smaller number compared to the number found among students whose parents were not living together which was 28.57%.

3) Power of wisdom

The result suggested that the relation between parents' marital status and power of wisdom was significant, $\chi^2 = 4.650$, $p < .05$.

A close examination of students whose power of wisdom passed the criteria suggested that students whose parents were living together passed the criteria more than students whose parents were not living together (the percentage were 78.64 and 42.86 respectively).

Further examinations indicated that among students whose parents were living together, 21.63% failed the criteria. It was a smaller number compared to the number found among students whose parents were not living together which was 57.14%.

4) Power of peer and activity

The result suggested that the relation between parents' marital status and power of peer and activity was significant, $\chi^2 = 5.407$, $p < .05$.

A close examination of students whose power of family passed the criteria suggested that students whose parents were living together passed the criteria more than students whose parents were not living together (the percentage were 70.87 and 28.57 respectively).

Further examinations indicated that among students whose parents were living together, 29.13% failed the criteria. It was a smaller number compared to the number found among students whose parents were not living together which was 71.43%.

5) Power of community

The result suggested that there was no relationship between parents' marital status and power of community, $\chi^2 = 3.789$, p = n.s.

CHAPTER V
DISCUSSIONS, SUMMARIES AND SUGGESTIONS

The present research is a descriptive work that aimed to document life assets of academically talented students: Case study of the participants in International Mathematics and Science Olympiad (2013).

The sample in this study was 110 high school students who participated in the second training for International Mathematics and Science Olympiad (2013). Two sets of surveys were used the research tools: a demographic information questionnaire and the Positive Model Survey Tool of Life Assets of Thai Children and Youth (Youth version).

The author analyzed the data by SPSS for Windows. Descriptive statistics i.e. frequency distribution, number, percentage, mean and standard deviation as well as an additional analysis namely Chi-square: test of independence were run in order to examine the relationship between demographic information and life assets of academically talented students. Further, Microsoft Excel was used to calculate scores of each power of life assets according to the method developed by Team of Children and Youth Program (2010).Following are result summaries, discussions and suggestions.

Result Summaries

1. Demographic Information of the Sample

The sample of this study was 110 high school students who participated in the second training for International Science Olympiad (2013). Most samples were male students. The average age of the sample was approximately 17 years old. Most were in their second year in high schools. Their GPA was averagely 3.92. Most had an aptitude for chemistry and biology followed by mathematics, informatics and physics

respectively. Almost all samples were Buddhist, living with their parents and resided in Bangkok or its vicinities.

2. Life assets of academically talented students

On average, the sample had overall life assets of 68.94% which was considered to be in moderate level. When looking closely at each power of life assets, it was found that 4 in 5 power passed the criteria e.g. power of self was at the good level (74.06%), power of family was at the excellent level (82.39%), power of wisdom and power of peer and activity were at the moderate level (68.82% and 63.08% respectively). However, power of community was found to be at the low level (50.45%) which failed the criterion.

Analysis of the top 10 weakest and strongest assets of the sample indicated,

1) The top 10 the weakest life assets were as follows:

1.1) I have neighbors who pay attention to me and give me the spirit (35.76%)

1.2) I have regularly participated in voluntary activities in my community and I have neighbors who have monitored and cared for children and youth's behavior so that they behave appropriately (40.30%).

1.3) I am assigned to take roles and duties valuable and useful for my community (42.73%).

1.4) I can regularly talk to, and share learning about media, e.g. radio, TV and other media with my teacher (43.33%).

1.5) I feel that the community members have focused and valued the children and youth (45.76%).

1.6) I have regularly participated in religious activities or rite (46.36%).

1.7) I am eager for community wisdom and culture (49.36%).

1.8) I do my homework or review my lessons every day (51.21%).

1.9) I have relatives or adults apart from my guardian, who I can consult or ask for help pleasantly (61.52%).

1.10) My friends and I have regularly persuaded to do good activities (62.42%).

2) The top 10 the strongest life assets were as follows:

2.1) I feel safe, warm and happy while staying in my family (90.61%)

2.2) I have the guardian who promotes, supports and helps my learning (89.09%).

2.3) I have got love, warmth, care and good support from my family (88.79%).

2.4) I want to have good academic achievements, not take advantage of others, and have sharing with others (86.36%).

2.5) I have the guardian who is my good model (84.85%).

2.6) I dare to reject risk behaviors (e.g. sexual intercourse, narcotics, violence and bad media) and I love and feel attached to my educational institute (83.64%).

2.7) I believe that helping other people is so valuable and I have the guardian who encourages me to do what I like or want to do (82.73%).

2.8) I feel safe while staying in my educational institute (82.12%).

2.9) I have tried to settle my conflicts by using my intelligence rather than emotions (no use of violence) (80.30%).

2.10) I feel satisfied with my life (79.70%).

3. Relationship between demographic information and life assets of academically talented students

Data analysis of the relationship of demographic information and life assets suggested that gender and years in high school were not related with any power of life assets. However, parents' marital status was found to be significantly related to life assets at the significance level of .001 with power of self and at the significance level of .05 with power of family, power of wisdom and power of peer and activity. Life assets of students whose parents were living together passed the criteria more than life assets of students whose parents were not living together. Meanwhile, the

students whose life assets failed the criteria were found to have parents who were not living together more than having parents living together. Lastly, power of community did not have a significant relation with parents' marital status.

Discussions

1. Life assets of academically talented students

The research suggested that the sample had overall life assets of 68.94% which was considered to be at the moderate level. Examinations of power of life assets indicated that 4 powers passed the criteria. Specifically, power of self was at the good level (74.06%), power of family was at the excellent level (82.39%), power of wisdom and power of peer and activity were at the moderate level (68.82% and 63.08% respectively). However, power of community was at the low level (50.45%) which was considered to fail the criteria. Following are discussions concerning each power.

1.1 Power of self was deemed to be an essential core. It was power of having high self-esteem, power of being faithful and confident in oneself and power to build one's skills. The current work founded that power of self of the sample was at the good level. Their score was high in certain items: daring to reject risk behaviors (e.g. sexual intercourse, narcotics, violence and bad media), trying to solve conflicts with intelligence rather than emotion, they value helping others and they were satisfied with their life. The data indicated that academically talented students possessed important elements of power of self i.e. they had high self-esteem and they behaved in positive manner. This finding coincided with the previous research suggesting that the teenagers who were successful in school tended to have positive feelings towards themselves, proud of themselves, had an ability to adapt and that they were socially accepted (Pongkan, 1997; Promchai, 2010) which resulted in them being confident, felt that they were of value and satisfied with their life. These perceptions would encourage them to develop their skills such as skill to reject risk behaviors or skill to build a relationship with others e.g. solving conflicts with peace and being altruistic.

However, there was an interesting point about the result regarding power of self. There were weak assets i.e. to tell the truth, to adhere to their beliefs although they sometime differ from those of others, to plan and being decisive before taking an action and to have a precise goal in life. They were all found to be at the moderate level and this result concurred with the previous work that studied other samples (Tripathi, 2006; 2011a; 2012b). This suggested that although this group of adolescents was academically competent and had higher intelligence than other groups of teenagers, their tendency to express different opinions, to tell the truth, to systematically think (to plan, to decide and to make a goal in life) were similar to those of other groups of young people. These characteristics are essential life skills that would lead a person to good life (Panich, 2011). They are the products of attitude that have been shaped by family since birth and by having a good role model. The important thing is to encourage this group of adolescents to embrace different attitudes and how to benefit from varied thoughts. They should be able to express a unique idea in an appropriate situation and to be sufficiently honest to always tell the truth. As for planning, decision making and having life purpose, these could be promoted by giving teenagers a chance to involve in making a decision as well as to plan and establish their life goal by themselves. They should be able to analyze advantages and disadvantages of things, to make a goal and to consider their alternatives before they decide on an effective way to reach the goal. It is true that these assets were not considered to fail the criteria but if they could be enhanced, the sample would possess stronger power of self which is an important power of an individual.

1.2 Power of family is similar to a life shield. Namely, family is the most influential environment on children and adolescent behavior, particularly in Thai society. This is due to the fact that family is the first and the most important institution in the process of shaping and creating personality of children and teenagers. Good family would help in prevention or reducing potential social problems. The present research found that the sample had power of family at the excellent level. Furthermore, most assets in the top 10 strongest assets were found to be in this power. Specifically, the asset regarding the feeling of safety, warmth and happiness in the family was found to be at the highest level. This finding was in line with the proposition of Tripathi (2011b) arguing the meaningful indicator of power of family to

be a good relationship with love and warmth. It was evident that this group of academically talented students lived with families that were loving, warm and caring. Also, they were positively encouraged by their family. The result from the present work corresponded with the study of Starkman, Scales & Roberts (1999) and Scales & Leffert (2004) which found that certain developmental assets i.e. to be loved, supported and taken care of by one's parents were associated with academic success.

Moreover, the result that coincided with that from research of Office of the Permanent Secretary, Ministry of Education (2006) which stated that guardians of students who accomplished in school loved, were warm and took good care of the students. Likewise, Sripanich (2003); Deenonpoh (2011) and Wall, Covell & Macintyre (1999) found that encouragement from parents and home environment were the factors that influenced academic achievement. Additionally, Moonmuang (1997) suggested that raising a child with love and other behaviors of parents such as to help and fix a problem or to give advices, did not directly affect academic achievement. However, they had impact on emotion or psychological state of children e.g. their motivation to study was boosted, they had positive attitude towards learning as well as to have characteristics that facilitate study in school. Therefore, home environment that promotes learning of students i.e. to have a family member who is loving, warm, in harmony, who helps and supports a child's studying, who encourages a student to be patient, to study hard and to aim for promising future promotes academic success of a student.

Nonetheless, there are certain assets of power of family that should be improved. Namely, the score of the assets "to always be able to discuss about media content with the family" and "to be able to ask for advices from family" were found to be relatively low when compared to other assets in the same power. Although the study addressing a relationship in Thai families by ASEAN Institute for Health Development, Mahidol University (2009) indicated that 58.7% of the sample mostly watched television and listened to radio with their family members, it was clear that merely taking part in an activity did not necessarily lead to having interaction. In other words, there was no exchange of the idea. It is possible that families mostly discuss certain major topics in life such as study and work. Because in present Thai society, both parents work in order to take care of the family while children spend

more time outside of the house, this life style possibly leads to inadequate time for family members to talk about media contents. Hence, parents and children should be encouraged to have a conversation and discussion during or after media exposure in order for the members to learn together, for children to learn how to distinguish fantasy and reality, how to choose helpful media and how to effectively use technology to help their learning. Moreover, communication skill within family is substantial because it would result in effective and creative communication that inducing healthy relationship among the family members (Dechakoop, 2005).

1.3 Power of wisdom is an influential power for people who are in their school age. Because teenagers attend school, school especially teachers have an important role to create life skills. The finding indicated that the sample had the moderate level of power of wisdom. The asset with the 3 highest scores were “I want to have good academic achievements, not to take advantage of others, and have sharing with others” followed by “I love and feel attached to my educational institute” and “I feel safe while staying in my educational institute”. This finding reflected that in addition to be competent in studying, the academically talented students were kind and shared with others. Besides, this group of students was found to have positive attitude towards their school and school environment & ambiance. The results were in line with other studies suggesting that state of school system, study attitude as well as good feelings towards teachers and school positive correlated with academic achievement. In other words, to be satisfied with the institute, to have good relationship with teachers and fellow students also to value study led to positive learning environment that in turn induced the students to be motivated to study and to be able to adjust to study and resulting in the students to succeed in school. On the contrary, if a student had negative attitude towards study, they would be bored, frustrated and exasperated. Inevitably, their grade would be negatively affected (Sarnsan, 2000; Changpradab, 2007; Scale & Gibbons, 1996; Starkman, Scales, & Roberts, 1999; Scales & Leffert, 2004).

The asset that should be improved in this power is the interest in community wisdom and culture that other groups of adolescents were similarly found to be lacking. Tripathi (2011b) noted that in Thai society, power of wisdom was included only in the educational curriculum while extracurricular or the activity to

promote learning about communal wisdom was scarce or that it was promoted only in the particular community. This concurred with a study suggesting that a number of valuable Thai wisdom had been forgotten or that they had been replaced by foreign wisdom that was considered to be inappropriate. Furthermore, Thai teenagers did not have a clear role model in their community. Hence, they overlooked wisdom of their community and paid attention to wisdom from outside of the community following globalization (Settaboot et al., 1998). It is clear that education in school system mostly emphasizes universal knowledge or western wisdom. Thai wisdom is yet to be revived and to be included in the curriculum as well as in daily life. There is nobody who can pass it on as people have neglected and become uninterested in it. Also, the creation of Thai wisdom is lacking (Santonpipat, 2007). Education is important because it would preserve communal wisdom and culture. Therefore, school needs to instill positive attitude and value regarding Thai wisdom by every means i.e. in the curriculum, in various types of activity or by encouraging students to apply the wisdom in their daily life. Additionally, school can give students an opportunity to learn about wisdom of their community by collaborating with a person in the community who is knowledgeable in the area.

