FACTORS ASSOCIATED WITH RESILIENCE AMONG THAI STUDENTS IN INTERNATIONAL COLLEGES

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Thesis
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ABSTRACT

This was a cross-sectional study conducted to identify the percentage of resilient students and examine the factors associated with resilience among Thai students in international colleges in Bangkok. Data collection was carried out from Thai students aged 18 to 24 in three international colleges in May 2017. A total of 366 self-administered questionnaires were used in data collection and for analysis, a T-test and one-way ANOVA were performed to identify the association between independence variables and resilience. The result showed that over half (53%) of the respondents were in high level of resilience. The result of the T-test showed that age, peer support ($P < .001$) and family income ($P < .05$) were the factors significantly associated with resilience, the one-way ANOVA, findings showed that the students with low Adverse Childhood Experiences (ACEs) had higher resilience than the students with moderate ACEs. We concluded that resilience could be nurtured as time goes by with close peer company in less adversity, while families with low economic status could deteriorate resilience. Besides, one who had low resilience could be difficult to deal with his/her ACEs regardless of the level of ACEs. Therefore, for further studies, it would be more essential to explore the protective factors that lead to positive adaptation in different contexts.

KEY WORDS: RESILIENCE / ADVERSE CHILDHOOD EXPERIENCES (ACES) / YOUTH

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ปัจจัยที่สัมพันธ์กับความยืดหยุ่นของนักศึกษาไทยหลักสูตรนานาชาติ

FACTORS ASSOCIATED WITH RESILIENCE AMONG THAI STUDENTS IN INTERNATIONAL COLLEGES

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บทคัดย่อ

การศึกษาแบบตัดขวางครั้งนี้มีวัตถุประสงค์เพื่อศึกษาปัจจัยที่สัมพันธ์กับความยืดหยุ่นของนักศึกษาไทยหลักสูตรนานาชาติ ในกรุงเทพมหานคร ทำการเก็บข้อมูลกับกลุ่มนักศึกษาที่มีอายุระหว่าง 18 - 24 ปี จำนวน 366 ราย ในเดือนพฤษภาคม พ.ศ. 2560 โดยใช้แบบสอบถามที่สร้างขึ้น วิเคราะห์ข้อมูลด้วยสถิติเชิงพรรณา สถิติทดสอบ t-test และ one-way ANOVA ผลการศึกษาแสดงให้เห็นว่าร้อยละ 53 นักศึกษาไทยหลักสูตรนานาชาติมีความยืดหยุ่น ปัจจัยด้านอายุของนักศึกษา แรงสนับสนุนจากเพื่อนและครอบครัว ($P<0.001$) และปัจจัยด้านรายได้ของครอบครัวเป็นปัจจัยที่สัมพันธ์กับความยืดหยุ่นอย่างมีนัยสำคัญทางสถิติ ($P<0.05$) สำหรับการวิเคราะห์หาความสัมพันธ์ระหว่างประสบการณ์ร้ายในวัยเด็ก (Adverse Child Experience, ACE) พบว่าเด็กที่มีประสบการณ์ร้ายในวัยเด็กน้อยจะมีความยืดหยุ่นสูงเมื่อเทียบกับกลุ่มที่มีประสบการณ์ร้ายในวัยเด็กปานกลางและกลุ่มที่มีประสบการณ์ร้ายในวัยเด็กสูงอย่างมีนัยสำคัญ

ผลการศึกษาชี้ให้เห็นว่าเมื่อวัยรุ่นมีอายุมากขึ้นจะมีความยืดหยุ่นมากขึ้นและยังต้องให้ความสำคัญกับแรงสนับสนุนของเพื่อนและครอบครัวในการดำเนินชีวิตด้วยจึงจะทำให้วัยรุ่นมีความยืดหยุ่น แต่อย่างไรก็ตามยังมีปัจจัยอีกหลายปัจจัยที่อาจมีความสัมพันธ์กับความยืดหยุ่นในวัยรุ่น ดังนั้นการดำเนินด้านส่งเสริมพัฒนาการวัยรุ่นจึงควรมีการศึกษาปัจจัยที่ส่งผลต่อชีวิตวัยรุ่นให้ครอบคลุมมากยิ่งขึ้นต่อไป

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LIST OF ABBREVIATIONS

ACEs	Adverse Childhood Experiences
PTSD	Posttraumatic Stress Disorder
NET	Norepinephrine Transporter
Venlafaxine-XR	Venlafaxine Hydrochloride Extended Release
5HTTLPR	5-Hydroxy Tryptamine Transporter Gene-Linked Polymorphic Region
WHO	World Health Organization
SD	Standard Deviation
GPA	Grade Point Average
TBI	Traumatic Brain Injury
CD-RISC	Connor-Davidson Resilience Scale
GBD	Global Burden of Disease
GSHS	Global Schools-Based Student Health Survey
ISPCAN	International Society for Prevention of Child Abuse and Neglect
ICAST	International Child Abuse Screening Tool
UN	United Nation
CDC	Centres of Disease Control
U.S.	United States
PTSS	Posttraumatic Stress Symptoms
ACOA	Adult Children of Alcoholic
ANOVA	Analysis of Variance
ACE-IQ	Adverse Childhood Experiences International Questionnaire
ERS	Ego Resiliency Scale
NEO-FFI	Neuroticism Extraversion Openness Five Factor Inventory

LIST OF ABBREVIATIONS (cont.)

RSA	Resilience Scale for Adults
DSM-V	Diagnostic and Statistical Manual of Mental Disorders -5 Th
QD	Quartile Deviation
NCTSN	The National Child Traumatic Stress Network

CHAPTER I
INTRODUCTION

1.1 Rational and Justification

Today's families or children are under considerable stress with the potential damage to both physical health and psychological well-being due to adverse events such as death, disease, illness, divorce, crime, war, child abuse, tsunamis, and terrorism both here and worldwide. Adverse experiences and stress can bring in the shape of family or relationship problems, health problems, economic problems, or workplace and financial worries (*1*). However, reasonable stress might promote development and growth throughout childhood. Stress is nature and part of lifespan and learning how to manage stress and control stress responses is essential a child's development. However, intense or prolonged stress can easily cause toxic to the developing brain and body and contribute to promoting the risk of health problems later in their lives. As reported in the Adverse Childhood Experiences (ACE's) in Minnesota, adverse experiences in childhood might lead to toxic stress(*2*).

The consequences of adversity such as child abuse and other stressors related to traumatic events for health risk behaviors and prolonged chronic diseases has been the focus of majority of researches. These might have been come up in a context of raised global awareness of ACEs are not uncommon in the general population as V. J. Felitti *et al.* mentions that "two-thirds of adult's report at least one type of adversity" (*3*). In a survey of Minnesotans aged 18 years or older, five most common ACEs were emotional abuse (28 percent), living with a parent who have problem on alcohol (24 percent), experiencing separation or divorce of a parent (21 percent), living with a family member who have mental illness (17 percent), and experiencing physical abuse (16 percent) (*2*). More specifically, almost one third of adult's report that they experienced childhood physical abuse, over one quarter report growing up with a substance-abusing parent, and one fifth report childhood sexual abuse (*3*) (*4*).

The data of a survey for the Thai people aged 16 to 25years in a suburban community shows that, 38% of the samples having some kind of abuse in childhood, with 5.8% having been forced to sexual penetration, 11.7% having been experienced physical abuse and 31.8% emotional abuse (*5*) and in the research conducted in Northern Bangkok on a sample of 1052 youths, aged 16 to 25 years, the respondents reported having some kind of abuse in childhood, with sexual abuse reported in 8.4%, physical abuse 16.6% and emotional abuse 56.0% (*6*). Furthermore, The World Health Organization (WHO) investigated women's health and domestic violence in Thailand show that 41% of women lived in Bangkok and 47% in remote areas had been physically or sexually abused at least once during lifetime by their intimate partners (*7*).

For last four decades, resilience has been center of public research, which is defined as the ability to bend but not break, bounce back, and probably even develop in spite of adverse life experiences (*8*), those aspects of the child's life, relationships and choices that protect them against risk (*9*). And, Werner found that one third of children with high-risk experiences demonstrated resilience and developed into considering, competent and confident adults in spite of their traumatic development histories (*10*). Resilience is positive adaptation within the background of tremendous adversity. In the face of traumatic experiences, neither resilience nor disease is a certain outcome. Resilience is the result of a dynamic set of interactions between an individual's adverse experiences and protective factors. This interaction is what determines the path of development towards health and well-being or towards illness and dysfunction (*2*). However, there are few researches concerning about distribution of resilience and association between ACEs associated with resilience among youths and less research of these related studies in Thailand. Therefore, the aims of this research were to determine the percentage of resilient students and examine the factors associated with resilience among Thai students of international college in Bangkok and suburb, Thailand.

1.2 Research Question

What are the factors associated with resilience among youth?

1.3 Research Objectives

1.3.1 General objective

1.3.1.1 To examine the factors associated with resilience among Thai students of international colleges in Bangkok and suburb, Thailand.

1.3.2 Specific objectives

1.3.2.1 To determine the percentage of the resilient Thai students of international colleges in Bangkok and suburb, Thailand.

1.3.2.2 To examine association between demographic factors and Adverse Childhood Experiences (ACEs) and resilience among Thai students of international colleges in Bangkok and suburb, Thailand.

1.4 Conceptual Framework

Correlates and characteristics of resilience among youth have been vailed extensively except Thailand, but, risk factors link to resilience has not yet cultivated sufficiently. In this research, the challenge model was applied to focus on examining risks factors such as ACEs and resilience as well as examining association demographics and resilience as a protective factor. The challenge model suggests that exposing to high levels and low levels of a risk factor are associated with negative health outcomes, but moderate risk levels are associated with positive outcomes or less negative. The idea derives from that adolescents exposed to moderate risk levels are confronted with sufficient of the risk factor to learn how to surmount it, but adolescents are exposed to less of it that overcoming it can be impossible(*11*).