Additionally, a score of the item addressing exchanges of media content between students and teachers was low which was congruent with other findings suggesting that assets concerning media were typically found to be at the low level regardless of the sample (Tripathi, 2006; 2011a; 2012b). Currently, media is a highly influential means on value and way of life. It triggers changes in behavior of adolescents. On the contrast, it does not promote learning or morals as violent content and inappropriate language are clearly seen on television shows along with most information on the Internet that stresses on sexual content (Office of Permanent Secretary, Ministry of Education, 2012). It is not easy to block the media from young people because technology has permeated in our daily life and that there are several means of communication that could be easily accessed. The more important concern would be appropriate media consumption. We could begin by building relationship and talking about the media with understanding such as to give advices to teenagers about useful media and harmful ones, how to learn of advantages and disadvantages

including how to effectively use media. This is the process that requires contribution of family and school.

1.4 Power of peer and activity is an important power to young people because they are in the age of energy, curiosity and they like to participate in group activities with their friends. If an adolescent has a good peer and engages in productive activities, their life assets would be positively developed. On the other hand, if they have a bad peer they would be at a risk of having life problems in the future. The present research indicated that the sample had the moderate level of power of peer and activity. This suggested that this group of academically talented students was rather capable of building positive relationship with their peer. The result is in accordance with the research of Pongpeta (2010) and Changpradab (2007) that documented the factors influencing relationship between students and their peer. They found that students whose grade was high had good relationship with their peer. This was because students who were academically successful were proud and confident in themselves, they were enthusiastic in their study, they also asked for advices from a teacher or a friend when they did not completely understand a lesson. These actions required them to interact and maintain relationship with others, to work together with friends and to positively influence each other. In turn, they would have better relationship with their peer.

When analyzing the assets, it was found that the asset with the highest score was having a good role model among peer. This finding reflects that the sample chose to build a relationship with good peer who encouraged each other to do good behaviors. Psychological development of teenagers explained this i.e. people in this age care about their peer and that they want to be accepted by their peer. A peer influences young people's thoughts, values, morals, expression and life-problems solving. In other words, there is learning and imitating among peers. Therefore, if a person has a good peer, they would engage in productive behaviors together (Ketumarn, 2005). This was in line with a longitudinal study of Jessor, Turbin and Costa (1998) which found that having a peer who is a good role model is one of the factors preventing risk behaviors.

Additionally, the current study found that the sample and their peer persuaded each other to take part in beneficial activities less frequent than to

participate in their favorite recreational activities such as arts, music, and drawing. Clearly, this group of adolescents had leisure activities or hobbies they are fond of doing. However, most activities they engaged in were an individual activity rather than a group activity and they were activities that benefited the individuals, not the group or the society. Therefore, these students should be encouraged to take part in extracurricular activities together with their peer. They should engage in activities involving their preference and aptitude because the activities would induce them to prosper their knowledge as well as to learn how to work as a team. Group process would help them learn how to interact with each other so if they are to collaborate on a project or an activity, they would have a chance to develop themselves and their social skills. Tripathi (2011b) argued that extracurricular activities were as important as educational curricular ones as both contributed to ability improvement of adolescents whether in thoughts process or behaviors. Therefore, it is vital that adults appropriately support young people so they could develop themselves.

Another finding from the present work corresponding with other research regarded the most inadequate asset of power of peer and activity i.e. participation in religious activities. The data from Thai youth survey in 1998 revealed that 70% of teenagers took part in religious events and festivals for only about 1-2 times in a year. However, they had quite strong belief in the religion. This suggested that Thai adolescents still valued their religion and relied on it regardless of their chance to practice or take part in religious activities. Hence, young people should be encouraged to regularly participate in religious rituals and practices by instilling them with positive attitude towards the religion as well as promoting the reliance on religion i.e. to have faith in the religion and to apply its doctrines in daily life. It should begin with family. Adults should teach children or teenagers about religion, be a good role model by learning and applying the doctrines in the family and expressing their faith by practicing it in real life on daily basis including regularly taking part in rituals such as making merits, food offerings to monks, listening to sermon, and light waving rite. These are the ways to allow the adolescents to acknowledge the value of religious rituals.

1.5 Power of community is power resulting from a group of people who live together with kindness, friendliness, warmth, safety, public mind, who have activities together in the community. The present work founded that the sample

had the low level of power of community (failed the criteria). Specifically, most assets of the top 10 wekest assets of the sample were assets in power of community e.g. to have a neighbor who monitors, supports and cares for them, to be given an important task in the community and to participate in beneficial activities in the community. The result coincided with the findings from other research conducting with other samples (Tripathi, 2006; 2011a, 2555b). Evidently, this group of adolescents still lacks interaction with the community and they rarely participate in volunteer activities. The finding corresponded with the research suggesting that Thai society is becoming an individualistic society, namely people consider their personal need more than that of the whole community. Although a number of sectors promote group activities, participation in activities that are beneficial to the society is still low (Office of Permanent Secretary, Ministry of Education, 2012). The Thai youth survey in 1998 suggested that the reason that young people did not actively involve in helping their community was because they believed that behaving themselves was considered as helping the society. A network connecting family, school and community led by parents, teachers, peers or the leader of community needs to be established. Teenagers should be encouraged to actively participate in the community. A study of Smrekar, Guthrie, Owens & Sims (2001) found that youth development plan should include a program that encourages participation of family and community because this would contribute to students' academic achievement. Furthermore, Sander (1998) demonstrated that if a student receives teacher and parental academic support and involves in a church at the same time, their academic self-concepts and school behaviors are significantly affected.

Meanwhile, this group of adolescents was found by the present research to feel warm, happy and proud of their lifestyle when they were in the community. The result also suggested that they had a good role model in the community whom they can comfortably ask for help and advices. This reflected that the contemporary community was still based on the feeling that the members feel secured, safe, sufficiently trusting and confident to talk, give advices and rely on each other. From the research finding mentioned aboved, the author believes that we can utilize a strong point to improve and build power of community i.e. the students felt that they had a good role model in the community who was not their parents. This

assumption is supported by the research by Srisomboon (2007) finding that having a good role model who is a person's significant person influenced public mind of students. This could be explained by Bandura's (1989) theory of social learning. It states that a role model who has a distinct feature is more likely to affect a person's behavior more than a role model who does not have any distinct feature. This is because a model with a distinct feature helps a person remembering more elements and this in turn leads to a higher chance of behavioral imitation. In other words, when a student sees a role model engages in a positive behavior, the student's behavior would consequentially positive. Likewise, if a student is exposed to a behavior reflecting that the person has public mind, the student's behavior would express public mind as a result. Therefore, an emphasis of role models in a community becomes an important learning source for students. It will be the beginning for students to learn to be conscious and have public mind afterwards.

2. Demographic information and life assets of academically talented students

The present work found that gender and grade were not related to any power of life assets. It means the numbers of students who passed and did not pass the criteria of life assets were not associated with gender or level of grade. However, parent's marital status significantly correlated with life assets in the facet of power of self, family, wisdom and peer & activity. It indicated that the samples whose parents were together passed the criteria more than those whose parents were not together. This might be due to the fact that family is the starting point that teaches, instills and shapes children in every aspect such as morals, ethics and attitudes. Everything that a child has learned from the parenting of their family would become the foundation of their personality, thoughts, self-pride and self-esteem. This assumption is supported by the study that found parenting to be the variable that affected self-esteem the most (Meemook, 2009). This means, parenting or taking care of a child is highly influential on the development of children's self-esteem. Coopersmith (1976) stated that having self-esteem led to self-pride. A person who was proud with themselves was a person who believed in themselves and felt that they had worth, ability, potential, value and significance for the society. These feelings could derive from self-perception as well as

by being accepted by other people such as father, mother, teachers or friends. They could be induced in every developmental stage but the important stage was in adolescence because people in this period were attempting to find their identity. According to the psychosocial development theory of Erikson (1968 cited in Fleming, 2004), if a teenager was proud in themselves in a good way, they would be confident, have high self-esteem and they would be able to realize their abilities. Most teenagers had positive views namely they are proud in themselves, they had positive attitude towards their school, they believed and were faithful in their abilities and they believed that they could solve problems in their life (Berk, 1998). Thus, it can be said that self-esteem and self-pride, which are important cores of life asset's power of self, are influential factors that would enable an adolescent to build a good relationship with other people and to develop life skills which are elements of other power of life asset.

Because life assets consist of internal asset (power of self) and external asset (power of family, power of wisdom, power of peer & activity and power of community) and these assets are interconnected. Hence, a teenager whose parents are living together or a student whose family is complete would possess a stronger power of family. Subsequently, their power of self, power of wisdom and power of peer & activity would be stronger. On the other hand, a single parent who raises their children alone would have more responsibility in taking care of the family and this would lead to an insufficient amount of time of appropriate teaching and helping children in their study resulting in children potentially encounter stress and loneliness. Moreover, it was found that children whose parents were not together had lower self-esteem than children whose parents were living together (Chooto et al., 2002). These characteristics may explain why children who lived with a single parent had lower level of life assets in different power when being compared to children whose family was complete. Clearly, family environment such as parenting, atmosphere, relationship in family and attitudes of parents towards their children contribute to life assets development. Therefore, the aforementioned grounds may explain why the children whose parents were living together had higher level of life assets and passed the criteria more than the children whose parents were not together. Despite the result suggesting that the students whose parents were together passed the criteria of life assets more than the students whose parents were not together, when examining the

number of the students whose parents were not together who passed the criteria in each power, the highest number was in power of family. In other words, more students passed the criteria in power of family than in other power. This reflected that power of family was the strongest power of this group of students.

As for power of community, the relationship with the power and parent's marital status was not found. However, when examine the numbers of students who passed and did not passed the life assets criteria, it can be seen that the number of students who did not pass the criteria was higher than the number of those who passed the criteria in both groups i.e. the group who was living with parents and the group who was not. Moreover, none of the students in the latter group passed the criteria of power of community. This result reflected that a factor related to family might be associated with community outcomes such as to coexist with kindness, to be friendly, to participate in activities together including to have public mind. Because family is the first institute that leads to external relationship systems such as community. Each system affects each other (Bronfenbrenner, 1986). Furthermore, family is the first social group that has a role to teach, to instill and shape behaviors according to roles and expectations of the society as well as to give love and warmth to a child. Hence, closeness of parents and children is considered to be a rudiment to generate public mind. Behaviors of family members are influential as well because children imitate and take after the members' behaviors (Saigaew, 2003). This concurs with Bandura's (1989) theory of social learning stating that most of our learning is affected by models. Live models are influential towards learning and behavior construction of children because they are observed first-hand. Parents are model who are close to students thus their behaviors affect their children. Namely, if parents have public mind, students are more likely to have public mind. This was illustrated in different research that altruistic behaviors of parents had positive correlation with altruistic behaviors of children. Additionally, it was found that if parents or guardians teached and instilled positive characteristics to children, raised them with love and encouraged them to be righteous, the children tended to engage in desirable behaviours (Ma et al., 2000; Srisomboon, 2007; Tongmeeleua et al., 2007).

It is clear that this research did not find any relationship of family types and life assets but it rather suggested that regardless of the students' family type, the

number of students who passed the life assets criteria was less than the number of students who failed the criteria. Unfortunately, the author did not find any research that specifically addresses this topic or relevant. Therefore, it may be worthy for prospective research to look into the relationship of family patterns and life assets i.e. to investigate a direction of their relationship or to seek for a factor influencing their relationship. This should be explored in depth in the future.

Summary

The results showed that academically talented students in this research had higher level of power of self and power of family of life assets when compared to other samples (Tripathi, 2006; 2011a; 2012b). This reflected that this group of students received love and care from their family and it resulted in them having high self-esteem, behaving appropriately and being capable of building good relationship with other people. Although, the current work found that the students who were in two-parent family had more life assets than the students who lived with in single-parent family in almost every power, it could be seen that power of family was the strongest power of both groups of students. As for power of wisdom, power of peer & activity and power of community, certain aspects should be improved specifically extracurricular activities such as media, community wisdom, beneficial activities for public or volunteering as well as religious rituals and practices. Adolescents, family, school and community should be encouraged to actively involve in these activities. This would facilitate academically talented students to reach their potential and they would become citizens with good quality who would develop their country in the future.

Limitations

1. Because the samples of this study were randomly selected, the result of this research is not likely to be generalize to overall population.

2. The current work was a descriptive research that aimed to gather relevant information regarding present situation or to explore existing facts in order to

explain characteristics of the sample but it was not able to analyze the causation of the variables in the phenomenon found in the research.

Suggestions

1. Suggestions regarding implication

The results from this research would be useful to academically talented students and people who are associated with the students. The results can be adopted in development and improvement of life assets as follows:

1.1 For the students: The findings would allow them to be more insightful about themselves as well as realizing their advantages and disadvantages. In turn, the comprehension would help them to improve themselves so they can become capable, good, happy and valuable to themselves and to the society.

1.2 For parents or guardians: This research illustrated that familial relationship, parenting and attitude of parents are significant because they contribute to good life assets development. If parents have knowledge and understanding about the nature of their children, have love and care for them, encourage their development in different aspects and appropriately respond to their needs, young people would grow up healthily in the aspect of body, intelligence and mind.

1.3 For educational institutes: The findings can be utilized as a guideline for the formulation of appropriate activities promoting life assets development that correspond with the needs and nature of this group of students.

1.4 For sectors such as government, private sectors and community: This research boosts the acknowledgement of the importance of the policy of life assets development for academically talented students. It also adds on the process of the policy making. Furthermore, it urges the involvement of the adolescents, family, school and community.

2. Suggestions for future research

2.1 The present work solely addressed life assets of academically talented students. Future research should expand the investigation into typical students in order to see if there would be a difference in level of life assets if academic achievement varies.

2.2 The current research collected data from students only. This might have led to incomplete data that do not reflect reality. Thus, future researchers should survey life assets of guardians in order to derive information that is more valid and complete.

2.3 Experimental studies should be carried out e.g., by designing a life assets development program for academically talented students and evaluate the effectiveness of the program i.e. if the life assets of students increase after the program. Qualitative studies can also be conducted with the purpose of gaining more details.

2.4 Other factors should be looked into such as the curriculum or teaching process of training of Olympiad, to see if there is any difference in pattern than the teaching in school.

REFERENCES

Bandura, A. (1989). Social cognitive theory. In R. Vasta (Ed.), *Annals of child development*. *Vol.6. Six theories of child development* (pp. 1-60). Greenwich, CT: JAI Press.

Bellanca, J., & Brandt, R. (Eds.). (2010). *21st Century skills: Rethinking how students learn*. Bloomington, IN: Solution Tree.

Benson, P.L. (1999). Beyond the "village" rhetoric: Creating healthy communities for children and adolescents. *Positive youth development: Research, commentary, and action*. (pp.19-23). Sacramento: California Department of Education.

Benson, P.L. (2002). Adolescent development in social and community context: A program of research [Electronic Version]. *New Directions for Youth Development, 2002*, 123–148.

Benson, P.L., Scales, P.C., Hamilton, S.F., & Sesma, A. (2006). Positive youth development so far: core hypotheses and their implications for policy and practice [Electronic Version]. *Search Institute Insights & Evidence, 3,* 1-13.

Benson, P.L. (2007). Developmental Assets: An overview of theory, research, and practice. In K. Silbereisen & R. M. Lerner (Eds.). *Approaches to Positive Youth Development* (pp. 33-58). Thousand Oaks, CA: Sage.

Benson, P. L., Roehlkepartain, E. C., & Sesma, A. (2004). Tapping the power of community: building assets to strengthen substance abuse prevention [Electronic Version]. *Search Institute Insights & Evidence, 2*, 1-14.

Berk, L.E. (1998). *Development through the lifespan*. Boston: Allyn&Bacon.

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research Perspective [Electronic Version]. *Development Psychology*, *22,* 723-742.

Carvalho, J. (2007). A causal analysis of developmental assets, behaviors and delinquency among hispanic youth in Texas. Doctoral dissertation. Graduate School, University of Texas at Arlington.

Catalano, R. F., Berglund, M. L., Jeanne-Marie, A. R., Lonczak, H. S., & Hawkins, J. D. (2004). Positive youth development in the United States: Research findings on evaluations of positive youth development programs. *Annals of The American Academy of Political and Social Science, 591,* 98-124.

Coopersmith, S. (1967). *The Antecedents of Self – Esteem*. San Francisco: Freeman.

Dusek, B. J. (1987). *Adolescent development and behavior*. Englewood Cliffs, NJ: Prentice-Hall.

Fleming, J. S. (2004). Psychological perspectives on human development. Retrieved from June 18, 2013 from http://swppr.org/Textbook/Contents.html

Galligan, S. B. (2010). The effect of gender role conflict on adolescent and emerging adult male resiliency [Electronic Version]. *The Journal of Men's Studies, 18*, 3-21.

Jessor, R., Turbin, M. S., & Costa, F. M. (1998). Risk and protection in successful outcomes among disadvantaged adolescents [Electronic Version]. *Applied Development Science, 2,* 194-208.

Kohlberg, L. (1984). Moral stages and moralization: The cognitive-developmental approach. In L. Kohlberg (Ed.), The psychology of moral development: The nature and validity of moral stages. Retrieved from http://www.justinecassell.com/CC_Winter04/pdfs/kohlberg_moral.pdf

Lerner, R. M. (2005). Promoting positive youth development: Theoretical and empirical bases. Paper presented at the workshop on the Science of Adolescent Health and Development, National Research Council, Washington, DC.

Ma, H.K., Shek D.T., Cheung P.C., & Lam C.O. (2000). Parental, peer, and teacher influences on the social behavior of Hong Kong Chinese adolescents [Electronic Version]. *The Journal of Genetic Psychology, 161,* 65-78.

Marland, S. P. (1972, September). *Education of the gifted and talented: Vol. 1, Report to the Congress of the United States by the U.S. Commissioner of Education*. Washington, DC: U.S. Government Printing Office.

Murphey, D. A., Lamonda, K. H., Carney, J. K., & Duncan, P. (2004). Relationships of a brief measure of youth assets to health-promoting and risk behaviors [Electronic Version]. *Journal of Adolescent Health , 34*, 184-191.

Renzulli, J.S. (1978). What makes giftedness? reexamining a definition. *Phi Delta Kappan, 60,* 180-184.

Rew, L. (2005). *Adolescent Health: A multidisciplinary approach to theory, research, and intervention*. Thousand Oaks, CA: Sage.

Sanders, M.G. (1998). The effects of school, family, and community support on the academic achievement of African-American adolescents. *Urban Education, 33,* 395-409.

Scales, P.C., & Gibbons, J.L. (1996). Extended family members and unrelated adults in the lives of young adolescents: A research agenda [Electronic Version]. *Journal of Early Adolescence, 16,* 365-389.

Scales, P. C., & Leffert, N. (2004). *Developmental assets: A synthesis of the scientific research on adolescent development,* 2nd ed. Minneapolis, MN: Search Institute.

Scales, P. & Roehlkepartain, E. (2003). Boosting student achievement: New research on the power of developmental assets [Electronic Version]. *Insights and evidence,1,*1-10.

Search Institute. (2011). Where the asset framework comes from. Retrieved May 31, 2012 from http://www.search-institute.org/research/assets/background

Search Institute. (2012). Developmental assets profile. Retrieved May 31, 2012 from http://www.search-institute.org/survey-services/surveys/developmental-assets-profile

Smrekar, C., Guthrie, J. W., Owens, D. E., & Sims, P. G. (2001). *March towards excellence: School success and minority student achievement in Department of Defense School* (Report presented to the National Education Goals Panel). Nashville TN: Peabody Center for Education Policy, Peabody College Vanderbilt University. Retrieved September 23, 2013 from http://www.govinfo.library.unt.edu/negp/reports/DoDFinal921.pdf

Starkman, N., Scales, P. C., & Roberts, C. (1999). *Great places to learn: How asset-building schools help students succeed*. Minneapolis, MN: Search Institute.

Steinberg, L. (1996). *Adolescence* (4th ed.). Boston : McGraw-Hill.

Wall, J., Covell, K., & Macintyre, P. D. (1999). Implications of social supports for adolescents' education and career aspirations [Electronic Version]. *Canadian Journal of Behavioural Science, 31,* 63-71.

กระทรวงศึกษาธิการ. 2551. *หลักสูตรแกนกลางการศึกษาขั้นพื้นฐาน พุทธศักราช 2551*. กรุงเทพมหานคร: ชุมนุมสหกรณ์การเกษตรแห่งประเทศไทย.

กฤษฎา ศรีพานิชย์. (2546). *ปัจจัยเชิงสาเหตุที่มีอิทธิพลต่อผลสัมฤทธิ์ทางการเรียนวิชาภาษาอังกฤษของนักเรียนชั้นมัธยมศึกษาปีที่ 1 ในโรงเรียนขยายโอกาสทางการศึกษาสังกัดสำนักงานการประถมศึกษา จังหวัดสกลนคร*. วิทยานิพนธ์ปริญญาการศึกษามหาบัณฑิต สาขาวิชาการวิจัยการศึกษา บัณฑิตวิทยาลัย มหาวิทยาลัยมหาสารคาม.

คณะกรรมการส่งเสริมการพัฒนาเด็กและเยาวชนแห่งชาติ. (2555). แผนพัฒนาเด็กและเยาวชนแห่งชาติ พ.ศ. 2555-2559. คัดมาเมื่อ 4 มิถุนายน 2555, จาก http://www.opp.go.th/library/young_2555/book170255.pdf

คณะกรรมการพัฒนาการเศรษฐกิจและสังคมแห่งชาติ. (2551). แผนพัฒนาเศรษฐกิจและสังคมแห่งชาติ ฉบับที่ 11 พ.ศ. 2555-2559. คัดมาเมื่อ 4 มิถุนายน 2555, จาก http://www.nesdb.go.th/Portals/0/news/plan/p11/plan11.pdf

จรรยา เศรษฐบุตร, อัญชลี วรางค์รัตน์, และจิรกิต บุญชัยวัฒนา. (2541). *รายงานการสำรวจสภาวะเยาวชนไทย พ.ศ. 2541*. (เอกสารทางวิชาการหมายเลข 235). นครปฐม: สถาบันวิจัยประชากรและสังคม มหาวิทยาลัยมหิดล.

จิตตินันท์ เดชะคุปต์. (2548). การสื่อสารเพื่อการพัฒนาเด็กและครอบครัว. *วารสารสำนักงาน ป.ป.ส., 20,40-46.* ค้นมาเมื่อ 30 มิถุนายน 2556, จาก http://nctc.oncb.go.th/new/administrator/components/com_fabrik/attachfiles/varasan/v20_2/v20b2_07.pdf

จินดารัตน์ โพธิ์นอก. (5 กันยายน 2556). ทุนชีวิต. *เดลินิวส์*. ค้นมาเมื่อ 22 กันยายน 2556, จาก http://www.dailynews.co.th/article/44/230728

จิราพร ชมพิกุล, ปราณี สุทธิสุคนธ์, เกรียงศักดิ์ ซื่อเลื่อม, และดุษณี ดำมี. (2552). *รายงานการวิจัยสัมพันธภาพในครอบครัวไทย*. นครปฐม: สถาบันพัฒนาการสาธารณสุขอาเซียน มหาวิทยาลัยมหิดล.

ชมพู โกติรัมย์. (2552). ไทยในกระแสโลกาภิวัตน์: การปรับจุดยืนที่ยั่งยืน. คัดมาเมื่อ 16 พฤษภาคม 2554, จาก http://dllibrary.spu.ac.th:8080/dspace/handle/123456789/1509

ช่อ สันธนพิพัฒน์. (2550). แนวทางส่งเสริมภูมิปัญญาไทยในการจัดการศึกษา. *วารสารวิชาการ, 10(4),* 13-18.

ชุตินันท์ มีมุข. (2552). *ปัจจัยที่ส่งผลต่อการเห็นคุณค่าในตนเองของนักเรียนมัธยมศึกษาตอนปลาย อำเภอเมือง จังหวัดเชียงราย*. วิทยานิพนธ์ปริญญาศึกษาศาสตรมหาบัณฑิต สาขาวิชาวิจัยและสถิติการศึกษา บัณฑิตวิทยาลัย มหาวิทยาลัยเชียงใหม่.