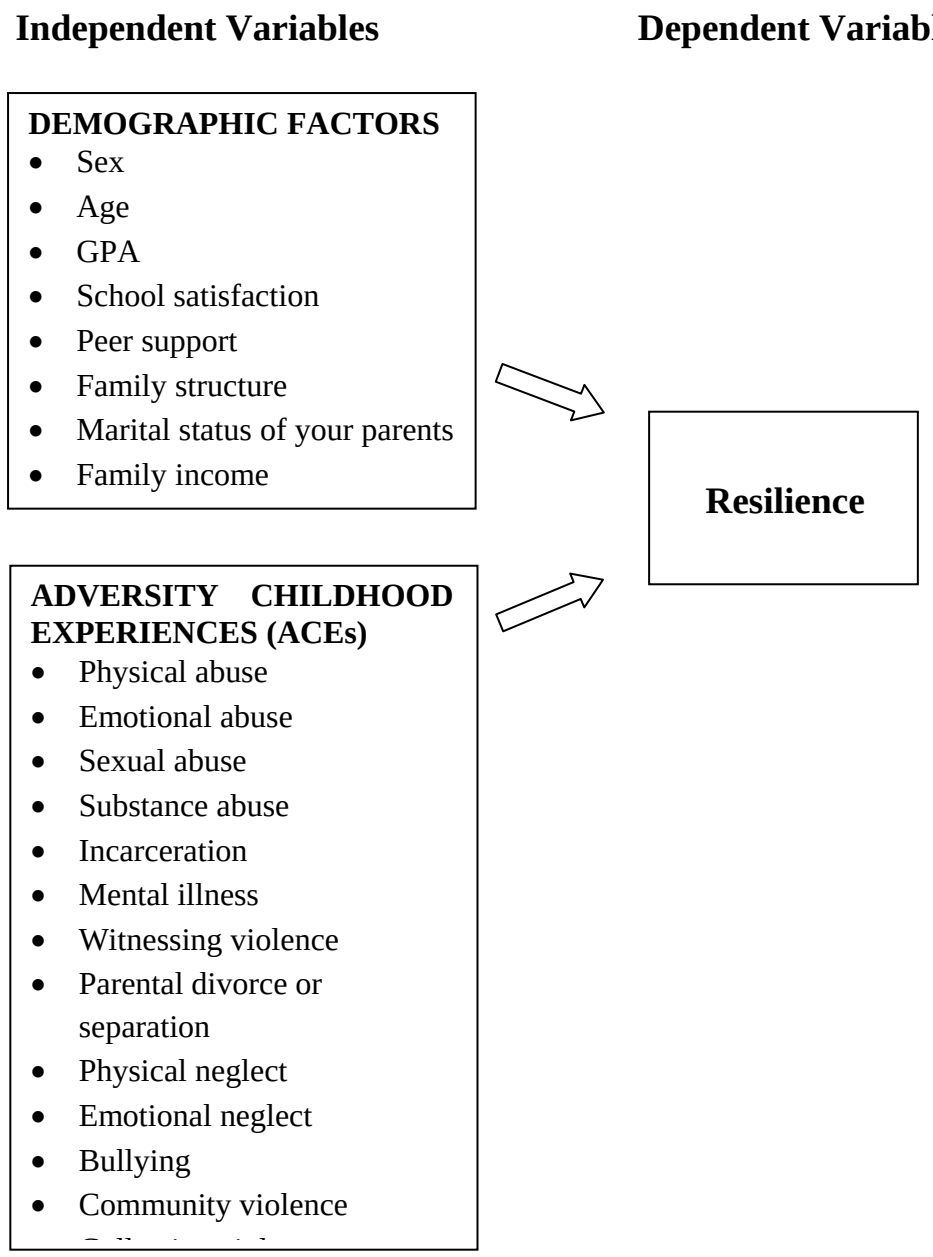

Figure 1.1 Conceptual framework for the study

1.5 Operational definitions

Based on the conceptual framework, the following terms are operationally defined as below.

Suburb: refers to where Nakhon Patom, Pathum Thani, Nonthaburi, and Samut Prakarn provinces in Thailand.

Youth: refers to Thai student of international college

1.5.1 Dependent variable

Resilience: refers to **"**Several aspects of resilience including a sense of personal competence, tolerance of negative affect, positive acceptance of change, trust in one's instincts, sense of social support, spiritual faith, and an action-oriented approach to problem solving and resilience may be viewed as a measure of stress coping ability and, as such, could be an important target of treatment in anxiety, depression and stress reactions(*12*)."

1.5.2 Independent variables

1.5.2.1 Demographic factors

Demographic factors include sex, age, GPA, school satisfaction, peer support, family structure, marital status of your parents and family income.

GPA: refer to 3 groups, high (3.00-4.00), middle (2.50-2.99) and low (1.00-2.49).

School satisfaction: refers to a student's subjective cognitive appraisal of the quality of his or her school life.

Peer support: refer to that there is at least one close someone who supports you when you have a problem.

Family structure: refers to the combination of relatives that live in the same household and mainly bring up you such as father, mother, father and mother, grandmother or grandfather, relatives and others.

Marital status of parents: refer to state of student's parent being married, divorce, separate, widow or either parent have new family.

Family income: refers to total monthly compensation received by parent or caregiver aged 15 or older living in the same household. Compensation may include only wages.

1.5.2.2 Adverse Childhood Experiences (ACEs)

ACEs: refer to potentially traumatic events or sources of stress that can have negative, lasting effects on health and well-being of children during the first 18 years of their lives. ACEs comprises of 13 domains: emotional, physical or sexual abuse; witness violence at home; living with family members who were substance abusers, mental illness, suicidal, imprisoned, parental separation or divorce; emotional or physical neglect; bullying; community violence; collective violence.

1.6 Limitation of Study

The cross-sectional study was limited to determine the cause and effect between independent variables and resilience among Thai students of international program in Bangkok and suburb. And the result was only observed the current situation occurring at the moment of the study. Moreover, the study area was selected only in Bangkok and suburb so the results were not able to represent the entire nation. The other limitation was that there may have been a recall bias in respondents' memories.

CHAPTER II
LITERATURE REVIEW

This chapter consists of subjects from literature reviews as the following.

2.1 Resilience

- 2.1.1 The origin of resilience study
- 2.1.2 Definition on resilience
- 2.1.3 Biological and other mechanistic studies
- 2.1.4 The challenge model
- 2.1.5 Risk factors
- 2.1.6 Protective factors

2.2 Adversity Childhood Experiences (ACEs)

- 2.2.1 The origin of ACEs study
- 2.2.2 Definition of ACEs
- 2.2.3 Physical abuse
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2.3 Related researches

- 2.3.1 Demographic factors
- 2.3.2 Adversity Childhood Experiences(ACEs)

2.1 Resilience

2.1.1 The origin of resilience study

The first study of the resilience dating back more than four decades ago. The resilience studies were originated among psychologists and psychiatrists. The original research concerning about resilience was emerged in 1973. The research was carried out with the field of epidemiology to reveal the risk factors and the protective factors that now help define resilience(*13*). In 1974, the same group of researchers created instruments to look at systems that support development of resilience(*14*).

Emmy Werner was one of the scientists to use the term of "resilience" at first time in the 1970s. She conducted a cohort study of 698 children born in 1955 in Hawaiian, Kauai. In this study, of the 370 who responded to this survey item, 17.8% of males and 24.3% of females rated themselves as happy or delighted. About 43% of males and 47.4% of females rated themselves as "mostly satisfied" with their lives. Only about "16% were doing poorly - straddling with domestic problems, substance abuse, and serious mental health problems, and living in precarious financial circumstances". By their mid-thirties, almost all of the participants had become "constructively motivated and responsible adults." Approximately one third were born under adverse circumstances, and were considered "at-risk" due to perinatal stress, poverty, parental alcoholism or mental illness, and troubled family environments. Of those, about one third "grew into competent, confident, and caring young adults" (*15*).

Most children of Kauai were brought up by parents who had alcoholic or mentally illness. Majority of the parents were unemployed as well. The researcher noticed that two-thirds of children who grew up in these harmful situations displayed destructive behaviors later in their teen years, such as substance abuse, unemployment, delivery with unmarried status among teenagers. Nevertheless, a third of children did not display destructive behaviors, children in whose group called resilient. Thus, resilient children and their families showed traits or characteristics that enable them to be more successful than the others who were not resilient (*15*).

In the 1980s, resilience also came out as a important theoretical subject from the studies about children who grew up with schizophrenic mothers (*16*). The results of the study in 1989 implied that children of a schizophrenic parent might not

acquire an appropriate level of comfortable caregiving relative to children who grew up with parents in good health and such situations often caused a harmful influence on children's development. Contrarily, some children with psychiatric parent developed well and had competence in academic achievement despite of adversity, therefore leading many researchers to make an effort to figure out such responses to adverse experiences (*17*).

2.1.2 Definition of resilience

Resilience is a complex concept that is not easy to define and measure. In defining resilience, there is a growing controversy on whether resilience should be viewed as an ability, a trait, a process, or an outcome among researchers. However, most researchers regard resilience as "the ability to bend but not break, bounce back, and perhaps even grow despite adversity" (*8*). The American Psychological Association (APA) defines resilience as "the process of adapting well in the face of adversity, trauma, tragedy, threats or even significant sources of stress" (*18*). Resilience is also understood as "a process that is subject to fluctuations over the course of life" (*19*). Similarly, resilience is generally seen as a mental hardiness of children and adolescents against biological, mental, and psychosocial developmental risks (*19*). Resilience might vary over time as a developmental function and individual's interaction with the environment(*20*). For instance, a high level of maternal care and protection might enhance resilience during infancy, but might interfere with a person during adolescence or youth. In addition, our response to stress and trauma occur in the context of interactions with other people, available resources, certain cultures and religions, institution, communities and societies(*21*). Determinants of resilience include a host of biological, psychological, social and cultural factors that interact each other to determine how person responds to traumatic experiences(*8*).

At the meeting of International Society for Traumatic Stress Studies' in 2013, all emphasized the significance of further research toward proving empirically definitions of resilience, realizing the complex construct of resilience that might have particular meaning for a specific individual, family, organization, society and culture; that person might be more resilient than others in some domains of their life, and when divide resilience into some phases of their life, there seems to be various types of

resilience such as acute or emergent resilience, that depend on context. On the one hand, the goal may not be to agree on one definition of resilience, but rather to carefully define various types of resilience depending on context. On the other hand, definition of resilience will be essential to collaborate with experts who study engineering, ecological, biological, individual, family, organizational and cultural resilience (*8*). However, there are remains some questions whether resilience is featured by the lack of functional impairment or psychopathology following high adverse circumstances. For instance, should we grouped a trauma survivor as resilient if the individual develops chronic symptoms of PTSD but also maintains high level of functions, as they have found out successfully and using sufficient personal, material and social resources(*8*).

2.1.3 Biological and other mechanism studies on resilience

In a previous study concerning depression, Davidson (2005) noted that improvement in resiliency correlated significantly with the extent of norepinephrine (NE) transporter occupancy in patients who were treated with venlafaxine-XR, a drug with substantial NE transporter (NET) inhibiting effects. They considered this finding to suggest that NE pathways are integrally involved in mediating resilience, and can perhaps be one point of entry for treatments which might enhance resiliency, i.e., drugs which inhibit the reuptake of NE. Indeed, this has been found to occur as noted above. This clinical finding resonates with an animal study which showed the importance of NET activity in regulating resilience (*22*).

The serotonin transporter (5HTT) is regarded as playing an important part in the regulation of anxiety-proneness, resistance to the effects of stress and resilience. The 5HTT promoter polymorphism (5HTTLPR) is under the influence of genetic control and those with the short allele have, in many studies, been found to show greater fear or amygdala arousal in response to neutral or fearful stimuli, as well as, in some instances, poorer response to certain treatments (*23*). A study showed that the CD-RISC 10 score was reduced in those with the short allele. For each copy of the short allele (i.e., heterozygous and homozygous), there was a 1.53 increased odds of falling in the low resilient category of > 1 SD below the mean (*24*). A study by Carli et al explored the roles of 5HTTLPR status and childhood trauma on resilience and

depression in male prisoners (n=763). Genotype did not influence resilience or depression, but an interaction between genotype and childhood trauma was found for both resilience and depression. The long-allele polymorphism had association with lower resilience scores and may confer greater vulnerability in those exposed to previous severe stress (*25*). In a study of older adults, O'Hara and colleagues (2012) failed to show a relations between the 5HTTLPR short allele and resilience, although short allele status was associated with less successful aging (*26*). Graham et al (2013) studied 41 veterans with traumatic brain injury (TBI) and 26 controls without. They found evidence that the S'S' genotype of the 5-HTTLPR and TBI status were independently associated with resilience, but in opposite directions. Veterans with an S'S' genotype (with or without TBI) were the most resilient (83.2 and 83.3); those with an L' genotype but no TBI were intermediate (75.0), and those with an L' genotype and TBI were the least resilient (56.7), all groups differing from the L-genotype with TBI (*27*).