ณัฐณิชากร ศรีบริบูรณ์. (2550). *การพัฒนาโมเดลเชิงสาเหตุของจิตอาสาของนักเรียนมัธยมศึกษาตอนปลาย ในโรงเรียนสังกัดสำนักงานคณะกรรมการการศึกษาขั้นพื้นฐาน*. วิทยานิพนธ์ปริญญามหาบัณฑิต สาขาวิชาวิจัยการศึกษา คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย.

ดวงกมล พรหมชัย. (2553). *ปัจจัยบางประการด้านคุณลักษณะส่วนบุคคลและด้านสภาพแวดล้อมที่ส่งผลต่อทักษะชีวิตของนักศึกษาระดับปริญญาตรี มหาวิทยาลัยมหิดล*. วิทยานิพนธ์ปริญญาการศึกษามหาบัณฑิต สาขาการวิจัยและสถิติทางการศึกษา บัณฑิตวิทยาลัย มหาวิทยาลัยศรีนครินทรวิโรฒประสานมิตร.

ทวีศิลป์ สารแสน. (2543). *ความสัมพันธ์ระหว่างองค์ประกอบของสภาพแวดล้อมทางการเรียนในห้องด้านครูผู้สอนกับความพึงพอใจของนักเรียนมัธยมศึกษา*. วิทยานิพนธ์ปริญญาการศึกษาดุษฎีบัณฑิต สาขาเทคโนโลยีทางการศึกษา บัณฑิตวิทยาลัย มหาวิทยาลัยศรีนครินทรวิโรฒประสานมิตร.

ธนิดา ทองมีเหลือ และคณะ. (2550). *ปัจจัยทางจิตสังคมที่ส่งผลต่อจิตสาธารณะของนิสิตมหาวิทยาลัยศรีนครินทรวิโรฒ*. รายงานการวิจัย. คณะมนุษยศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ.

นิตติยา ปภาพจน์. (2540). *การพัฒนาหลักสูตรทฤษฎีจำนวนเสริมสำหรับเด็กที่มีความสามารถพิเศษทางคณิตศาสตร์ ในระดับมัธยมศึกษาตอนต้น*. ปริญญานิพนธ์การศึกษาดุษฎีบัณฑิต สาขาคณิตศาสตร์ศึกษา มหาวิทยาลัยศรีนครินทรวิโรฒ.

นิศา ชูโตและคณะ. (2545). *รายงานการวิจัยเรื่อง การศึกษาเพื่อหามาตรการช่วยเหลือเด็กที่มีปัญหาเนื่องจากการมีพ่อหรือแม่คนเดียว*. สำนักงานคณะกรรมการส่งเสริมและ ประสานงานเยาวชนแห่งชาติ.

ประณต เค้าฉิม. (2549). *จิตวิทยาวัยรุ่น*. เอกสารประกอบการสอนวิชาจิตวิทยาวัยรุ่น คณะมนุษยศาสตร์. มหาวิทยาลัยศรีนครินทรวิโรฒ.

พนม เกตุมาน. (2548). สุขภาพจิตวัยรุ่น. ใน มานี ปิยอนันต์, ชาญชัย วันทนาศิริ, และ ประเสริฐ ศันสนีย์ วิทยกุล (บ.ก.). *เข้าใจ วัยอลวน* (หน้า 87-119). กรุงเทพมหานคร: พี. เอ. ลีฟวิ่ง.

พรพิมล เจียมนาคินทร์. (2539). พัฒนาการวัยรุ่น. กรุงเทพมหานคร: *ต้นอ้อ แกรมมี่.*

เพ็ญพิไล ฤทธาคณานนท์. (2550). *พัฒนาการมนุษย์* (พิมพ์ครั้งที่ 2). กรุงเทพมหานคร: ธรรมดาเพรส.

มูลนิธิส่งเสริมโอลิมปิกวิชาการและพัฒนามาตรฐานวิทยาศาสตร์ศึกษา ในพระอุปถัมภ์สมเด็จพระเจ้าพี่นางเธอ เจ้าฟ้ากัลยาณิวัฒนา กรมหลวงนราธิวาสราชนครินทร์. (2552). โอลิมปิกวิชาการระดับชาติ. คัดมาเมื่อ 7 ตุลาคม 2555, จาก http://www.posn.or.th

รุ่งอรุณ ป้องกัน. (2543). *ความสัมพันธ์ระหว่างความภาคภูมิใจในตน การให้เหตุผลเชิงจริยธรรม และการได้รับการอบรมเลี้ยงดู กับผลสัมฤทธิ์ทางการเรียนของนักเรียนชั้นมัธยมศึกษาปีที่ 3 ในโรงเรียนขยายโอกาสทางการศึกษา จังหวัดขอนแก่น*. วิทยานิพนธ์ปริญญาศึกษาศาสตรมหาบัณฑิต สาขาวิชาจิตวิทยาการศึกษา บัณฑิตวิทยาลัย มหาวิทยาลัยขอนแก่น.

ศรีเรือน แก้วกังวาล. (2553). *จิตวิทยาพัฒนาการชีวิตทุกช่วงวัย (เล่ม 2)* (พิมพ์ครั้งที่ 9). กรุงเทพมหานคร: สำนักพิมพ์มหาวิทยาลัยธรรมศาสตร์.

สถาบันส่งเสริมการสอนวิทยาศาสตร์และเทคโนโลยี. (2525). *รายงานการวิจัยการเสาะแสวงหาพัฒนาและส่งเสริมปรีชาญาณทางวิทยาศาสตร์: การศึกษาคุณลักษณะปรีชาญาณทางวิทยาศาสตร์*. กรุงเทพมหานคร: ผู้แต่ง.

สถาบันส่งเสริมการสอนวิทยาศาสตร์และเทคโนโลยี. (2553ก). ประวัติความเป็นมา. คัดมาเมื่อ 25 มิถุนายน 2555, จาก http://www.ipst.ac.th/index.php

สถาบันส่งเสริมการสอนวิทยาศาสตร์และเทคโนโลยี. (2553ข). แนะนำโครงการจัดส่งผู้แทนประเทศไทยไปร่วมแข่งขันคณิตศาสตร์ วิทยาศาสตร์ โอลิมปิกระหว่างประเทศ. คัดมาเมื่อ 28 กันยายน 2555, จาก http://www3.ipst.ac.th/olympic/

สินีนาฏ ทาบึงกาฬ. (22 พฤษภาคม 2554). เสริมต้นทุนชีวิตให้เด็กเก่งเรื่องดีๆ ที่สร้างได้. *บ้านเมือง*. คัดมาเมื่อ 28 กันยายน 2555, จาก http://www.ryt9.com/s/bmnd/1154269

สุขุม มูลเมือง. (2539). *ผลสัมฤทธิ์ทางการเรียนของนักเรียนชั้นมัธยมศึกษาตอนต้น: การวิเคราะห์รูปแบบความสัมพันธ์โครงสร้างเชิงเส้น*. วิทยานิพนธ์ปริญญาศึกษาศาสตรดุษฎีบัณฑิต สาขาประชากรศึกษา บัณฑิตวิทยาลัย มหาวิทยาลัยมหิดล.

สุชา จันทน์เอม. (2540). *จิตวิทยาพัฒนาการ* (พิมพ์ครั้งที่ 4). กรุงเทพมหานคร : ไทยวัฒนาพานิช.

สุริยเดว ทรีปาตีและคณะ. (2549). *คุณภาพวัยรุ่น: กรณีศึกษานักเรียนสายสามัญ-อาชีพในเขตกรุงเทพมหานครและในจังหวัดชลบุรี เชียงใหม่ นครราชสีมา และสงขลา*. กรุงเทพมหานคร: มหาวิทยาลัยอัสสัมชัญ สำนักวิจัยเอแบคโพลล์.

สุริยเดว ทรีปาตีและคณะ. (2551). *รายงานการวิจัย เครื่องมือวัดต้นทุนชีวิตของเยาวชนไทยทั่วไป.* เอกสาร เอกสารประชุมวิชาการการพัฒนาสติปัญญาเด็กไทย ครั้งที่ 5. กรุงเทพมหานคร.

สุริยเดว ทรีปาตี. (2550). *กลยุทธการสร้างคุณภาพวัยรุ่นไทย* (พิมพ์ครั้งที่ 1). กรุงเทพมหานคร: สำนักงานกองทุนสนับสนุนการสร้างเสริมสุขภาพ.

สุริยเดว ทรีปาตี. (2552). *สร้างต้นทุน (ชีวิต) คุณทำได้.* กรุงเทพมหานคร: รวมทวีผลการพิมพ์.

สุริยเดว ทรีปาตี. (2554ก). *ต้นทุนชีวิต จุดเปลี่ยนสังคมไทย* (พิมพ์ครั้งที่ 1). กรุงเทพมหานคร: เจี๊ยฮั้ว.

สุริยเดว ทรีปาตี. (2554ข). *ต้นทุนชีวิตเด็กและเยาวชนไทย* (พิมพ์ครั้งที่ 5). กรุงเทพมหานคร: ชุมนุมสหกรณ์การเกษตรแห่งประเทศไทย.

สุริยเดว ทรีปาตี และคณะ. (2555ก). คู่มือการใช้เครื่องมือแบบสำรวจต้นทุนชีวิตเด็กและเยาวชน-ไทย (ฉบับเยาวชน) [ออนไลน์]. คัดมาเมื่อ 31 พฤษภาคม 2555, จาก http://province.mculture.go.th/phatthalung/link/prb/tontoonchewit/1/1.pdf

สุริยเดว ทรีปาตี และคณะ. (2555ข). *ฉีดวัคซีนทางสังคมสู่ภูมิคุ้มกันเด็กไทย.* รายงานกิจกรรมต้นทุนชีวิตสู่การเสริมสร้างบริบทเชิงวัฒนธรรม สำนักเฝ้าระวังทางวัฒนธรรม สำนักงานปลัดกระทรวงวัฒนธรรม กระทรวงวัฒนธรรม.

สุฤกษ์ ดีโนนโพธิ์. (2554). *ปัจจัยเชิงสาเหตุที่มีอิทธิพลต่อผลสัมฤทธิ์ทางการเรียนวิชาวิทยาศาสตร์ของนักเรียนชั้นมัธยมศึกษาปีที่ 3 สังกัดสำนักงานเขตพื้นที่การศึกษามัธยมศึกษาเขต 30.* วิทยานิพนธ์ปริญญาครุศาสตรมหาบัณฑิต สาขาวิชาวิจัยและประเมินผลการศึกษา บัณฑิตวิทยาลัย มหาวิทยาลัยราชภัฏชัยภูมิ.

สุเมธ พงษ์เภตา. (2553). *ปัจจัยที่ส่งผลต่อสัมพันธภาพกับเพื่อนของนักเรียนช่วงชั้นที่ 4 โรงเรียนสารสาสน์เอกตรา เขตยานนาวา กรุงเทพมหานคร.* วิทยานิพนธ์ปริญญาการศึกษามหาบัณฑิต สาขาวิชาจิตวิทยาการศึกษา บัณฑิตวิทยาลัย มหาวิทยาลัยศรีนครินทรวิโรฒประสานมิตร.

สำนักงานปลัดกระทรวงศึกษาธิการ. (2549). *รายงานการวิจัยเรื่อง ปัจจัยที่มีอิทธิพลต่อผลสัมฤทธิ์ทางการเรียนของนักเรียนชั้นมัธยมศึกษาตอนต้น.* กรุงเทพมหานคร: ชุมนุมสหกรณ์การเกษตรแห่งประเทศไทย.

สำนักงานปลัดกระทรวงศึกษาธิการ. (2555). *แผนพัฒนาการศึกษาของกระทรวงศึกษาธิการ ฉบับที่11 พ.ศ.2555-2559.* กรุงเทพมหานคร: กระทรวงศึกษาธิการ.

สำนักนโยบายด้านการเรียนรู้ตลอดชีวิตและโอกาสทางการศึกษา. (2553). เด็กและเยาวชนที่มีความสามารถพิเศษ. คัดมาเมื่อ 15 สิงหาคม 2554, จากhttp://www.thaigifted.org/bank/article/article.php?%20id=3&m_id=1&s_id=1&subject1

สำนักงานเลขาธิการสภาการศึกษา. (2548). *ยุทธศาสตร์การพัฒนาเด็กและเยาวชนที่มี ความสามารถพิเศษ (พ.ศ. 2549-2559)* (พิมพ์ครั้งที่ 1). กรุงเทพมหานคร: พิมพ์ดี.

วิจารณ์ พานิช. (2554). *วิถีสร้างการเรียนรู้เพื่อศิษย์ ในศตวรรษที่ 21* (พิมพ์ครั้งที่ 1). กรุงเทพมหานคร: ตถาตา พับลิเคชั่น.

วิโรจน์ อารีย์กุล. (2553). พัฒนาการทางด้านสังคมจิตวิทยาของวัยรุ่น. คัดมาเมื่อ 18 ตุลาคม 2555, จาก http://www.teenrama.com/dad_mam/old_dad_mam24.htm

อาจารีย์ ช่างประดับ. (2550). *องค์ประกอบที่มีอิทธิพลต่อสัมพันธภาพระหว่างนักเรียนกับเพื่อนของนักเรียนช่วงชั้นที่ 3 โรงเรียนอินทร์บุรี อำเภออินทร์บุรี จังหวัดสิงห์บุรี*. วิทยานิพนธ์ปริญญาการศึกษามหาบัณฑิต สาขาวิชาจิตวิทยาการศึกษา บัณฑิตวิทยาลัย มหาวิทยาลัยศรีนครินทรวิโรฒประสานมิตร.

แผนงานสุขภาวะเด็กและเยาวชน สถาบันแห่งชาติเพื่อการพัฒนาเด็กและครอบครัว มหาวิทยาลัยมหิดล. (2553). *คู่มือการใช้แบบสำรวจต้นทุนชีวิต* (พิมพ์ครั้งที่ 1). กรุงเทพมหานคร: แอ๊ปป้า พริ้นติ้ง กรุ๊ป.

APPENDICES

APPENDIX A
CERTIFICATE OF APPROVAL

2 PRANNOK Rd. BANGKOKNOI
BANGKOK 10700

Tel. (662) 4196405-6
FAX (662) 4196405

MAHIDOL UNIVERSITY

Since 1888

Siriraj Institutional Review Board

Certificate of Approval

COA no. Si 031/2013

Protocol Title : The Study of Life's Assets in Academically Talented Students: Case Study of the Participants in International Mathematical and Science Olympaid 2013

Protocol number : 707/2555(EC4)

Principal Investigator/Affiliation : Miss Narathip Srichantr-intr / Department of Psychiatry
Faculty of Medicine Siriraj Hospital, Mahidol University

Research site : Faculty of Medicine Siriraj Hospital

Approval includes :

1. SIRB Submission Form
2. Proposal
3. Participation Information Sheet
4. Informed Consent Form
5. Participation Information Sheet and Informed Consent Form for Subjects ages 12-18 years
6. Questionnaire
7. Principle Investigator's curriculum vitae

Approval date : January 14, 2013

Expired date : January 13, 2014

This is to certify that Siriraj Institutional Review Board is in full Compliance with international guidelines for human research protection such as the Declaration of Helsinki, the Belmont Report, CIOMS Guidelines and the International Conference on Harmonization in Good Clinical Practice (ICH-GCP).

(Prof. Jarupim Soongswang, M.D.)
Chairperson

23 JAN 2013
date

(Clin. Prof. Udom Kachintorn, M.D.)
Dean of Faculty of Medicine Siriraj Hospital

24 JAN 2013
date

Page 1 of 2

หน่วยพิมพ์โรงพยาบาลศิริราช 2341 / 3,000 แผ่น / ก.ธ 51 / Mat. 10023252

APPENDIX B
PARTICIPANT INFORMATION SHEET

เอกสารหมายเลข 3ก

เอกสารชี้แจงผู้เข้าร่วมการวิจัย/อาสาสมัคร
(Participant Information Sheet)

ในเอกสารนี้อาจมีข้อความที่ท่านอ่านแล้วยังไม่เข้าใจ โปรดสอบถามหัวหน้าโครงการวิจัย หรือผู้แทนให้ช่วยอธิบายจนกว่าจะเข้าใจดี ท่านอาจจะขอเอกสารนี้กลับไปอ่านที่บ้านเพื่อปรึกษา หารือกับญาติพี่น้อง เพื่อนสนิท แพทย์ประจำตัวของท่าน หรือแพทย์ท่านอื่น เพื่อช่วยในการตัดสินใจเข้าร่วมการวิจัย

ชื่อโครงการวิจัย การศึกษาต้นทุนชีวิตในนักเรียนที่มีความสามารถพิเศษทางวิชาการ: กรณีศึกษานักเรียนโอลิมปิกวิชาการ ประจำปี 2556

ชื่อหัวหน้าโครงการวิจัย นางสาวนราทิพย์ ศรีจันทร์อินทร์
สถานที่วิจัย คณะแพทยศาสตร์ศิริราชพยาบาล มหาวิทยาลัยมหิดล
สถานที่ทำงานและหมายเลขโทรศัพท์ของหัวหน้าโครงการวิจัยที่ติดต่อได้ทั้งในและนอกเวลาราชการ ภาควิชาจิตเวชศาสตร์ คณะแพทยศาสตร์ศิริราชพยาบาล หมายเลขโทรศัพท์ 089-8914024
ผู้สนับสนุนทุนวิจัย ทุนวิทยานิพนธ์บัณฑิตศึกษา คณะแพทยศาสตร์ศิริราชพยาบาล
ระยะเวลาในการวิจัย 8 เดือน (กุมภาพันธ์ – ตุลาคม 2556)
ที่มาของโครงการวิจัย โครงการวิจัยนี้จัดทำขึ้นเพื่อศึกษาต้นทุนชีวิตในนักเรียนที่มีความสามารถพิเศษทางวิชาการ เป็นการวิจัยเชิงสำรวจ โดยให้ผู้เข้าร่วมวิจัยตอบแบบสอบถาม 2 ส่วน คือ แบบสอบถามข้อมูลทั่วไป และแบบสำรวจต้นทุนชีวิตเด็กและเยาวชนไทย (ฉบับเยาวชน) ทั้งนี้ผู้วิจัยจึงได้ตระหนักถึงความสำคัญของระดับต้นทุนชีวิตที่ส่งผลต่อการพัฒนาศักยภาพของนักเรียนที่มีความสามารถพิเศษทางวิชาการ จึงเห็นว่าการสำรวจระดับต้นทุนชีวิต จะเป็นแนวทางในการวางแผนการดำเนินงานกิจกรรมที่เหมาะสมเพื่อเสริมสร้างต้นทุนชีวิตที่ดี พร้อมกับเป็นข้อมูลพื้นฐานสำหรับสถาบันการศึกษา หน่วยงานที่เกี่ยวข้องทั้งภาครัฐและเอกชน รวมไปถึงชุมชนแวดล้อม สำหรับการพิจารณาวางแผนกำหนดนโยบายด้านการเสริมสร้างต้นทุนชีวิตให้แก่นักเรียนที่มีความสามารถพิเศษทางวิชาการได้อย่างสอดคล้องเหมาะสมตรงกับลักษณะความต้องการ และธรรมชาติของนักเรียนในกลุ่มนี้ต่อไป
วัตถุประสงค์ของโครงการวิจัย เพื่อทราบถึงระดับต้นทุนชีวิตในนักเรียนที่มีความสามารถพิเศษทางวิชาการ เพื่อเป็นข้อมูลพื้นฐานอันนำไปสู่การวางแผนงานเพื่อเสริมสร้างต้นทุนชีวิตที่ดีต่อไป

รับรองโดย คณะกรรมการจริยธรรมการวิจัยในคน
คณะแพทยศาสตร์ศิริราชพยาบาล
รหัสโครงการ 407/2555(EC4)
วันที่รับรอง 14 มี.ค. 2556

เด็กในปกครองของท่านได้รับเชิญให้เข้าร่วมการวิจัยนี้เนื่องจาก เป็นนักเรียนที่มีคุณสมบัติตามเกณฑ์คัดเลือกเข้าศึกษาวิจัย คือเป็นผู้ที่มีอายุ 15 ปีขึ้นไป และมีสถานภาพเป็นนักเรียนระดับชั้นมัธยมศึกษาตอนปลายที่เข้าร่วมการอบรมคัดเลือกผู้แทนประเทศไทย วิชาคณิตศาสตร์ คอมพิวเตอร์ เคมี ชีววิทยา และฟิสิกส์ ครั้งที่ 2 ประจำปี 2556

จะมีผู้ร่วมวิจัย/อาสาสมัครนี้ทั้งสิ้นประมาณ 100 คน

หากท่านตัดสินใจเข้าร่วมการวิจัยแล้ว จะมีขั้นตอนการวิจัยดังต่อไปนี้คือ ผู้วิจัยหรือผู้ช่วยวิจัยทำการเก็บข้อมูลจากผู้เข้าร่วมการวิจัยเป็นรายกลุ่มตามเกณฑ์การคัดเลือก เมื่อผู้เข้าร่วมการวิจัยรับทราบวัตถุประสงค์และประโยชน์ของการวิจัย ข้อมูลการพิทักษ์สิทธิ์และยินดีเข้าร่วมวิจัยเรียบร้อยแล้ว จึงเริ่มให้ผู้เข้าร่วมการวิจัยกรอกแบบสอบถามข้อมูลส่วนบุคคลจนครบถ้วนซึ่งใช้เวลาประมาณ 5 นาที จากนั้นจึงเริ่มทำแบบสำรวจต้นทุนชีวิตเด็กและเยาวชนไทย (ฉบับเยาวชน) ประมาณ 15-20 นาที รวมระยะเวลาที่ใช้ในเข้าร่วมวิจัยทั้งหมดประมาณ 25 นาที ซึ่งกระบวนการทั้งหมดนี้จะทำให้เสร็จในวันเดียวกัน แต่อย่างไรก็ตามหากผู้เข้าร่วมการวิจัยมีอาการเหนื่อยล้าระหว่างการประเมิน ผู้เข้าร่วมการวิจัยมีสิทธิ์ที่จะขอพักการประเมินได้ รวมทั้งการดำเนินการเก็บข้อมูลนี้จะทำการเก็บข้อมูลที่สสวท.ซึ่งทางผู้วิจัยจะขอความร่วมมือตามเวลาที่เหมาะสม โดยไม่รบกวนชั่วโมงการเรียนของผู้เข้าร่วมการวิจัย

อย่างไรก็ตามผลคะแนนที่ได้จากการทดสอบทั้งหมดจะไม่เกี่ยวข้องหรือกระทบต่อผลการเรียนของเด็กในอนาคต และไม่เกี่ยวกับการได้รับหรือไม่ได้รับสิทธิประโยชน์ใด ๆ จากโรงพยาบาลหรือโรงเรียนที่เด็กในปกครองของท่านเกี่ยวข้อง

ความเสี่ยงที่อาจจะเกิดขึ้นเมื่อเข้าร่วมการวิจัย จากการศึกษาที่คล้ายกัน ไม่พบว่ามีความเสี่ยงที่เป็นอันตรายรุนแรง รวมทั้งการทำวิจัยโดยให้ทำแบบทดสอบประเภทรายงานตนเองนั้นมีโอกาสที่อาจจะเกิดเหตุการณ์ไม่พึงประสงค์น้อยมาก แต่อาจมีโอกาสเกิดเหตุการณ์ไม่พึงประสงค์ได้ เนื่องจากแบบทดสอบมีลักษณะเป็นข้อคำถามที่ให้ผู้ตอบรายงานตนเอง ซึ่งบางประโยคอาจทำให้ผู้เข้าร่วมวิจัยเกิดความไม่เข้าใจและข้อสงสัย เนื่องจากข้อความเหล่านั้น มีเพื่อใช้อธิบายคุณลักษณะที่หลากหลาย ผู้เข้าร่วมวิจัยอาจรู้สึกกังวลหรือเกิดข้อสงสัยขณะทำการทดสอบ หรืออาจเกิดความกังวลเกี่ยวกับผลการทดสอบได้

หากมีข้อสงสัยที่จะสอบถามเกี่ยวข้องกับการวิจัย หรือหากเกิดผลข้างเคียงที่ไม่พึงประสงค์จากการวิจัย ท่านสามารถติดต่อ นางสาวนราทิพย์ ศรีจันทร์อินทร์ หมายเลขโทรศัพท์ 089-8914024

ประโยชน์ที่คิดว่าจะได้รับจากการวิจัย ผู้เข้าร่วมการวิจัยอาจไม่ได้รับประโยชน์โดยตรง แต่ผลการวิจัยที่ได้จะเป็นประโยชน์ต่อส่วนรวมในอนาคต คือเป็นข้อมูลพื้นฐานสำหรับสถาบันการศึกษาหน่วยงานที่เกี่ยวข้องทั้งภาครัฐและเอกชน รวมไปถึงชุมชนแวดล้อม เพื่อให้เกิดความตระหนักถึงความสำคัญ

และเป็นแนวทางสำหรับการพิจารณาวางแผนกำหนดนโยบายด้านการเสริมสร้างต้นทุนชีวิตให้แก่นักเรียนที่มีความสามารถพิเศษทางวิชาการได้อย่างสอดคล้องเหมาะสมตรงกับลักษณะความต้องการ และธรรมชาติของนักเรียนในกลุ่มนี้ต่อไป

ค่าตอบแทนที่ผู้ร่วมวิจัย/อาสาสมัครจะได้รับ.....ไม่มี.....