2.1.4 The challenge model

Most models related to psychological resilience examine the relationship between risk factors and health outcomes and there are three common models of resilience, compensatory, protective, and challenge models, that explain how promotive factors operate to make alterations to the trajectory from risk exposure to negative outcome (*28*). To examine the association between ACEs and resilience in this study, the challenge model was selected as an appropriate theoretical framework.

The challenge model is a one of the resilience model and risks factors such as adverse childhood experiences are a danger to children and also as an opportunity. In other word, children are vulnerable to the toxic stress of adversity, but they are also challenged to bounce back from harm by experimenting and developing their own resources (*29*). The challenge model suggests that experiencing low and high levels of risk factors are related with negative consequences, but moderate levels of the risk are associated to less negative or positive outcomes. In other words, adolescents or child exposed to moderate levels of risk are confronted with the risk factor enough to learn how to surmount it, contrarily less exposure to it that means overcoming it is difficult (*11*). Furthermore, a potential point about the challenge model is that low levels of risk

exposure may be beneficial since they give youth an opportunity to practice skills or employ resources. In challenge models, the risk and promotive factors are the same variable and whether it is a risk or is promotive for an adolescent are subjected to be the level of exposure. For instance, having a too little family conflict might not provide youth with a chance to learn how to deal with interpersonal conflicts outside of the home. while, strong conflict may be harmful and cause youth to feel hopeless and distressed. However, a moderate amount of conflict may provide youth with sufficient exposure to learn from the development and resolution of the conflict(*29*).

Wolins contend that centering on the negative aspects of a child's life can be counterproductive. Noting that most of their clients did not succumb to the various risk factors exit in their environments, the challenge model based on the premise that "strength can emerge from adversity"(*30*). The Challenge Model of human psychology outlined the interplay between risk factors that threaten children's physical and psychological well-being and areas of resilience that limit risk factors' potential for damage and promote children's physical and psychological health. Moreover, the Challenge Model conceptualized individuals as experts and resources in their own health and healing, posited that individuals' innate mental health and self-righting tendencies allow them to tolerate deviation from ideal circumstances, and recognized that protective factors have a profound effect on a person's life course (*30*).

The damage model influences the challenge model. Much of the early research on child development has focused primarily on the damage model. The emphasis has been on the myriad risk factors present in children's lives that increase the odds of negative developmental outcomes, such as parental substance abuse, mental illness, domestic violence, and divorce (*31*). In the damage model, "troubled families are seen as toxic agents, like bacteria or viruses, and survivors are seen as victims of their parent's poisonous secretions" (*32*). The damage model represent children as helpless, vulnerable and struggling to deal with the detrimental influence of their families (*32*). Now, the primary focus in the literature has shifted from the damage model to understanding why many children succeed in life, despite the various, and often various, risk factors present in their early environments (*33*).

The inoculation model is similar to the challenge model in that a factor is seen as "risky when it leads to negative outcomes or promotive when it teaches

adolescents to better handle stressors in the future"(*29*). Yates has regarded resilience as "an ongoing developmental process, in which children learn to gather assets and resources as they are exposed to adverse events". As youth successfully overcome low levels of risk, they may be well prepared to handle increased risk. As individual is old and mature, continuing to be exposed to adverse experiences, their capacity to thrive despite risks increases(*34*).

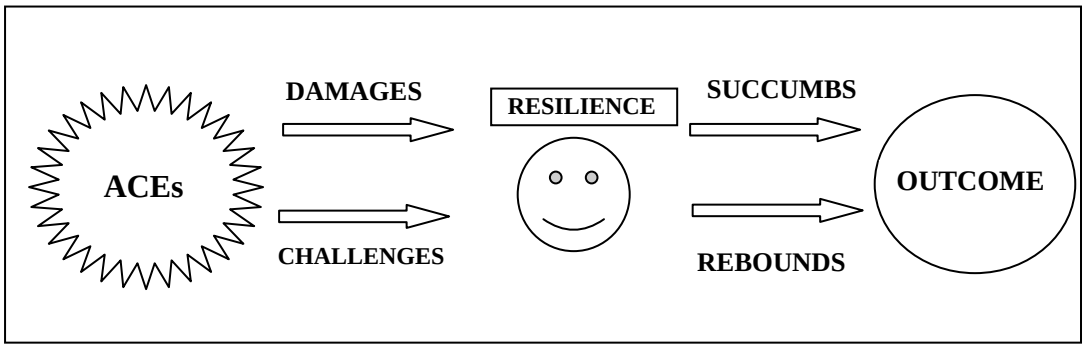

Figure 2.1 The challenge model

2.1.5 Risk factors

A risk factor is sort of attribute, characteristic or exposure of an person that raise the likelihood of papering a disease or injury (*35*). It is reported that risk factors came from the family domain are most powerful as family influence on a child's emotional, social, psychological, and physical environment (*36*). At the same time, risk factors could be expressed by a temporary high-risk condition, or a frequent exposure to a severe adversity or trauma. According to Ostaszewski and Zimmerman, "risk factors tend to be stronger predictors of outcome than protective factors" (*37*). "Domestic violence, war and the death of a parent are seen as some of the most significant risk factors for children, adolescents, and young adults"(*38*). Fonagy and colleagues added nuclear disasters, wildfires, and being institutionalized to the list of most significant risks (*39*).

2.1.6 Protective factors

Dew and colleagues defined protective factors as "something that enhances an individual's ability to withstand and rebound from adverse consequences" (*40*). That is, such protective factors enable one to cope with life stressors and to

demonstrate resiliency in spite of adverse experiences. Protective factors also have been defined as individual traits or environment resources that lower the effect of risk (*41*). Resilience has been represented in terms of three factors: "internal strengths to successfully cope with tough situations; external support and resources; and an one's interpersonal skills" (*42*). The protective factors in the environment include personal relationships within the caring family, neighborhood, community, relatives, neighbors, favorite teachers, coaches, social workers, or priests; supportive and effective classroom environment; and connections to pro-social groups (*43*). Protective factor may be mitigating the negative effects of environment hazards or stressful events to vulnerable individuals directly to optimistic paths such as social support. Three contexts for protective factors are such as personal attributes including outgoing, bright, and positive self-concepts, the family, such as having close bonds with at least one family member or an emotionally stable parent and the community, such as having support or counsel from peers (*44*).

2.1.6.1 Characteristics of resilience

Most researchers conclude that the resilience is a significant personal characteristic for development of all children as it arms them with coping mechanisms to respond to hardships both big and small (*28*). According to Werner, resilient children tendency to exhibit some "individual characteristics such as being active, affectionate, cuddly, good-natured, and easy to cope with" in infancy (*15*). Werner also found that "resilient child were responsible, socially mature, internalized a positive set of values, nurturing, empathic, and socially perceptive" (*15*). Fergusson and colleagues revealed that resilient children were more likely to have been rated as expressing an "easy temperament "(*45*). Resilience is seen as having its roots in childhood, it is essential to understand it does not as a fixed attribute, but as one that can alter and be developed over experiences (*9*). Resilient child has "a sense of self-competence and self-efficacy". Moreover, resilient child exhibited "healthy androgyny to their interests and activities, displayed an internal locus of control, utilized flexible coping strategies, had a talent or skill, and were assertive and highly achievement oriented". In the same way, Lam and others revealed that "resilient adolescents had greater masculinity, androgyny, and coping flexibility" (*46*). Furthermore, "personal

attributes include outgoing, bright, and positive self-concepts" (*44*), "self-confidence and a positive self-image, developing communications skills, the capacity to make realistic plans and to manage strong feelings and impulses" (*47*).

In another research, emotion regulation, self-efficacy, and impulsivity are seen as three distinct markers of resilience. Each marker was chosen to represent the emotional, cognitive, and behavioral facets of resilience. Emotion regulation is the one of important factor for resilience(*48*). Emotional responses are stimulated by cognitive appraisal and affect behavioral outcomes (*49*). Individuals who learn to successfully manage their emotions demonstrate pro-social skills and stress management (*50*). The cognitive functions of self-efficacy impact the way individuals develop, adapt, and change (*51*) When individuals have low self-efficacy regarding a particular task and choose not to pursue it, they may be limiting themselves in terms of knowledge and skill (*52*). Individuals who have high self-efficacy for an activity report less anxiety in completing the task (*53*). Impulsive behaviors as another indicator of resilience (*48*). Children who struggle with impulse control are often demonstrating other behavioral problems such as attention and aggression disorders (*54*), interpersonal problems, and learning deficiencies (*55*). Individuals who are capable of controlling their behavior are viewed as positively adjusting to their environment, demonstrating flexibility and resourceful adaptation (*56*). As we have reviewed characteristic of resilience so far, each research has distinct definition and finding but each characteristic of resilience is similar closely all.

Connor and Davidson who developed the Connor-Davidson Resilience Scale (CD-RISC) which is arguably one of the most common tool of resilience assessment, revolutionary found and summarized that the several characteristics of resilience includes "a sense of personal competence, tolerance of negative affect, positive acceptance of change, trust in one's instincts, sense of social support, spiritual faith, and an action-oriented approach to problem solving" (*12*). The contents of the resilience scale were derived from many sources. From Kobasa's study of hardiness in 1979, items reflecting recognition of limits to control, commitment, and change viewed as challenge were included. Rutter's work in 1985 also contributes to the formation of the scale: "developing strategy with a clear goal or aim, action orientation, strong self-esteem, self-confidence, adaptability when coping with change,

solving skills on social problem, humor in face of stress, strengthening effect of stress, taking on responsibilities for coping with stress, engaging the support of others, secure or stable affectional bonds, and successful experiences and achievement". From Lyons in 1991, items assessing patience and the ability to tolerate stress or pain were included. Lastly, from Shackleton's experiences, it was noted that the role of faith and a belief in merciful intervention ''good luck'' were likely significant factors in the survival life, suggesting a spiritual component to resilience (*12*).

2.1.6.2 Family environment

Past research shows that the family is an excellent resource for understanding and assisting adolescent concerning nurturing resilience (*57*). Nurturing child resilience requires caring and stable family environments that have high expectations for child behavior and encourage participation in the life of the family (*58*). According to theories of family systems, "resilient family systems enhance one's resilience and challenges in stressful life are proposed to having an impact on the whole family and, in other words, key family processes such as communication or problem-solving, mediating the recovery, or maladaptation, of all members, as well as the family unit" (*59*). As the definition of parental resilience, "the capacity of parents to deliver a competent and quality level of parenting to children despite the presence of risk factors, has found to be a paramount role in children's resilience" (*60*).

Majority of studies imply that certain practices that poor parents apply help enhance resilience among family members. These include frequent displays of warmth, affection, emotional support; reasonable expectations for children combined with honest, moderate strict discipline; family daily practices and celebrations; and the maintenance of common sense of values concerning money and leisure (*61*). According to sociologist Christopher B, "Poor children growing up in resilient families have received significant support for doing well as they enter the social world-starting in daycare programs and then in schooling" (*62*).