ค่าใช้จ่ายที่ผู้ร่วมวิจัย/อาสาสมัครจะต้องรับผิดชอบเอง.....ไม่มี.....

หากมีข้อมูลเพิ่มเติมทั้งด้านประโยชน์และโทษที่เกี่ยวข้องกับการวิจัยนี้ ผู้วิจัยจะแจ้งให้ทราบโดยรวดเร็วและไม่ปิดบัง

ข้อมูลส่วนตัวของผู้ร่วมวิจัย/อาสาสมัคร จะถูกเก็บรักษาไว้เป็นความลับและจะไม่เปิดเผยต่อสาธารณะเป็นรายบุคคล แต่จะรายงานผลการวิจัยเป็นข้อมูลส่วนรวมโดยไม่สามารถระบุข้อมูลรายบุคคลได้ ข้อมูลของผู้ร่วมวิจัย/อาสาสมัครเป็นรายบุคคลอาจมีคณะบุคคลบางกลุ่มเข้ามาตรวจสอบได้ เช่น ผู้ให้ทุนวิจัย ผู้กำกับดูแลการวิจัย สถาบันหรือองค์กรของรัฐที่มีหน้าที่ตรวจสอบ รวมถึงคณะกรรมการจริยธรรมการวิจัยในคน เป็นต้น โดยไม่ละเมิดสิทธิของผู้ร่วมวิจัย/อาสาสมัครในการรักษาความลับเกินขอบเขตที่กฎหมายอนุญาตไว้

ผู้ร่วมวิจัย/อาสาสมัครมีสิทธิ์ถอนตัวออกจากโครงการวิจัยเมื่อใดก็ได้ โดยไม่ต้องแจ้งให้ทราบล่วงหน้า และการไม่เข้าร่วมการวิจัยหรือถอนตัวออกจากโครงการวิจัยนี้ จะไม่มีผลกระทบต่อการบริการและการรักษาที่สมควรจะได้รับตามมาตรฐานแต่ประการใด

หากเด็กในปกครองของท่านได้รับการปฏิบัติที่ไม่ตรงตามที่ได้ระบุไว้ในเอกสารชี้แจงนี้ ท่านสามารถร้องเรียนไปยังประธานคณะกรรมการจริยธรรมการวิจัยในคนได้ที่สำนักงานคณะกรรมการจริยธรรมการวิจัยในคน อาคารเฉลิมพระเกียรติ ๘๐ พรรษา ๕ ธันวาคม ๒๕๕๐ ชั้น 2 โทร.0 2419 2667-72 โทรสาร 0 2411 0162

ลงชื่อ..... บิดามารดาหรือผู้แทนโดยชอบธรรม

(.....)

วันที่.....

รับรองโดย คณะกรรมการจริยธรรมการวิจัยในคน
คณะแพทยศาสตร์ศิริราชพยาบาล
รหัสโครงการ 707(2555)(EC4)
วันที่รับรอง 14 มี.ค. 2556

CONSENT FORM

เอกสารหมายเลข 3ข

หนังสือแสดงเจตนายินยอมเข้าร่วมการวิจัย

(Consent Form)

วันที่..... เดือน..... พ.ศ.....

เด็กในปกครองของข้าพเจ้า.....อายุ.....ปี
อาศัยอยู่บ้านเลขที่.....ถนน..... แขวง/ตำบล.....
เขต/อำเภอ.....จังหวัด.....รหัสไปรษณีย์.....
โทรศัพท์ .....

ขอแสดงเจตนายินยอมเข้าร่วมโครงการวิจัยเรื่อง การศึกษาต้นทุนชีวิตในนักเรียนที่มีความสามารถพิเศษทางวิชาการ: กรณีศึกษานักเรียนโอลิมปิกวิชาการ ประจำปี 2556

โดยข้าพเจ้าได้รับทราบรายละเอียดเกี่ยวกับที่มาและจุดมุ่งหมายในการทำวิจัย รายละเอียดขั้นตอนต่าง ๆ ที่จะต้องปฏิบัติหรือได้รับการปฏิบัติ ประโยชน์ที่คาดว่าจะได้รับของการวิจัย และความเสี่ยงที่อาจจะเกิดขึ้นจากการเข้าร่วมการวิจัย รวมทั้งแนวทางป้องกันและแก้ไขหากเกิดอันตรายขึ้น จะไม่มีค่าใช้จ่ายที่ข้าพเจ้าจะต้องรับผิดชอบจ่ายเองและโครงการนี้ไม่มีผลตอบแทน โดยได้อ่านข้อความที่มีรายละเอียดอยู่ในเอกสารชี้แจงผู้เข้าร่วมการวิจัยโดยตลอด อีกทั้งยังได้รับคำอธิบายและตอบข้อสงสัยจากหัวหน้าโครงการวิจัยเป็นที่เรียบร้อยแล้ว

เด็กในปกครองของข้าพเจ้าจึงสมัครใจเข้าร่วมในโครงการวิจัยนี้

หากข้าพเจ้ามีข้อข้องใจเกี่ยวกับขั้นตอนของการวิจัย หรือหากเกิดผลข้างเคียงที่ไม่พึงประสงค์จากการวิจัยขึ้นกับเด็กในปกครองของข้าพเจ้า ข้าพเจ้าจะสามารถติดต่อกับ นางสาวนราทิพย์ ศรีจันทร์อินทร์ สถานที่ทำงานและหมายเลขโทรศัพท์ของหัวหน้าโครงการวิจัยที่ต่อได้ทั้งในและนอกเวลาราชการ: ภาควิชาจิตเวชศาสตร์ คณะแพทยศาสตร์ศิริราชพยาบาล หมายเลขโทรศัพท์ 089-8914024

หากเด็กในปกครองของข้าพเจ้าได้รับการปฏิบัติไม่ตรงตามที่ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมการวิจัย ข้าพเจ้าสามารถติดต่อกับประธานคณะกรรมการจริยธรรมการวิจัยในคนได้ที่ สำนักงานคณะกรรมการจริยธรรมการวิจัยในคน อาคารเฉลิมพระเกียรติ ๘๐ พรรษา ๕ ธันวาคม ๒๕๕๐ ชั้น 2 โทร.0 2419 2667-72 โทรสาร 0 2411 0162

ข้าพเจ้าได้ทราบถึงสิทธิ์ที่เด็กในปกครองของข้าพเจ้าจะได้รับข้อมูลเพิ่มเติมทั้งทางด้านประโยชน์และโทษจากการเข้าร่วมการวิจัย และสามารถถอนตัวหรือถอดเข้าร่วมการวิจัยได้ทุกเมื่อโดยไม่ต้องแจ้งล่วงหน้าหรือระบุเหตุผล โดยจะไม่มีผลกระทบต่อการบริการและการรักษาพยาบาลที่เด็กในปกครองของข้าพเจ้าจะได้รับต่อไปในอนาคต และยินยอมให้ผู้วิจัยใช้ข้อมูลส่วนตัวของเด็กในปกครองของข้าพเจ้าที่ได้รับจากการวิจัย แต่จะไม่เผยแพร่ต่อสาธารณะเป็นรายบุคคล โดยจะนำเสนอเป็นข้อมูลโดยรวมจากการวิจัยเท่านั้น

รับรองโดย คณะกรรมการจริยธรรมการวิจัยในคน
คณะแพทยศาสตร์ศิริราชพยาบาล
รหัสโครงการ 207/2556(EC4)
วันที่รับรอง 14 มิ.ย. 2556

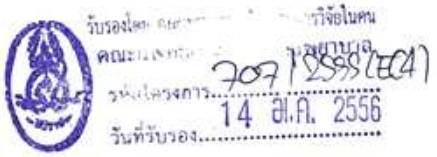
ข้าพเจ้าได้เข้าใจข้อความในเอกสารชี้แจงผู้เข้าร่วมการวิจัย และหนังสือแสดงเจตนายินยอมนี้โดยตลอดแล้ว จึงลงลายมือชื่อไว้

ลงชื่อ..... ผู้แทนโดยชอบธรรม
(.....) วันที่.....

ลงชื่อ..... หัวหน้าโครงการวิจัย
(.....) วันที่.....

ในกรณีผู้ร่วมวิจัย/อาสาสมัคร อ่านหนังสือไม่ออก มีพยานซึ่งไม่มีส่วนได้เสียอยู่ด้วยตลอดระยะเวลาที่มีการให้ข้อมูลและผู้ร่วมวิจัย/อาสาสมัครหรือผู้แทนโดยชอบธรรมให้ความยินยอมเข้าร่วมการวิจัย พยานขอยืนยันว่าข้อมูลในหนังสือแสดงเจตนายินยอมหรือข้อมูลที่ได้รับและเอกสารอื่นได้รับการอธิบายอย่างถูกต้อง และผู้ร่วมวิจัย/อาสาสมัครหรือผู้แทนโดยชอบธรรมแสดงว่าเข้าใจรายละเอียดต่างๆ พร้อมทั้งให้ความยินยอมโดยสมัครใจ จึงได้ลงลายมือชื่อไว้เป็นพยาน

ลงชื่อ..... พยาน
(.....) วันที่.....



ASSENT FORM

เอกสารหมายเลข 4.2

เอกสารชี้แจงผู้เข้าร่วมการวิจัยและแสดงความสมัครใจเข้าร่วมโครงการวิจัย
สำหรับเด็กอายุมากกว่า 12- น้อยกว่า 18 ปี

โครงการวิจัย เรื่อง: การศึกษาต้นทุนชีวิตในนักเรียนที่มีความสามารถพิเศษทางวิชาการ: กรณีศึกษานักเรียนโครงการโอลิมปิกวิชาการ ปีการศึกษา 2556

ชื่อของผู้ร่วมวิจัย/อาสาสมัคร: _____

ชื่อของบิดามารดา/ผู้ปกครอง/ผู้แทนโดยชอบธรรม: _____

ผู้สนับสนุนโครงการ: ทุนวิทยานิพนธ์บัณฑิตศึกษา คณะแพทยศาสตร์ศิริราชพยาบาล

ผู้วิจัยหลัก: **ชื่อ** นางสาวนราทิพย์ ศรีจันทร์อินทร์

เบอร์โทรศัพท์: 089-8914024

รับรองโดย คณะกรรมการจริยธรรมการวิจัยในคน
คณะแพทยศาสตร์ศิริราชพยาบาล
เลขโครงการ 907/2556(EC4)
วันที่รับรอง 14 มิ.ย. 2556

โปรดอ่านข้อมูลนี้อย่างละเอียด ขอให้ใช้เวลาในการพิจารณาเกี่ยวกับข้อมูลเหล่านี้ ถ้าข้าพเจ้าไม่เข้าใจหรือมีข้อสงสัย ขอให้สอบถามผู้วิจัยหรือผู้แทนจนกว่าจะเข้าใจดี ข้าพเจ้าอาจจะขอเอกสารนี้กลับไปอ่านที่บ้านเพื่อปรึกษาหารือกับญาติพี่น้อง เพื่อนสนิท แพทย์ประจำตัวของข้าพเจ้า หรือแพทย์ท่านอื่น เพื่อช่วยในการตัดสินใจเข้าร่วมการวิจัย

การแสดงความสมัครใจเข้าร่วมโครงการวิจัยคืออะไร?

การแสดงความสมัครใจเข้าร่วมโครงการวิจัยหลังจากได้รับทราบข้อมูลแล้วหมายความว่า ข้าพเจ้าได้เข้าใจมากที่สุดเท่าที่พวกเขาจะสามารถเข้าใจได้เกี่ยวกับการวิจัยแล้ว พวกเขาสบายใจเกี่ยวกับการวิจัยและได้ตกลงที่จะเข้าร่วมโครงการโดยที่ไม่มีผู้ใดบังคับ

การวิจัยคืออะไร?

การวิจัยเป็นโครงการที่ได้รับการวางแผนมาแล้วอย่างละเอียดรอบคอบเพื่อค้นหาคำตอบให้กับคำถามสำคัญเกี่ยวกับสุขภาพที่จะสามารถช่วยเหลือผู้คนได้ในอนาคต

ทำไมจึงต้องทำโครงการวิจัยนี้?