1) Circumplex Model of Marital and Family Systems

There are various theoretical perspectives that help to characterize the role of family dynamics in dealing with adverse events. Circumplex

model is one of the model that particularly represents the change of a family system goes through developmentally in response to an adverse experience or a significant life change and it was developed for use in family research, clinical assessment, treatment planning, and outcome effectiveness of marital and family therapy (*63*). There are three dimensions to the Circumplex Model including cohesion, flexibility, and communication. Both cohesion and flexibility have a curvilinear relationship with family functioning (*64*). Family communication as a facilitating dimension of family functioning is the catalyst in altering the family's level of both cohesion and flexibility. Cohesion describes the emotional bonding that family members have toward one another and focuses on how families balance togetherness versus separateness. Flexibility or adaptability indicates the quality and expression of leadership, role relationships, and rules of relationship within the family (*65*), as well as the degree to which these roles and rules remain stable and consistent over time. Families are then grouped based on these dimensions, with flexibility in families ranging from rigid (very low flexibility) to chaotic (very high flexibility), and cohesion ranging from disengaged (very low cohesion) to enmeshed (very high cohesion). Family communication refers to the positive communication employed within the family system and functions as a dynamic component that aids or hinders movement along the other two dimensions (*66*) (*67*). Theoretically, the Circumplex model assumes that optimal family functioning is associated with a balance between cohesion and flexibility; families falling on the extremes of one or both dimensions are viewed as problematic (*68*) (*69*).

2) Parental Favoritism and Family Relationships

Theories of family systems and resilience are applied to mention the influence of family relationships and characteristics of one's resilience on adolescent development. "Resilience mediated the relationship between the family dynamics such as parental favoritism, and the quality of sibling, and parent-child relationships, and the outcomes of depressive symptomology, and positive peer relationships" (*70*). This research focuses on the adolescents' perceptions of whether parent favoritism is perceived in the family. An adolescent's perception of parental favoritism can display significant influence in the child's relationships within the

family system (*70*) as well as their own self perceptions(*71*). Research conducted by Brody, Copeland & Sutton (*72*) discusses the effects of perceived parental favoritism on the family system including lower cohesion, higher disengagement and increased family conflict. Where high quality relationships between parents and their children have consistently been found to protect children from some future difficulties(*73*).

When it comes to sibling support, some research has indicated that the examination of dyadic family relationships are not only essential for predicting the types of social relationships adolescents will have external to the family, but also for understanding self-esteem issues (*74*). Research conducted on sibling competence indicated that these family bonds tend to mediate the adjustment to specific types of traumatic experiences during childhood such as family conflict or child abuse (*75*). Sibling relationships can act as an outlet in place of the potential aggressive behavior and other problem externalization by adolescents (*70*).

2.1.6.3 Communities

Communities play in promoting resilience as a huge role. The most obvious sign of a cohesive and supportive community is the existence of social organizations that supply healthy human development. (*76*) Availability of support systems are also a strong predictor of the resilience that children may develop amidst a high-risk environment (*77*). Resilience is considered as the ability of community members to take deliberate action purposefully and collectively to buffer the harmful effects of adversity. As with individual resilience, community resilience involves attitudes, thoughts, beliefs, behaviors and resources(*78*). Community resilience has been centered as a key concept for disaster readiness, as disasters underline the interdependence of individual, family, and community systems and the effects of threats to a system on the other systems. Several indicators of community resilience have been found such as “affordable housing, income equality, home internet access, educational attainment, elected leadership diversity, access to health care, public space including acreage, bike and walking paths, open space, air quality, recidivism rates, and perceptions of social trust and cohesion” (*79*). Additionally, “healthier communities value sharing history and are intention to celebrate their community. This means interacting multi-level of generations with community activities or practices,

and focusing consistently on strengths and on enhancing those strengths. In this way, individuals and families can feel closer and more involved in their communities, thus both perceiving and having more effective social networks" (*59*).

2.1.6.4 Social support

Social support refers to "a social network's provision of psychological and material resources intended to benefit an individual's capacity to cope with stress". Social support may take various different forms, and include the scale and range of structural support, frequency of social interactions; functional support based on the experience or perception that social interactions have been beneficial about emotional or instrumental needs, emotional support that being loved, respected, or cared for by others, material and instrumental support such as goods and services for solving practical problems and informational and cognitive support such as that provision of relevant information enable individuals deal with this difficult situation, recognize the crisis, and adopt to the occurring changes. These types of support can be provided by different systems including friend, family, community, national, and international systems (*59*).

Social support at the families levels and communities levels such as church or school, has been shown to promote resilient outcomes among children who were abused sexually during their childhood (*80*). In another research, the availability of social support from family and community can reduce this stress and yield positive outcomes despite experiences of parental divorce (*81*). The previous study on military veterans shows some interesting examples of the relations between social support and psychological resilience and mental health. The data indicated that veterans characterized as resilient such as high number of lifetime traumas and less current psychological distress, had higher social support, in which they were more likely to be married or living with a partner. Furthermore, social connection scored higher especially in terms of secure attachment style and social support, and community integration, than veterans identified as distressed high number of lifetime traumas and high current psychological distress (*59*). However, social support is influenced by cultural contexts, which include the ideas, beliefs, and values people hold about persons and their social relationships in which they take part. These

contexts can affect the provision and acceptance of social support at all levels by influencing an one's definition of support, evaluation of stressful events and whether social support is actually supportive and propensity to give, get, accept, or reject support (*82*).

2.2 Adverse Childhood Experiences (ACEs)

2.2.1 Background of Adverse Childhood Experiences (ACEs) study

Researches on ACEs have been increasing over the two decades and most of literatures has examined the association between adverse childhood experiences in relation to health risk behaviors and health status in adults. As my result of my literature reviews, the original studies about ACEs come from the study was conducted by Felitti with other coworkers in 1998. The study was a large epidemiological study targeting 13,494 adults in Kaiser Permanente's Health Appraisal Center in San Diego, California and U.S. Centers for Disease Control and Prevention in Atlanta, Georgia. This study revealed multiple types of childhood abuse and family dysfunction on a wide range of health behaviors and outcomes from adolescence to adulthood (*3*). Regarding measurement of ACE, since traumatic events hardly occur in isolation and are highly interrelated, the ACE study used a cumulative stressor model to assess the association between the total number of childhood exposures with ACE score and many types of health outcomes (*3*).

From the original study, in both developed and developing countries, growing number of studies that association ACEs and other adverse stressors for health risk behaviors and chronic health outcomes and a number of other initiatives emerged such as global burden of disease(GBD) estimates; the Global Schools-based Student Health Survey (GSHS), the International Society for Prevention of Child Abuse and Neglect(ISPCAN) International Child Abuse Screening Tool(ICAST), and country-specific projects in several countries including Australia, China, Malaysia, Singapore, South Africa, Swaziland and Vietnam. These progress of study have occurred in a context of child abuse internationally following the launch of reports such as WHO's 2002 "*World report on violence and health"* and the 2006 "*UN Study*

on Violence against Children" and increased global interests in prevention for non-communicable and chronic disease at the first United Nation (UN) summit in 2011 (*83, 84*).

Most recently, Department of Violence and Injury Prevention and Disability of WHO have prioritized child maltreatment prevention in collaboration with Violence Prevention Division of CDC, and there is widespread interest internationally in improvement and development of policies and programs to prevent child maltreatment and mitigate its acute and chronic consequences (*83*).

2.2.2 Definition of ACEs

WHO defines adverse childhood experiences (ACEs) as kinds of the most intensive and recurring sources of stress that children may suffer early in their life. ACEs is comprised of several domains such as emotional, physical, sexual abuse, intimate violence at household, living with family members who were substance abusers, mental illness or suicidal, were imprisoned, one or no parents experienced parental separation or divorce, emotional and physical neglect, bullying, community violence, collective violence (*84*). ACE is a traumatic experience in a one's life occurring before the age of 18 that the person recalls as an adult (*2*).

ACEs are related to a range of poor outcomes occurred in childhood, adolescence and adulthood. Epidemiological studies have found that ACEs affect health and psychological well-being over the lifespan. The results of ACEs study suggest that abuse and family dysfunction during childhood contribute to negative outcomes decades later in their life (*85*). Negative outcomes include health problems, psychiatric disorders, substance use problems, disruptive behavior disorders and functional impairment (*86-90*). The higher of ACEs scores is, the higher incidence of risk behaviors such as substance abuse, promiscuity, and severe obesity, depression, heart disease, cancer, chronic lung disease and short period of lifespan (*3*). Furthermore, many studies show that ACEs is predicted to develop the psychiatric disorders in adolescence and adulthood (*87*). Not only does childhood adversity predict post-traumatic stress disorder, but it also is associated with depression (*88*). physical abuse and sexual abuse in childhood are clearly associated with the development of comorbid psychiatric disorders in adolescence, young adulthood and

throughout the life course (*91*). Experiencing trauma and adversity during childhood can interfere with crucial aspects of development. Adverse childhood experiences can alter the way youth view themselves and the world, the way they think, regulate emotions, and behave (*92*). Neurodevelopmental research suggests that early trauma and adversity interfere with brain development and functioning (*93*).

2.2.3 Physical abuse

The Centers of Disease Control (CDC) defines that "physical violence is the intentional use of physical force with the potential for causing death, disability, injury, or harm" (*94*). Early contact to physical abuse leads to aggression and violence later in life, thus, the extent to which "violence begets violence" (*95*). Similarly, "early maltreatment to later aggression and delinquency"(*96*). "As many as one-third of children who experience physical abuse are also at risk to become abusive as adults"(*97*). "Substance abuse, symptoms of depression, emotional distress, and suicidal ideation are common features of people who have been physically abused. Studies have also shown that children with a history of physical abuse may meet DSM-IV-TR criteria for posttraumatic stress disorder (PTSD)". (*98*)

2.2.4 Emotional abuse

CDC defines emotional abuse as "threatening a partner or his or her possessions or loved ones, or harming a partner's self-worth. Examples of emotional abuse under the CDC's definition include stalking, name calling, intimidation, and isolation" (*99*). This type of abuse may occur with physical abuse, but there is often an overlap (*100*). Teenagers who have been emotionally long-term abused are more likely to self-harm and experience depression compared to those who not (*101*). Adults who have been emotionally abused as children have a much lower satisfaction with life and higher level of depression and health problems compared to those who have experienced a different form of child abuse (*102*). Emotional abuse is often seen as less serious than other forms of abuse and neglect since it has no immediate physical effects. But over time emotional abuse can have serious long term effects on a child's social, emotional and physical health and development. (*103*)

2.2.5 Sexual abuse

The CDC defines sexual violence as "forcing a partner to take part in a sex act when the partner does not consent" (*99*). Specifically, women with histories of sexual abuse during childhood are more likely to report feeling socially isolated than women without sexual abuse histories(*104*). Davis and colleagues report that "sexual abuse in childhood increase feelings of destruct and fear of others"(*105*). "Effects of child sexual abuse include shame and self-blame" (*106*), "depression, anxiety, post-traumatic stress disorder, self-esteem issue, sexual dysfunction, chronic pelvic pain, addiction, self-injury, suicidal, ideation, borderline personality disorder, and propensity to re-victimization in adulthood"(*107*)."Child sexual abuse is a risk factor for attempting suicide" (*108*).

2.2.6 Substance abuse

According to the DSM-5 (*109*), "a diagnosis of substance use disorder is based on evidence of impaired control, social impairment, risky use, and pharmacological criteria"(*110*). Substance use disorders occur when the repeated use of alcohol and/or drugs causes clinically and functionally significant impairment, such as health problems, disability, and failure to meet major responsibilities at work, school, or home(*110*).

"The parental substance-related disorder can cause different effects on the physical, mental, and cognitive health of children in various stages of development, especially internalizing and externalizing disorders" (*19*). Both genetic and environmental factors can influence one's vulnerability to negative experiences (*111*). Many studies have suggested that the problem drinking and the drug use of the family has greatly influences child development and behavior as a familiar problem. Policy and practice, therefore, increasingly recognize the need to solve the problems that cause children of substance abusers are at risk from emotional and physical neglect, and of developing serious emotional and social problems later in their life (*112*). Children from families of alcoholics and drug addicts are a high-risk group for developing a mental or substance-related disorder (*19*). "A family history of alcoholism previously has been associated with higher rates of drug and alcohol use disorders, other psychiatric disorders, and personality variables associated with

psychiatric disorders and social maladjustment" (*113*). A high-risk setting or a long-term traumatic experience can expose children to a stressful environment (*114*). Besides, it is said that parental substance abuse is strongly and positively correlated with child abuse and neglect (*115*).

Conversely, some of Children of alcoholic (CoA) respond to their family environment by showing increased maturity, responsibility, and resilience (*116*). Various protective factors act as coping mechanisms, allowing children to overcome their difficult circumstances. (*48*) There are some children who demonstrate an ability to successfully cope with their adverse family circumstances. (*117*)

2.2.7 Incarcerated household member

Individual who experienced incarceration have harder time to regain stable housing, employment, education, and marriage partners, all of which are social determinants of health and may influence on children living in the same household(*118*). Incarceration has been linked to negative effect on mental health of children (*119*), and associations with children's health may continue into adulthood. Although most studies of incarceration's effects on community health have focused on infectious diseases (*120*), few have addressed chronic disease risk factors(*121*).

2.2.8 Mentally illness

Individuals who have a parent with a psychiatric disorder are at a high risk of developing various emotional and behavioral problems (*44*). Hans and colleagues suggested that children who have parents with mental disorders, such as schizophrenia or schizotypal personality disorders, are at great risk for developing schizophrenia, even before they enter adulthood(*122*). However, although research has shown that having a mentally ill parent has associated risks for children, there are some children that are resilient and do not suffer difficulties, even into adulthood (*123*).

2.2.9 Witnessing violence

In a number of countries, a child is considered to have witnessed family violence when "an act that is defined as domestic violence is committed in the presence of or perceived by the child" (*124*). Witnessing family violence is especially

true for incidents involving non-physical or psychological violence such as verbal altercations, threats, intimidation, etc. (*125*). And, simply hearing the abuse as a child can be just as devastating as visually witnessing the abuse (*126*). Some researches has started to look at the idea that witnessing family violence may have adverse effects on children's neurobiological and physiological health and development (*127*). Similarly, "children who witnessed family violence exhibit more behavioral or externalizing problems such as poor impulse control, aggression, hostility, disobedience, and oppositional behaviors than do children who have not been exposed to family violence" (*128*). And thus, children who witness domestic violence may widely outnumber the victims of physical abuse(*129*).

2.2.10 Parental separation or divorce

Children whose parents separate or divorce display a great variation in their response to parental separation, but on average they show poorer outcomes including emotional problems and a variety of conduct-related difficulties, than do children of intact families. Despite the fact that a great deal of research on children from "broken" families has been performed, the range of outcome variables thus far employed has been restricted principally to children's maladjustment, and at present few studies have focused on children's resources, such as coping abilities, social skills, and values(*130*).

2.2.11 Physical and emotional neglect

"Child neglect can be defined as a caretaker failing to meet the needs of a child that are deemed essential for physical, intellectual and emotional development" (*131*). Child physical neglect has the most profound effects on cognitive functioning and academic achievement, while child physical abuse has the most serious effects on aggression and subsequent violent behavior. Child emotional neglect, sexual and physical abuse have similarly grave effects on psychopathology, in contrast to child physical neglect which is associated with the least adverse consequences (*132*). Neglected children are at immediate risk for problems related to psychological distress, emotion expression, and behavioral problems. Feiring noted that neglect has been found negatively impact a child's emotional process and development, resulting

in problems with communication, emotional expression, and regulation(*133*). Dubowitz added that children who have been neglected may have difficulties with attachment related to low self-esteem, increased dependency, and anger. Another outcome of neglect that has been gaining attention in research is the sense of shame a child experiences(*134*).

2.2.12 Bullying

Those who have been the targets of bullying can suffer from long term emotional and behavioral problems. Bullying can cause loneliness, depression, anxiety, lead to low self-esteem and increased susceptibility to illness(*135*). Bullying can have long-term physical and psychological consequences. Some of these include: Withdrawal from family and school activities, Wanting to be left alone, Shyness, Stomachaches, Headaches, Panic Attacks, Not being able to sleep, Sleeping too much, Being exhausted, Nightmares. (*136*) Bullying has also been shown to cause maladjustment in young children, and targets of bullying who were also bullies themselves exhibit even greater social difficulties (*137*).

2.2.13 Community violence

"Community violence can be defined as exposure to intentional acts of interpersonal violence committed in public areas by individuals who are not intimately related to the victim" (*138*). Common types of community violence that affect youth include individual and group conflicts such as bullying, fights among gangs and other groups, shootings in public areas such as schools and communities, civil wars in foreign countries or "war-like" conditions in U.S. cities, spontaneous or terrorist attacks, etc. (*138*). Typically, community violence is the identified stressor and is used to predict maladaptive outcomes. Chronic exposure to community violence is believed to have a negative impact on various aspects of youth's development and adaptive functioning (*139*). For instance, results from a number of cross-sectional studies suggest that exposure to community violence is associated with symptoms of depression, controlling for a range of covariates (*140*). Anxiety symptoms, such as generalized anxiety, separation anxiety, and specific phobias, comprise another commonly cited correlate of youth's community violence(*141*). Perhaps the most

frequently observed outcomes of community violence among youth are posttraumatic stress disorder (PTSD) and posttraumatic stress symptoms (PTSS)(*142*). In addition to these emotional problems, many youth exposed to community violence tend to develop externalizing behavior problems, such as aggression and delinquency (*143*).

2.2.14 Collective violence

Collective violence can be defined as: the instrumental use of violence by people who identify themselves as members of a group, whether this group is transitory or has a more permanent identity, against another group or set of individuals, in order to achieve political, economic or social objectives. Violent conflicts between nations and groups, state and group terrorism, rape as a weapon of war, the movement of large numbers of people displaced from their homes, and gang warfare – all these occur on a daily basis in many parts of the world. The effects of these different types of event on health in terms of deaths, physical illness, disabilities and mental anguish are vast(*144*).

2.3 Related Researches

The previous literatures have shown the results that resilience is likely to be related to demographic factors and ACEs. The most studies related to resilience were conducted in other countries on different context, therefore, the study in Thailand may have led to some variations in the results.

2.3.1 Demographic factors

Sex:

The effect of gender on resilience has been assessed in many of the studies, but much consensus hasn't been observed among the studies. However, in some others, female students were observed to have higher resilience in the study of Onder and Gulay (*145*), male students to have higher resilience in the study of Oznur (*146*), and showed differences between sexes. In another research, risk factors may differ according to sex at different moments of an individual's life. As stated by Werner (*147*), in general, boys are more vulnerable in the first decade of life while

girls are more vulnerable during the second decade. During the first decade boys are more vulnerable physically and emotionally than girls. The situation of adversity for boys increases as expected with the presence of risk factors such as poverty, or lack of family balance; to the point that they are more susceptible to being institutionalized if they cannot remain in the home (*148*). Besides, Criss et al. (*149*) found that female peer relationships may in fact be more protective due to the fact that they are typically characterized by more support and affection. Therefore, earthier way boys and girls are supposed to demonstrate different level of resilience according to their context.

Age:

In previous studies of burnout in school psychologists, age has shown the most consistent trend, with younger practitioners experiencing higher levels of burnout than their older colleagues(*150*). Previous research regarding resilience has shown significant differences in resilience in pediatric healthcare professionals under the age of 25; younger professionals reported lower levels of resilience and compassion satisfaction and higher levels of negative affective responses, such as burnout and secondary traumatic stress (*151*). In the research of comparing two groups on the bases of age young adult (21-30 years) and middle adult (31-40 years) on resilience, results shows that middle adult has better resilience 147.68 than young adult 140.62. It means age and maturity play important role in the development of resilience(*152*). Furthermore, a literature that examines the phenomenon of therapist resilience supports the conclusion that resilient therapists tend to be older and more experienced (*153*). In this study, younger master's level counseling students between the ages of 20 and 29 presented a lower level of resilience than older master's level counseling students (40 years of age or older). Older adult participants in this study, in comparison with young adult participants, appear to have a higher level of equanimity, or a more balanced perspective in life. Older adult participants, in comparison with young and middle age adult participants, also presented a higher level of existential aloneness, defined as the recognition of one's own path and acceptance of one's own life. The findings in this study support the results of the majority of studies that resilient responses were higher among older adults (*154*).

GPA:

Fergusson and colleagues (*45*) noted that "resilient children were featured by higher intelligence and problem solving skills". Bonanno and Mancini (*155*) found that resilience was associated with higher education. According to a research conducted in Thailand, students with high GPA had resilience scores(*156*) Another research among students with disabilities, students with self-reported GPA $\geq$ 5.5 scored significantly higher on resilience and academic satisfaction scales, than students with self-reported GPA < 5.5(*157*).

School satisfaction:

Werner stated that "resilient children often make school into a home away from home when their household conditions are not ideal. Resilient children also enjoy school" (*45*) (*158*). Greater school involvement and involvement in extracurricular activities, such as sports, were also found to be protective in nature(*40*).

Peer support:

"Resilient children tend to be well liked by their peers, have one or more close friends, and keep childhood friends into adulthood" (*158*). Involvement in activities has been shown to foster positive connection to peer and adults, enhance adolescents' physical, mental and psycho-social skills and protect them from a host of health risk behaviors(*159*). Similarly, resilient adolescents display greater levels of popularity, fewer interpersonal problems, and spend more time with peers (*160*).

Family structure and marital status of parents:

The focus of resilience has been extended to the family unit(*161*). Research suggests greater resilience is found in those families who reach out to others in their social environment, including extended family, friends, and community members(*162*) Single parenthood poses risks for parental wellbeing and children's adjustment. Children of sole parents, on average, have poorer records of academic achievement, display higher rates of psychological distress and have an increased likelihood of non-marital childbearing than their peers from two-parent families. In addition, sole mothers have poorer mental health than do their partnered peers, which

affects their capacity to parent their children effectively and thus has a knock-on effect on their children's development(*163*).