เพื่อศึกษาต้นทุนชีวิตในนักเรียนที่มีความสามารถพิเศษทางวิชาการ เป็นการวิจัยเชิงสำรวจ โดยให้ผู้เข้าร่วมวิจัยตอบแบบสอบถาม 2 ส่วน คือ แบบสอบถามข้อมูลทั่วไป และแบบสำรวจต้นทุนชีวิตเด็กและเยาวชนไทย ทั้งนี้ผู้วิจัยจึงได้ตระหนักถึงความสำคัญของระดับต้นทุนชีวิตที่ส่งผลต่อการพัฒนาศักยภาพของนักเรียนที่มีความสามารถพิเศษทางวิชาการ จึงเห็นว่าการสำรวจระดับต้นทุนชีวิตจะเป็นแนวทางในการวางแผนการดำเนินงานกิจกรรมที่เหมาะสมเพื่อเสริมสร้างต้นทุนชีวิตที่ดี พร้อมกับเป็นข้อมูลพื้นฐานสำหรับสถาบันการศึกษา หน่วยงานที่เกี่ยวข้องทั้งภาครัฐและเอกชน รวมไปถึงชุมชนแวดล้อม สำหรับการพิจารณาวางแผนกำหนดนโยบายด้านการเสริมสร้างต้นทุนชีวิตให้แก่นักเรียนที่มีความสามารถพิเศษทางวิชาการได้อย่างสอดคล้องเหมาะสมตรงกับลักษณะความต้องการ และธรรมชาติของนักเรียนในกลุ่มนี้ต่อไป

ทำไมข้าพเจ้าจึงถูกขอให้เข้าร่วมโครงการ?

เนื่องจากนักเรียนเป็นผู้ที่มีคุณสมบัติตามเกณฑ์คัดเลือกเข้าศึกษาวิจัย คือมีอายุ 15 ปีขึ้นไปและมีสถานภาพเป็นนักเรียนระดับชั้นมัธยมศึกษาตอนปลายที่เข้าร่วมการอบรมคัดเลือกผู้แทนประเทศไทย วิชาคณิตศาสตร์ คอมพิวเตอร์ เคมี ชีววิทยา และฟิสิกส์ ครั้งที่ 2 ประจำปี 2556

จะมีนักเรียนคนอื่นๆ เข้าร่วมโครงการด้วยหรือไม่?

ใช่ มีความเป็นไปได้ ต้องการคนจำนวน 100 คน เข้าร่วมในโครงการวิจัย ซึ่งมีอายุตั้งแต่ 15 ปี จนถึง 18 ปี

ถ้าข้าพเจ้าตกลงที่จะเข้าร่วมโครงการวิจัยจะเกิดอะไรขึ้นบ้าง?

หากนักเรียนตัดสินใจเข้าร่วมวิจัย จะมีขั้นตอนการวิจัยคือ ผู้วิจัยหรือผู้ช่วยวิจัยทำการเก็บข้อมูลจากนักเรียนเป็นรายกลุ่มตามเกณฑ์การคัดเลือก เมื่อนักเรียนรับทราบวัตถุประสงค์และประโยชน์ของการวิจัย ข้อมูลการพิทักษ์สิทธิ์และยินดีเข้าร่วมวิจัยเรียบร้อยแล้ว จึงเริ่มให้นักเรียนกรอกแบบสอบถามข้อมูลส่วนบุคคลจนครบถ้วนซึ่งใช้เวลาประมาณ 5 นาที จากนั้นจึงเริ่มทำแบบสำรวจต้นทุนชีวิตเด็กและเยาวชนไทย ประมาณ15-20 นาที รวมระยะเวลาที่ใช้ในเข้าร่วมวิจัยทั้งหมดประมาณ 25 นาที ซึ่งกระบวนการทั้งหมดนี้จะทำให้เสร็จในวันเดียวกัน รวมทั้งการดำเนินการเก็บข้อมูลนี้จะขอความร่วมมือตามเวลาที่เหมาะสม โดยไม่รบกวนชั่วโมงการเรียนของนักเรียน ทั้งนี้ผลคะแนนที่ได้จากการทดสอบทั้งหมดจะไม่กระทบต่อผลการเรียนของนักเรียนในอนาคต และไม่เกี่ยวกับการได้รับประโยชน์หรือเสียสิทธิ์ใด ๆ จากโรงพยาบาลหรือโรงเรียนของนักเรียน

ข้าพเจ้าจะต้องทำอะไรบ้างในระหว่างการศึกษาวิจัย?

สิ่งที่นักเรียนต้องทำในระหว่างการศึกษาวิจัยคือ ตั้งใจตอบแบบสอบถามให้ครบถ้วนและตรงตามความเป็นจริงมากที่สุด

ข้าพเจ้าอาจได้รับความเสี่ยงหรือความไม่สบายต่าง ๆ ได้แก่

ความรู้สึกกังวลหรือเกิดข้อสงสัยขณะทำการทดสอบ เนื่องจากแบบทดสอบมีลักษณะเป็นข้อคำถามที่ให้ผู้ตอบรายงานตนเอง ซึ่งบางประโยคอาจทำให้นักเรียนเกิดความไม่เข้าใจและข้อสงสัย นอกจากนี้อาจส่งผลให้เกิดความกังวลเกี่ยวกับผลการทดสอบได้อีกด้วย

จะทำอย่างไรถ้ามีบางสิ่งบางอย่างผิดปกติเกิดขึ้นในระหว่างการศึกษาวิจัย?

หากมีอาการเหนื่อยล้า รู้สึกเครียด หรือรู้สึกไม่สบายใจระหว่างการทำแบบทดสอบ นักเรียนมีสิทธิ์ที่จะขอพักได้ และสามารถบอกเล่าความรู้สึกไม่สบายใจแก่ผู้วิจัยได้ทันที

การเข้าร่วมการวิจัยจะมีประโยชน์กับข้าพเจ้าหรือคนอื่น ๆหรือไม่?

นักเรียนอาจไม่ได้รับประโยชน์โดยตรง แต่ผลการวิจัยที่ได้จะเป็นประโยชน์ต่อส่วนรวมในอนาคต คือเป็นข้อมูลพื้นฐานสำหรับสถาบันการศึกษา และหน่วยงานที่เกี่ยวข้องทั้งภาครัฐและเอกชน เพื่อเป็นแนวทางในการวางแผนการดำเนินงานกิจกรรมที่เหมาะสมเพื่อเสริมสร้างต้นทุนชีวิตที่ดีให้แก่นักเรียนที่มีความสามารถพิเศษทางวิชาการต่อไป

เกิดอะไรขึ้นถ้าข้าพเจ้าต้องการที่จะยุติการเข้าร่วมโครงการ?

นักเรียนมีสิทธิ์ถอนตัวออกจากโครงการวิจัยเมื่อใดก็ได้ โดยไม่ต้องแจ้งให้ทราบล่วงหน้าหรือบอกเหตุผล และการไม่เข้าร่วมการวิจัยหรือถอนตัวออกจากโครงการวิจัยนี้ จะไม่มีผลกระทบต่อการรักษาที่นักเรียนสมควรจะได้รับตามมาตรฐาน และจะไม่กระทบต่อผลการเรียนในอนาคตของนักเรียนแต่ประการใด

ข้าพเจ้าจำเป็นต้องเข้าร่วมในโครงการวิจัยนี้หรือไม่

ไม่ นักเรียนไม่จำเป็นต้องเข้าร่วมการวิจัยถ้านักเรียนไม่ต้องการ โดยจะไม่มีการบังคับ ขึ้นอยู่กับความสมัครใจของนักเรียน ถ้านักเรียนตกลงเข้าร่วมการวิจัย ผู้วิจัยจะขอให้นักเรียนลงลายมือชื่อในใบชี้แจงข้อมูลและแสดงความสมัครใจเข้าร่วมโครงการวิจัยฉบับนี้ จะมีการขอให้บิดามารดาผู้ปกครอง หรือผู้แทนโดยชอบธรรมของนักเรียนลงลายมือชื่อในแบบฟอร์มเพื่ออนุญาตด้วยเฉพาะในกรณีที่นักเรียนสบายใจเกี่ยวกับการวิจัยนี้เท่านั้น

ข้อมูลของข้าพเจ้าในการวิจัยนี้จะถูกเก็บรักษาไว้เป็นความลับหรือไม่?

ใช่ จะอนุญาตให้เฉพาะผู้กำกับดูแลการวิจัย สถาบันหรือองค์กรของรัฐที่มีหน้าที่ตรวจสอบ รวมถึงคณะกรรมการจริยธรรมการวิจัยในคน เป็นต้น โดยข้อมูลส่วนตัวของนักเรียนจะถูกเก็บไว้โดยจะไม่เปิดเผยต่อสาธารณะเป็นรายบุคคล แต่จะรายงานผลการวิจัยเป็นข้อมูลส่วนรวมโดยไม่สามารถระบุข้อมูลรายบุคคลได้

มีผู้ใดตรวจสอบหรือไม่ว่างานวิจัยดีพอที่จะทำได้?

คณะกรรมการจริยธรรมการวิจัยในคน คณะแพทยศาสตร์ศิริราชพยาบาล มหาวิทยาลัยมหิดล ได้ตรวจสอบการศึกษาวิจัยอย่างละเอียดแล้ว และได้อนุญาตให้ดำเนินโครงการวิจัยได้

ดิฉัน/ผม/ ชื่อ ..... อายุ .....

อยู่บ้านเลขที่ .....

ผู้วิจัยได้อธิบายข้อมูลและขั้นตอนต่างๆ ในการตรวจข้างต้นให้ฟังแล้ว และดิฉันผมทราบว่าจะยินดีเข้าร่วมโครงการหรือไม่ก็ได้ / โดยไม่มีผลกระทบต่อการดูแลรักษาพยาบาลของดิฉัน/ผม/ ดิฉันผมเข้าใจโครงการนี้ และ/โดยความเห็นชอบของผู้ปกครองของดิฉันผม จึงได้ตกลงเข้าร่วมโครงการวิจัยนี้/

.....	.....
(.....)	(.....)
นักเรียนที่เข้าร่วมโครงการวิจัย	ผู้ชี้แจงและเชิญให้เข้าร่วมโครงการวิจัย
วันที่	วันที่ .....
.....	.....
(.....)	(.....)
บิดามารดาหรือผู้แทนโดยชอบธรรม	พยาน
วันที่	วันที่ .....

หมายเหตุ 1. พยานจะต้องมีเฉพาะในกรณีที่มีผู้อ่านเอกสารชี้แจงนี้ให้นักเรียนฟังเท่านั้น

2. บิดา หรือมารดา หรือผู้ปกครองของนักเรียนต้องลงนามยินยอมใน Consent form ต่างหาก

ถ้าข้าพเจ้าตัดสินใจที่จะเข้าร่วมในการศึกษาวิจัย ข้าพเจ้าและบิดามารดา หรือผู้แทนโดยชอบธรรมของข้าพเจ้าจะได้รับสำเนาของเอกสารชี้แจงข้อมูลนี้จำนวน 1 ฉบับ

รับรองโดย คณะกรรมการจริยธรรมการวิจัยในคน
คณะแพทยศาสตร์ศิริราชพยาบาล
รหัสโครงการ 207/255 (EC4)
วันที่รับรอง 14 ส.ค. 2556

APPENDIX C
RESEARCH INSTRUMENT

แบบสอบถาม เรื่อง "ต้นทุนชีวิตสำหรับเยาวชนไทยทั่วไป"สำหรับเยาวชนอายุ 12-25 ปี

- ☞ น้องๆช่วยทำเครื่องหมาย ✓ ในช่องตัวเลือก หรือ เขียนข้อความเพิ่มเติมในช่องอื่นๆ.....
- ☞ ตอบคำถามทุกข้อ ตามความเป็นจริง
- ☞ คำตอบของน้องๆถูกนำไปประเมินผลในภาพรวม จึงไม่ต้องระบุชื่อและนามสกุล

ส่วนที่ 1 แบบสอบถามข้อมูลส่วนบุคคล

1. เพศ ❍ ชาย ❍ หญิง
2. อายุ.....ปี
3. ระดับชั้นเรียนที่กำลังศึกษา
   ❍ มัธยมศึกษาปีที่ 4 ❍ มัธยมศึกษาปีที่ 5 ❍ มัธยมศึกษาปีที่ 6
4. เกรดเฉลี่ยสะสม .....
5. ความถนัดสาขาวิชา
   ❍ คณิตศาสตร์ ❍ คอมพิวเตอร์ ❍ เคมี
   ❍ ชีววิทยา ❍ ฟิสิกส์

6. นับถือศาสนา
   ❍ พุทธ ❍ คริสต์ ❍ อิสลาม ❍ อื่นๆ โปรดระบุ.....
7. สถานภาพของบิดามารดา (ตอบได้เพียง 1 ข้อนะคะ)
   ❍ อยู่ด้วยกัน ❍ แยกกันอยู่ ❍ หย่าร้าง/แยกทางกัน
   ❍ บิดาเสียชีวิต ❍ มารดาเสียชีวิต ❍ ทั้งบิดาและมารดาเสียชีวิต
   ❍ อื่นๆ โปรดระบุ.....
8. เวลาส่วนใหญ่ใน 1 เดือน น้องพักอาศัยอยู่กับใคร (ตอบได้เพียง 1 ข้อนะคะ)
   ❍ อยู่กับบิดาและมารดา ❍ อยู่ลำพังกับบิดา ❍ อยู่ลำพังกับมารดา
   ❍ อยู่กับพี่/น้อง(ไม่ได้อยู่กับบิดา/มารดา) ❍ อยู่กับญาติผู้ใหญ่/ผู้ปกครอง(ที่ไม่ใช่บิดา/มารดา)
   ❍ อยู่กับเพื่อน/คนรู้จัก ❍ พักอยู่คนเดียว ❍ อื่นๆ โปรดระบุ.....