The study compared three different types of primary caregiver in divorced families: father, mother and grandparent(s), found that adolescents living with mothers reported the highest scores in family hardiness and family communication(*164*).

In the current study, type of family at the time of childhood (0-10 years) is taken as a predictor to develop resilience in a person. The research conducted in Deli, India, showed that person that has an experience of extended family at least 0-10 years and now living in a Nuclear family or Single from last 2 years have better score of Resilience 1 53.87 than a person has an experience of Extended family and now is living also in a extended family. So that Extended- Extended family subgroup person get minimum chance to show his Resilient Behavior that's he develop at the time of childhood but in Extended- Nuclear family subgroup they get good and maximum chance to show his Resilient behavior(*152*).

Family income:

From preschool to high school students, compared to more advantaged children, preschoolers from low-income families have exhibited lower levels of expressive and receptive language skills (*165*), lower scores on tests of emergent reading and mathematics (*166*), lower cognitive test scores, and increased levels of behavior problems (*167*). Low-income children are more often absent from school and kindergarten teachers more often identify them as at risk for academic problems and give them lower marks for behavior (*168*). Collectively, middle level students from low-income families also express lower expectations for college completion than their higher-income peers (*169*). Weakness in economic resources is also part of the context for resilience among low-income families. Most low-income families attempt to achieve the same basic conditions for their households as every family, including adequate shelter, nutritional meals, positive educational experiences, appropriate clothing, and other basic requirements for subsistence. Their ability to achieve these objectives is limited by their income and economic support(*170*).

As noted by Abelev (*171*), adolescents reared in households with lower socioeconomic status have presented with elevated risk for negative outcomes.

However, according to Schoon et al (*172*), not all individuals exposed to disadvantages have failed to generate or achieve goals. The literature has revealed numerous scenarios wherein individuals are able to surmount adversity and adapt when confronted with significant challenges.

2.3.2 Adverse Childhood Experiences (ACEs)

In the Dave Pelzer's book, he offers an unforgettable account of one of the most severe child abuse cases in California history. From the age of 4 through the age of 12, Dave endured brutal physical abuse, neglect, and psychological maltreatment. By his own account, Dave's history of physical abuse included being smacked, punched, kicked, burned, and suffocated by a Clorox and ammonia mixture, stabbed, drowned, and submerged in ice cold baths. His history of neglect included nutritional neglect, personal hygiene neglect, healthcare neglect, educational neglect, emotional neglect, supervisory neglect, and household safety/sanitation. His history of psychological maltreatment included being rejected, degraded, terrorized, isolated, dissocialized, exploited, close confinement, and denied emotional responsiveness. By the fifth grade, Dave had become a pin-up child for psychopathology. And each incident of maltreatment also motivated Dave to rise to the occasion in a remarkable testament to the tenacity of the human spirit. (*173*).

Adverse childhood experiences are not uncommon in the general population; two-thirds of adult's report at least one type of adversity (*89*). More specifically, almost one third of adult's report that they experienced childhood physical abuse, over one quarter report growing up with a substance-abusing parent, and one fifth report childhood sexual abuse (*89*).

Researchers find women who have experienced domestic violence are 80% more likely to have a stroke, 70% more likely to have heart disease, 60% more likely to have asthma, and 70% more likely to drink heavily than women who have not experienced intimate partner violence (*174*). Thus, the experience of intimate partner on women cause higher health issues.

Although all women are at risks for domestic violence; females 20 to 24 years of age are at greatest risk for intimate partner abuse and domestic violence (*174*). The Federal Bureau of Investigation (*175*) reports almost one-third of female homicide

victims reported in police records are murdered by an intimate partner. Domestic violence results in millions of child and adult emergency department visits annually (*176*). Thus, it is obvious that adverse experience is different by gender.

Approximately 20–25% of children “demonstrate severe emotional and behavioral problems” when going through a divorce. This percentage is obviously higher than the 10% of children displaying similar problems in married families. Despite having divorces parents of approximately 75–80% of these children "develop into well-adjusted adults with no lasting psychological or behavioral problems". And thus, “this comes to show that most children have the tools necessary to allow them to exhibit the resilience needed to overcome their parents’ divorce” (*177*). Thus, divorce and separation may relate to child resilience.

There are approximately one in four children growing up in an alcoholic home, many of whom experience depression, anxiety, low self-esteem, and behavioral problems(*178*). Among these children, 70% are likely to become substance abusers themselves(*48*). Specifically, children of alcoholic parents were more likely to begin drinking alcohol by age 14, experience drunkenness by age 17, and report 1.05 more alcohol related problems. This early alcohol use may be due to a combination of genetic and environmental factors (*179*).

Overall, Adult Children of Alcoholic (ACOA) group showed lower scores of resilience, social support, self-esteem and family adaptability and cohesion compared to non-ACOA group. Multiple regression analysis showed that 45% of the variance for resilience in the ACOA group was accounted for by age, gender, social support, self-esteem, and religion(*180*). Most had some kinds of support from an extended family member (most often a grandmother or aunt), sometimes formalized in fostering. In some instances, the respondents’ accounts indicated that friendships had led to their engagement in shorter or longer term periods of self-destructive behavior, including excess drinking, criminal activity and serious drug misuse. (*9*)

CHAPTER III
RESEARCH METHODOLOGY

This chapter describes the research methodology used in this study. They include study design, scope of the study, target population, inclusion and exclusion, sample size determination, sampling technique, research instruments, validity, reliability, data collection procedure, data analysis and ethical consideration.

3.1 Study Design

This study was based on a cross-sectional study, which aimed to identify the distribution of the Thai students who have high level of resilience and examine the factors associated with resilience among Thai students of international colleges in Bangkok and suburb, Thailand.

3.2 Scope of the study

The current study investigated the percentage of resilience and the factors associated with resilience among Thai students. The study evaluated the characteristics of resilience among Thai students to compare with the its existing data in Thailand and nationwide, with the advantage that large series of cases become available for analysis.

3.3 Target Population

The target population in this study consisted of Thai students in three international colleges located in Bangkok and suburb, Thailand. International colleges were selected due to it was convenient to communicate with subjects in English.

Selection of Bangkok and suburb area were considered on efficiency in conducting research since most international colleges centered in target area. Target age was limited from 18 to 24 years old since the instrument used in the study were asking about the adverse childhood experiences before turning 18 years old as it was considered to let them to easily recall their experiences.

3.4 Inclusion and Exclusion Criteria

3.4.1 Inclusion Criteria

1) Thai student who agreed to the study.
2) Those who aged 18 to 24 years.
3) Those who was in undergraduate courses
4) Those who was in international colleges under private or government
5) Those who could understand and communicate in English or Thai.

3.4.2 Exclusion Criteria

1) Those who had communication difficulties such as mute, deaf or intelligent disability.

3.5 Sample Size Determination

The number of samples to be included in this study was selected to represent the target population. The method programmed by Daniel (*181*), the sample size was calculated as follows;

$$n = \frac{Z^2 p(1-p)}{e^2} \qquad n = \frac{1.96^2 \times 0.33(1-0.33)}{0.05^2} = 339.7$$

When; n = sample size

Z = standard normal score at 95% of confidence interval = 1.96

p = proportion of resilience from the previous study = 0 .33 (*10*)

e = allowance for error = 0.05

Thus, minimum sample size was about 340 cases and 10% should be added to cover incomplete questionnaires and drop out. Therefore, the required sample size was at least 380 cases.

3.6 Sampling Technique

Multistage cluster sampling methods was used in this study. The procedure of sampling as follows;

1. Bangkok and suburb were purposively selected as a target area.
2. Mahidol University, Thammasat University and Rangsit University were selected purposely from 51 international colleges located in Bangkok and suburb, Thailand.
3. Classrooms in which there were Thai students aged 18-24 years were purposively selected from each University.
4. Thai students were randomly recruited from each classroom.
5. Researchers continued above procedure until being completed the target number of 380cases.

3.7 Research Instruments

3.7.1 Measurement for Dependent variable

The Connor-Davidson Resilience Scale (CD-RISC)

A degree of resilience among Thai students was measured on the original measurement of Connor-Davidson Resilience Scale (CD-RISC). CD-RISC is standardized tool widely used in all over the world and available in many translated versions in more than 60 languages and dialects and it is aimed at adults and older adolescents (*182*).

CD-RISC has a 25 item self-rating scale with five response categories (0 to 4) grouped into five factors reflecting several aspects of resilience including a sense of personal competence, tolerance of negative affect, positive acceptance of

change, trust in one's instincts, sense of social support, spiritual faith, and an action-oriented approach to problem solving. The first factor (8 items) reflects the notion of personal competence, high standards and tenacity. The second factor (7 items) has to do with trust in one's intuition, tolerance of negative affect, and the strengthening effects of stress. The third factor (5 items) reflects positive acceptance of change and secure relationships. The fourth factor (3 items) reflects control. The fifth factor (2 items) reflects spiritual influences (*183*). All a 25 item carry a 5-point range of responses, as follows: not true at all (0), rarely true (1), sometimes true (2), often true (3), and true nearly all of the time (4). The scale is rated based on how the subject has felt over the past month. The total score ranges from 0–100, with higher scores reflecting greater resilience(*12*). The total score was then divided into 2 groups based on the mean score, over and equal mean value was considered as high resilience and less than mean as low resilience.

CD-RISC has sound psychometric properties and distinguishes between those with greater and lesser resilience. Improvement in CD-RISC score was noted in proportion to overall clinical global improvement and deterioration in CD-RISC score in those with minimal or no global improvement. The scale demonstrates that resilience is modifiable and can improve with treatment, with greater improvement corresponding to higher levels of global improvement. A repeated-measures ANOVA showed that an increase in CD-RISC score was associated with greater improvement in treatment for those with PTSD. Moreover, CD-RISC is associated with less disability and greater social support(*12*) .

3.7.2 Measurement for Independent variable

Part 1: Demographic factors

Sex, age, grade, GPA, school satisfaction, peer support, family structure, marital status of parents and family income were collected as demographic factors of the respondents.

Part 2: Adverse Childhood Experiences (ACEs) Questionnaire

To determine an accurate overall ACE score for a respondent, the questionnaire derived from Adverse Childhood Experiences International

Questionnaire (ACE-IQ) was used(*84*). In May 2009, an international ACE research network was established to advance global understanding and measurement of ACEs. Led by the WHO Departments of Violence and Injury Prevention and Disability, and Chronic Diseases and Health Promotion, and the US Centers for Disease Control and Prevention (CDC), network members agreed to adapt the original ACE questionnaire with the aim of producing a standardized international questionnaire that reflects the range of adversities prevalent across low, middle, and high-income countries. The ACE-IQ was designed to be intergraded within broader health surveys to allow analysis of associations between adverse childhood experience and subsequent health outcomes and health risk behaviors(*84*). In this study, this measurement was applied to examine association between ACEs and resilience level among Thai students.

The ACEs questionnaire is comprised of 37 items (Seeing APPENDIX B) as follows;

6 items (Q1.10-1.15) with yes or no response format, eliciting information on family environment such as living with a household member who have substance abuse, mental illness, experiencing Jail or Prison, separation or divorce or death.

5 items (Q2.1-3.3) with 4 response formats ranging from “never (0)” to “many times (3)”, generating information on relationship with Parents/Guardians such as physical and emotional neglect.

11 items(Q4.1-5.8) with 4 response formats ranging from “never (0)” to “many times (3)”, eliciting information on family environment such as witness violence, physical, emotional, sexual abuse.

8 items (Q6.1-6.3) with 4 response formats from “never (0)” to “many times (3)” on peer violence

3 items with 4 response formats ranging from never (0) to many times (3) on witnessing community violence

4 items with 4 response formats ranging from never (0) to many times (3), eliciting information on exposure to war/collective violence

To calculate the ACE score using the binary version, if the participant answered in the affirmative (whether with once, a few times, or many times), then counts as a “yes”, and a “1” placed in the final column of "Calculating the ACE score

from the ACE-IQ" (see Appendix D). Once completed you get an answer from 0 to 13. This is the ACE score for an individual. Once you've calculated the ACE scores, the total score was then grouped into three according to low ACEs (first quartile), moderate ACEs (second and third quartiles) and high ACEs (fourth quartile).

3.8 Validity and Reliability

3.8.1 Validity and Reliability for CD-RISC questionnaire

The authors reported that the scale has high internal consistency, good retest reliability and adequate convergent and discriminant validity. Moreover, The CD-RISC has been tested in the general population, as well as in clinical samples, and demonstrates sound psychometric properties, with good internal consistency and test–retest reliability(*12*). The CD-RISC has been compared to numerous other measures that in one way or another are related to aspects of resilience, such as hardiness, social support, stress-coping ability, self-esteem, life satisfaction, successful aging, positive and negative affect. The results of many investigations have assessed the scale's validity (*23*). The item allows the identification of a relatively wide range of behaviors evaluating resilience, and the average reliability of the scale was acceptable (*183*).

Connor and Davidson showed acceptable test-retest reliability for the full CD-RISC (r=0.87) (*23*). Khoshouei showed test-retest good reliability for the four factors in a factor analysis (r=0.78 to r=0.88) (*184*). Test-retest reliability was reported by Giesbrecht et al, who noted mean scores of 66.4 (10.8) at time 1, and 66.3 (9.8) at time 2, four months later (*185*). In Steinhardt's study, the wait-list control group showed no change in the CD-RISC over 4 weeks (70.5(12.3) and 70.6 (11.7)) (*186*). Patients undergoing rehabilitation after spinal cord injury showed consistent scores in the CD-RISC (82.2, 81.9 and 82.6) across a 2 to 3 months' period (*187*). Windle et al. conducted a review of the psychometric properties of the resilience scales, assessing their content validity, internal consistency, criteria validity, construct validity, reproducibility (i.e., absolute and relative error measures), responsiveness, presence of floor or ceiling effects and interpretability. The authors awarded a score of 2, 1 or 0 points to each criterion according to whether it was perfectly fulfilled, doubtful or not

met. Thus, they prepared a ranking, obtaining the Resilience Scale for Adults (RSA) and the CD-RISC highest scores (*188*). Furthermore, the RSA of Friborg and Hjemdal, the CD-RISC correlated significantly (r=0.41) in 373 Iranian adults (*189*).

One of the most commonly used reliability coefficients is Cronbach's alpha It is based on the internal consistency of items in the tests. It is flexible and can be used with test formats that have more than one correct answer. In the study, the researchers applied an original CD-RISC in Thai which we had had an admission of use from Conner and Davidson. Before the survey, the reliability was tested in thirty Thai students by calculating Cronbach's Alpha (α=0.964) to clear if the reasonable threshold of the co-efficiency(Cronbach's alphaα=0.7 or higher) before the research (*190*) and then, appropriateness, clarity, content, and feature of questionnaires was evaluated by major academic advisor, co-advisor.

3.8.2 Validity and Reliability for ACEs questionnaire

Between May 2009 and March 2011, the draft ACE-IQ was field tested in China, the Former Yugoslav Republic of Macedonia, Philippines, Thailand, Saudi Arabia, South Africa and Vietnam. These field tests aimed to evaluate whether the draft could be easily understood by both interviewees and interviewers, and whether the data generated looked credible. In Vietnam, the draft ACE-IQ was also implemented as part of a broader mental health survey. Based upon findings from the field tests and the discussions, the draft ACE-IQ was revised to produce the ACE-IQ Version 1. It was agreed that the main next step is to test the reliability and validity of ACE-IQ Version 1 by implementing it as part of broader health surveys in 6-8 countries. These surveys should aim to produce data that can be used to test the psychometric properties of the tool, compare findings across sites and with other studies, and check internal consistencies. Eventually, the final ACE-IQ questionnaire was approved by the research team, checked for internal validity, and posted on the WHO website (*84*). Besides, a research in Nigeria shown that Internal consistency for the 38 items excluding demographic variables yielded 0.80.Cronbach's α coefficients for the scores on all 38 items of the ACE IQ and the scores on all the 31 items of the CTQ were .80 and .91, respectively and the ACE IQ is a reliable and valid index of the adverse childhood experience were supported(*191*).

The structured ACEs questionnaire in Thai translated by an expert was employed in this study. Before the survey, the reliability was tested in thirty Thai students by calculating Cronbach's Alpha (α=0.74) to clear if the reasonable threshold of the co-efficiency(Cronbach's alphaα=0.7 or higher) before the research (*190*) and then, appropriateness, clarity, content, and feature of questionnaires was evaluated by major academic advisor, co-advisor.

3.9 Procedure of Data Collection

Data collection was conducted after the permission from the Ethics Committee of Mahidol University (MU-SSIRB). Data collection was undertaken as follows;

1. Contacted the principal or head of faculty of international program by phone to obtain a cooperation of data collection.

2. Trained to introduce objectives and methodology of the study to research assistants including Thai students from addiction departments of ASEAN Institute for Health Development in Mahidol University and lectures or professors taking in charge of classroom beforehand.

3. The research assistant gave the information on participant information sheet (seeing APPENDIX D) to Thai students before the class.

4. The researcher or research assistants stood by outside of classroom around end of the class

5. Once the participants agreed with the study, the research assistant obtained the informed consent and then conducted survey inside or outside the classroom or at part of campus in consideration of an individual privacy.

6. After the self-administration survey, researcher or research assistant checked the completeness of information in the questionnaire if completed and thanked the participant for cooperation

3.10 Data Analysis

All data was analyzed, using program SPSS version 21.0.

3.10.1 Descriptive statistics

Demographic factors, resilience and ACEs of the respondents were presented by frequency, percentage, means, quartile deviation (QD), median and standard deviation (SD).

3.10.2 Inferential statistics

1) T-test was used to examine the association between demographic factor and resilience among Thai students of international colleges in Thailand.

2) One-way ANOVA was used to examine the association between ACEs and resilience among Thai students of international colleges in Thailand.

3.11 Ethical Consideration

To collect the data, the participating samples were informed about the study including objectives, method, eligibility, anticipated benefits and especially potential hazard because there were some questions about the negative situations that the respondent had faced in their childhood, therefore the respondent would be likely to have the risk of evoking a negative experience in childhood during the survey. And then for the protection of their rights, agreement and a written/verbal consent was obtained from each participant before administration of the questionnaire. The participants were given the questionnaires with the absolutely understanding that the information was kept confidential and being presented picture with the objective of extending the benefits of the study. The participation of respondents was strictly voluntary and confidential anonymously. During the period for data collecting procedure, the participant had the right to withdraw from the survey at any time without prior notice. Due to the confidentiality of respondents, all the answers are kept confidential. The study was conducted only after research project approval from the committee for Research Ethics (Social Science), Faculty of Social Science and Humanities of Mahidol University. Certified approval number is 2017/036.2012 and MU-SSIRB number is 2017/014 (B2).

CHAPTER IV
RESULTS

The purpose of this study was to determine the percentage of resilience among Thai students and examine the factors associated with resilience among Thai students of international colleges in Bangkok and suburb, Thailand. The data were collected with a self-structured questionnaire from May 4 to May 20, 2017. Total three international colleges in Bangkok and suburb, in Thailand were purposely selected by using cluster sampling method. There were 381 questionnaires distributed and all returned to the researcher at the end of data collection. From all questionnaires, it was reported 2 respondents were disqualified due to the age exclusion criteria, and 13 respondents reported incompleteness questionnaire. After all, total 366 questionnaires were included for analysis.

Data analysis was based on conceptual framework and therefore would be presented in six main parts as the follows;

4.1 Distribution of demographic factors among respondents

4.2 Distribution of resilience among respondents

4.3 Distribution of ACEs among respondents

4.4 Association between independent variables and resilience

The statistical descriptions were used in the first three parts with frequency, percentage, mean, median, QD, SD, minimum and maximum. The last part was analyzed by using T-test and one-way ANOVA.

4.1 Distribution of demographic factors among respondents

The demographic information of students consists of sex, age, GPA, school satisfaction, peer support, family structure, marital status of your parents, and family income as shown in table 4.1.

Table 4.1 shows the demographic factors of respondents. Nearly 61% of the respondents were female. In terms of age, over two-third (71.6%)respondents were between 18-20 where the mean age was 19 years old (SD=1.4). Regarding GPA, over half (54.9%) of respondents had high GPA in their school, the following middle (33.0%) and low (11.1%). When it comes to school satisfaction, almost two-third (65.6%) of respondents were average, the following good or satisfied (30.6%) and poor or unsatisfied (3.8%). Concerning about peer support, more than two-third (71.9%) of respondents felt at least a peer being close. Regarding family structure for the first 18 years of their life, living with parents occupied with 69.1%, and living with mother (17.2%) and father (6.3%) as a single parent. Moreover, current of marital status of your parents shows married (71.6%), the following divorce (13.4%), separate (6.6%), widows (4.9%) and either parent new family (3.0%). According to distribution of family income, 40.9% of respondent had Baht 30,000 or less income and subsequently to it, 35.8% for Baht 30,001-50,000, 16.7% for Baht 50,001-100,000 and Baht 100,001 or more for 6.6%.

Table 4.1 Distribution of demographic factors among respondents

	n=366	**Frequency**	**Percent**
Sex			
	Female	224	61.2
	Male	142	38.8
Age			
	18-20	262	71.6
	21-24	104	28.4
	(Mean= 19; SD=1.4; Min= 18; Max=24)		

Table 4.1 Distribution of respondents by demographic factors (cont.)

n=366	Frequency	Percent
GPA		
Low(GPA1.00-2.49)	43	11.7
Middle(GPA2.50-2.99)	120	32.8
High(GPA3.00-4.00)	203	55.5
School satisfaction		
Good/satisfied	111	30.6
Average	240	65.6
Poor/unsatisfied	14	3.8
Peer support		
Yes	263	71.9
No	103	28.1
Family structure		
Father	23	6.3
Mother	63	17.2
Parents	253	69.1
Grandmother/Grandfather	12	3.3
Relative	9	2.5
Others	6	1.6
Marital status of your parents		
Married	262	71.6
Divorce	49	13.4
Separate	24	6.6
Widow	18	4.9
Either parent have new family	11	3.0
Others	2	0.5

Table 4.1 Distribution of respondents by demographic factors (cont.)