2

ส่วนที่ 2 โปรดแสดงทัศนคติ / ความคิดเห็น

ข้อคำถามต่อไปนี้จะถามถึงความคิดเห็นของน้อง โดยให้น้องสำรวจตัวเอง แล้วทำเครื่องหมาย ✓ ในช่องคำตอบที่กำหนดไว้ที่คิดว่าตรงกับตัวเองมากที่สุด (เลือกได้เพียงข้อเดียวนะคะ)

ข้อที่	ข้อคำถาม	เป็นประจำ	บ่อยครั้ง	บางครั้ง	ไม่เคย
1	ฉัน เชื่อว่าการได้ช่วยเหลือผู้อื่นเป็นสิ่งที่มีคุณค่าอย่างมาก				
2	ฉัน ให้ความสำคัญกับการส่งเสริมให้เกิดความเท่าเทียมในสังคม เช่น ผู้พิการ ผู้สูงอายุ เพศชาย/หญิง/เพศทางเลือก เป็นต้น				
3	ฉัน กล้ายืนหยัดในสิ่งที่ฉันเชื่อ เช่น กล้าแสดงความคิดเห็น แม้ว่าบางครั้งจะมีความเห็นแตกต่างจากผู้อื่น				
4	ฉัน พูดความจริงเสมอถึงแม้ว่าบางครั้งมันจะทำได้ยาก				
5	ฉัน รับผิดชอบในสิ่งที่ฉันทำ (ไม่ว่าผลจะเป็นอย่างไรก็ตาม)				
6	ฉัน ยึดมั่นในพฤติกรรมที่ดี				
7	ฉัน มีการวางแผนและการตัดสินใจก่อนลงมือทำเสมอ				
8	ฉัน เห็นอกเห็นใจ และใส่ใจในความรู้สึกของผู้อื่น				
9	ฉันเรียนรู้และสามารถปรับตัวให้อยู่ร่วมกับคนที่มีความคิดเห็น หรือการดำเนินชีวิตแตกต่างกันได้เป็นอย่างดี				
10	ฉัน กล้าปฏิเสธพฤติกรรมเสี่ยง (เช่น เพศสัมพันธ์ ยาเสพติด ความรุนแรง และสื่อที่ไม่ดี)				
11	ฉัน พยายามแก้ปัญหาข้อขัดแย้งด้วยสติปัญญามากกว่าอารมณ์(ไม่ใช้ความรุนแรง)				
12	ฉัน สามารถควบคุมสถานการณ์ที่เกิดขึ้นกับตนเองได้ เช่น ควบคุมอารมณ์เวลาโกรธได้ดีเมื่อเกิดการโต้เถียงหรือขัดแย้ง				
13	ฉัน รู้สึกว่าตนเองมีคุณค่า				
14	ฉัน มีเป้าหมายในชีวิตชัดเจน				
15	ฉัน รู้สึกพึงพอใจในชีวิตความเป็นอยู่ของตัวเอง				
16	ฉัน ได้รับความรัก ความอบอุ่น เอาใจใส่ และการสนับสนุนในทางที่ดีจากครอบครัว				
17	ฉัน ปรึกษาหารือและขอคำแนะนำจากผู้ปกครองได้อย่างสบายใจไม่ว่าเรื่องเล็กหรือเรื่องใหญ่				
18	ฉัน มีผู้ปกครองที่ส่งเสริม สนับสนุน ช่วยเหลือด้านการเรียนรู้				
19	ฉัน รู้สึกปลอดภัย อบอุ่น และมีความสุขเมื่ออยู่ในครอบครัวตัวเอง				
20	ฉัน อยู่ในครอบครัวที่มีระเบียบกฎเกณฑ์ชัดเจน มีเหตุผล และมีการดูแลให้ปฏิบัติตาม				
21	ฉัน มีผู้ปกครองที่เป็นแบบอย่างที่ดีให้ทำตาม				
22	ฉัน มีผู้ปกครองที่สนับสนุนให้ฉันทำในสิ่งที่ฉันชอบหรืออยากทำ				
23	ฉัน สามารถพูดคุย แลกเปลี่ยนเรียนรู้เรื่องราวเกี่ยวกับสื่อ เช่น วิทยุ ทีวี สื่อประเภทอื่นๆภายในครอบครัวเป็นประจำ				
24	ฉัน อยู่ในสถาบันการศึกษาที่เอาใจใส่ สนับสนุน และช่วยเหลือผู้เรียนได้ดี				

โปรดแสดงทัศนคติ / ความคิดเห็น (ต่อ)

ข้อที่	ข้อคำถาม	เป็นประจำ	บ่อยครั้ง	บางครั้ง	ไม่เคย
25	ฉัน รู้สึกปลอดภัยเมื่ออยู่ในสถาบันการศึกษา				
26	ฉัน อยู่ในสถาบันการศึกษาที่มีระเบียบกฎเกณฑ์ที่ชัดเจน มีเหตุผล และมีการดูแลให้ปฏิบัติตาม				
27	ฉัน มีครูที่สนับสนุนให้ฉันทำในสิ่งที่ฉันชอบหรืออยากทำ				
28	ฉัน อยากเรียนให้ได้ดี ไม่เอาเปรียบ และรู้จักแบ่งปันผู้อื่น				
29	ฉัน เอาใจใส่ในการเรียนอย่างสม่ำเสมอ				
30	ฉัน ทำการบ้านหรือทบทวนบทเรียนทุกวัน				
31	ฉัน รักและผูกพันกับสถาบันการศึกษาของฉัน				
32	ฉัน อ่านหนังสือด้วยความเพลิดเพลินเป็นประจำ				
33	ฉัน ใฝ่รู้ภูมิปัญญา และวัฒนธรรมของชุมชน				
34	ฉัน สามารถพูดคุย แลกเปลี่ยนเรียนรู้เรื่องราวเกี่ยวกับสื่อ เช่น วิทยุ ทีวี สื่อประเภทอื่นๆกับครูเป็นประจำ				
35	ฉัน มีเพื่อนสนิทที่เป็นแบบอย่างที่ดีและชักนำให้ฉันทำดี				
36	ฉัน ทำกิจกรรมสร้างสรรค์ตามความชอบและพึงพอใจของฉันเอง เช่น ทำงานศิลปะ เล่นดนตรี วาดรูป เป็นประจำ				
37	ฉัน ได้เล่นกีฬาหรือออกกำลังกายเป็นประจำ				
38	ฉัน ร่วมกิจกรรมทางศาสนา หรือประกอบพิธีกรรมเป็นประจำ				
39	ฉัน และเพื่อนชวนกันทำกิจกรรมที่ดีเป็นประจำ				
40	ฉัน มีโอกาสเข้าร่วมกิจกรรมเกี่ยวกับสื่อที่สร้างสรรค์กับเพื่อน				
41	ฉัน มีญาติหรือผู้ใหญ่ นอกเหนือจากผู้ปกครองที่ฉันสามารถปรึกษาหารือและขอความช่วยเหลือได้อย่างสบายใจ				
42	ฉัน มีเพื่อนบ้านที่สนใจ และให้กำลังใจฉัน				
43	ฉัน รู้สึกว่าคนในชุมชนให้ความสำคัญและเห็นคุณค่าของเด็กและเยาวชน				
44	ฉัน ได้รับมอบหมายบทบาทหน้าที่ที่มีคุณค่า และเป็นประโยชน์ต่อชุมชน				
45	ฉัน ร่วมทำกิจกรรมบำเพ็ญประโยชน์ในชุมชนเป็นประจำ				
46	ฉัน รู้สึกอบอุ่น มีความสุข และภูมิใจในวิถีชีวิตเมื่ออยู่ในชุมชนของฉัน				
47	ฉัน มีเพื่อนบ้านคอยสอดส่อง และดูแลพฤติกรรมของเด็กและเยาวชนให้อยู่ในกรอบที่เหมาะสม				
48	ฉัน มีผู้ใหญ่อื่นนอกเหนือจากผู้ปกครองที่เป็นแบบอย่างที่ดีให้ทำตาม				

ขอขอบคุณน้องๆทุกคนที่สละเวลา และให้ความร่วมมือในการตอบแบบสอบถามชุดนี้ค่ะ

****

สถาบันแห่งชาติเพื่อการพัฒนาเด็กและครอบครัว
๙๙๙ มหาวิทยาลัยมหิดล ถนนพุทธมณฑลสาย ๔
ต.ศาลายา อ.พุทธมณฑล จ.นครปฐม ๗๓๑๗๐
โทรศัพท์ ๐๒ – ๔๔๑ ๐๖๐๒ - ๘ ต่อ ๑๓๐๔
โทรสาร ๐๒ – ๔๔๑ ๐๑๖๗

ที่ ศธ ๐๕๑๗.๒๓/ ๐๐๖๙๗
วันที่ ๑๒ ตุลาคม ๒๕๕๕
เรื่อง อนุญาตให้ใช้แบบสำรวจต้นทุนชีวิตเด็กและเยาวชนไทย
เรียน ประธานคณะกรรมการบริหารหลักสูตรปริญญาโท สาขาวิชาจิตวิทยาคลินิก

อ้างถึงหนังสือ ที่ ศธ.๐๕๑๗.๐๗๖/บฑ. ๘๕๑ ลงวันที่ ๑๗ กันยายน ๒๕๕๕ เรื่อง ขออนุญาตใช้แบบสำรวจ “ต้นทุนชีวิตเด็กและเยาวชนไทย” เพื่อใช้เป็นเครื่องมือในการเก็บข้อมูลการทำวิทยานิพนธ์เรื่อง “ต้นทุนชีวิตของนักเรียนที่มีความสามารถพิเศษทางวิชาการ กรณีศึกษานักเรียนโครงการโอลิมปิกวิชาการ” ของนางสาวนราทิพย์ ศรีจันทร์อินทร์

ในการนี้ สถาบันพิจารณาเห็นแล้วว่าการทำวิจัยดังกล่าวจะมีประโยชน์ต่อการพัฒนาเด็กและเยาวชนในอนาคต เพื่อการพัฒนาประเทศชาติต่อไป จึงมีความยินดีอนุญาตให้ใช้แบบสำรวจต้นทุนชีวิตในการเก็บข้อมูลวิจัยดังกล่าวได้ตามความเหมาะสม

จึงเรียนมาเพื่อโปรดทราบ

ขอแสดงความนับถือ

(อาจารย์นายแพทย์สุริยเดว ทรีปาตี
ผู้อำนวยการสถาบันแห่งชาติเพื่อการพัฒนาเด็กและครอบครัว
มหาวิทยาลัยมหิดล

19 ต.ค. 2555

BIOGRAPHY

NAME	Miss Narathip Srichantr-intr
DATE OF BIRTH	28 November 1988
PLACE OF BIRTH	Bangkok, Thailand
INSTITUTIONS ATTENDED	Chulalongkorn University, 2010 Bachelor of Science (Psychology) with First Class Honors Mahidol University, 2013 Master of Science (Clinical Psychology)
SCHOLARSHIP	Scholarship supported from Siriraj Graduate Scholarship
CONTACT	E-mail: narathip.mu@gmail.com