	=366	Frequency	Percent
Family income			
Baht 30,000 or less		150	40.9
Baht 30,001-50,000		131	35.8
Baht 50,001-100,000		61	16.7
Baht 100,001 or more		24	6.6

4.2 Distribution of resilience among respondents

Table 4.2-3 presents the frequency distribution of resilience scale score. Resilience scale score was ranged from 3 to 100 and mean of resilience score was 71.8 (SD = 13.3). In this study, a resilient student was defined as a student who had high level of resilience by being divided based on mean score of resilience scale. Score 71 or lower was considered as low level of resilience and score 72 or higher was considered as high level of resilience. Over half (53%) of the participants reported a high level of resilience, while the others who reported a low level of resilience represented 47.0%. Furthermore, concerning the mean of resilience score by sex, mean (73.0) of resilience score in male were slightly higher than that (71.1) in female, but present study didn't show the significant by sex (Table 4.9).

Table 4.2 Distribution of resilience among respondents

Resilience score	n = 366	Frequency	Percent
1-10		1	0.3
21-30		1	0.3
31-40		4	1.1
41-50		16	4.4
51-60		44	12.0
61-70		94	25.7
71-80		115	31.4
81-90		65	17.8
91-100		26	7.1
(Mean 71.8, SD 13.3, Min 3, Max 100)			

Table 4.3 Distribution of Resilience level

Level of Resilience	n = 366	Frequency	Percent
High resilience (72 or higher)		194	53.0
Low resilience (71 or lower)		172	47.0

Table 4.4 (see Appendix B) presents the distribution of the Resilience Scale. On average, participants scored the highest on item 5, "Past successes give me confidence in dealing with new challenges and difficulties." (M = 3.25). On average, participants scored the lowest on item 3, "When there are no clear solutions to my problems, sometimes fate of God can help" (M = 1.85).

Table 4.4 Distribution of the Resilience Scale

n=366	Not true at all	Rarely true	Some-times true	Often true	True nearly all the time
Items	**0**	**1**	**2**	**3**	**4**
1. I am able to adapt when changes occur	2 (0.5)	9 (2.5)	71 (19.4)	203 (55.5)	81 (22.1)
2. I have at least one close and secure relationship that helps me when I am stressed	33 (9.0)	70 (19.1)	141 (38.5)	83 (22.7)	39 (10.7)
3. When there are no clear solutions to my problems, sometimes fate of God can help	48 (13.1)	83 (22.7)	133 (36.3)	81 (22.1)	21 (5.7)
4. I can deal with whatever comes my way	1 (0.3)	14 (3.8)	87 (23.8)	179 (48.9)	85 (23.2)
5. Past successes give me confidence in dealing with new challenges/difficulties	1 (0.3)	10 (2.7)	57 (15.6)	127 (34.7)	171 (46.7)
6. I try to see the humorous side of things when I am faced with problems	2 (0.5)	17 (4.6)	96 (26.2)	152 (41.5)	99 (27.0)

Table 4.4 Distribution of the Resilience Scale (cont.)

n=366	Not true at all	Rarely true	Some-times true	Often true	True nearly all the time
Items	**0**	**1**	**2**	**3**	**4**
7. Having to cope with stress can make me stronger	1 (0.3)	11 (3.0)	87 (23.8)	137 (37.4)	130 (35.5)
8. I tend to bounce back after illness, injury or other hardships	6 (1.6)	11 (3.0)	81 (22.1)	110 (30.1)	158 (43.2)
9. Good or bad, I believe that most things happen for a reason	3 (0.8)	15 (4.1)	72 (19.7)	123 (33.6)	153 (41.8)
10. I give my best effort no matter what the outcome may be	1 (0.3)	18 (4.9)	111 (30.3)	172 (47.0)	64 (17.5)
11. I believe I can achieve my goals, even if there are obstacles.	8 (2.1)	27 (7.4)	133 (35.9)	140 (38.3)	61 (16.1)
12. Even when things look hopeless, I don't give up	11 (2.7)	17 (4.6)	95 (26.0)	153 (41.8)	91 (24.9)
13. During times of stress/crisis, I know where to turn for help	4 (1.1)	22 (5.8)	86 (23.0)	156 (43.0)	98 (26.9)
14. Under pressure, I stay focused and think clearly	3 (0.8)	17 (4.6)	100 (27.3)	165 (45.1)	81 (22.1)
15. I prefer to take the lead in solving problems rather than letting others make at the decisions	2 (0.5)	18 (4.9)	115 (31.4)	149 (40.7)	82 (22.4)
16. I am not easily discouraged by failure	7 (1.9)	16 (4.4)	89 (24.3)	147 (40.2)	107 (29.2)
17. I think of myself as a strong person when dealing with life's challenges and difficulties.	4 (1.1)	18 (4.9)	91 (24.9)	137 (37.4)	116 (31.7)

Table 4.4 Distribution of the Resilience Scale (cont.)

n=366	Not true at all	Rarely true	Some-times true	Often true	True nearly all the time
Items	**0**	**1**	**2**	**3**	**4**
18. I can make unpopular or difficult decisions that affect other people, if it is necessary.	2 (0.5)	5 (1.4)	68 (18.6)	156 (42.6)	135 (36.9)
19. I am able to handle unpleasant or painful feelings like sadness, fear, and anger.	1 (0.3)	11 (3.0)	84 (23.0)	196 (53.6)	74 (20.2)
20. In dealing with life's problems, sometimes you have to act on a hunch without knowing why.	5 (1.4)	14 (3.8)	94 (25.7)	178 (48.6)	75 (20.5)
21. I have a strong sense of purpose in life	1 (0.3)	6 (1.6)	87 (23.8)	195 (53.3)	77 (21.0)
22. I feel in control of my life	2 (0.5)	7 (1.9)	59 (16.1)	163 (44.5)	135 (36.9)
23. I like challenge	6 (1.1)	27 (7.4)	108 (29.5)	133 (36.3)	94 (25.7)
24. I work to attain my goals no matter what road blocks I encounter along the way	2 (0.5)	8 (2.2)	55 (15.0)	156 (42.6)	145 (39.6)
25. I take pride in my achievements.	3 (0.8)	6 (1.6)	58 (15.8)	158 (43.2)	141 (38.5)

4.3 Distribution of ACEs among respondents

We summed the number of types of adverse experiences accumulated during childhood to create an ACE score among each student as shown in Table 4.5-6. Possible score ranges from 0 to 13. Among this sample targets, distributions of ACE score were relatively symmetric and ACE score ranged from 1 to 9, which means

every participant had at least one ACE. Then, total score was divided into three groups, 1-2 score indicated Low ACEs (8.7%), 3-4 score indicated moderate ACEs (48.1%) and 5-9 score indicated high ACEs (43.2%) as shown in Table 4.6.

Table 4.5 Distribution of ACE score

ACE score	n = 366	Frequency	Percent
0		0	0.0
1		2	0.5
2		30	8.2
3		79	21.6
4		97	26.5
≥5		158	43.2
(Mean 4.4, SD 1.5, Min 1, Max 9)			

Table 4.6 Distribution of ACE score by three levels

	ACE score	n = 366	Frequency	Percent
Low	1-2(first quartile)		32	8.7
Moderate	3-4(second and third quartile)		176	48.1
High	5-9(fourth quartile)		158	43.2
(Median 4.0, QD 1, Min 1, Max 9)				

Table 4.7-8 shows the distribution of individual types of ACEs before they turned 18 years old. ACE scale were grouped into 13 categories following calculation guideline (see Appendix D). 13 categories include physical abuse, emotional abuse, sexual abuse, witness violence, emotional neglect, physical neglect, bullying, community violence, collective violence, substance abuse, incarceration, mental illness and divorce or separate.

The most common type of adversity was physical neglect (98.6%) and the following community violence (94.8%) and witness violence (73.5%). When it comes to physical neglect, over half (62.3%) of respondents experienced not being given enough foods on the question “Did your parents/guardians not give you enough food

even when they could easily have done so?". Regarding community violence, respondents answered having seen or hearing at least once someone being beaten up (94.2%) in real life. Even at home on witness violence, over two-third respondents (72.0%) also experienced violence on this question "Did you see or hear a parent or household member in your home being yelled at, screamed at, sworn at, insulted or humiliated?".

Other than above mentioned, many other types of adversity were common among respondents, including experiencing physical abuse (18.9%), emotional abuse (10.4%), sexual abuse (1.4%) and emotional neglect (0.3%), having a parent with a mental illness (3.3%) or substance use problem (32.2%), having a parent incarcerated (4.4%), having a parent die or separate (23.8%), experiencing collective violence (37.4%). Aside from above, bullying (39.3%) was also prevalent adverse experiences such as 33.3% for "I was made fun of because of how my body or face looked" or 28.7% "I was made fun of with sexual jokes, comments, or gestures".

Table 4.7 Distribution of types of ACEs

n=366	Frequency	Percent
Physical abuse	69	18.9
Emotional abuse	38	10.4
Sexual abuse	5	1.4
Substance abuse	118	32.2
Incarceration	16	4.4
Mental illness	12	3.3
Witnessing violence	269	73.5
Divorce or separation	87	23.8
Emotional neglect	1	0.3
Physical neglect	361	98.6
Bullying	144	39.3
Community violence	347	94.8
Collective violence	137	37.4

Table 4.8 Distribution of ACEs by item

	n (%)			
n=366	Many times	A few times	Once	Never
Physical abuse				
Did a parent/guardian or other household member spank, slap, kick, punch or beat you up?	1 (0.3)	8 (2.2)	58 (15.8)	299 (81.7)
Did a parent/guardian or other household member hit or cut you with an object, such as a stick (or cane), bottle, club, knife, whip etc?	0 (0.0)	5 (1.4)	16 (4.4)	345 (94.3)
Emotional abuse				
Did a parent/guardian or other household threaten to, or actually, abandon you or throw you out of the house?	2 (0.5)	6 (1.6)	30 (8.2)	328 (89.6)
Sexual abuse				
Did someone touch or fondle you in a sexual way when you didn't want them to?	1 (0.3)	0 (0.0)	2 (0.5)	363 (99.2)
Did someone make you touch their body in a sexual way when you didn't want them to?	0 (0.0)	1 (0.3)	2 (0.5)	363 (99.2)
Did someone attempt oral, anal, or vaginal intercourse with you when you didn't want them to?	0 (0.0)	1 (0.3)	3 (0.8)	362 (98.9)
Did someone actually have oral, anal, or vaginal intercourse with you when you didn't want them to?	0 (0.0)	1 (0.3)	1 (0.3)	364 (99.5)
Witnessing violence				
Did you see/hear a parent or household member in your home being yelled at, screamed at, sworn at, insulted or humiliated?	10 (2.7)	63 (17.2)	191 (52.2)	102 (27.9)

Table 4.8 Distribution of ACEs by item (cont.)

		n (%)			
	n=366	Many times	A few times	Once	Never
Witnessing violence (cont.)					
Did you see/hear a parent or household member in your home being slapped, kicked, punched or beaten up?	28 (7.7)	16 (4.4)	39 (10.7)	283 (77.3)	
Did you see/hear a parent or household member in your home being hit or cut with an object, such as a stick (or cane), bottle, club, knife, whip etc.?	2 (0.5)	4 (1.1)	16 (4.4)	344 (94.0)	
Emotional neglect					
Did your parents/guardians understand your problems and worries?		156 (42.6)	186 (50.8)	21 (5.7)	3 (0.8)
Did your parents/guardians really know what you were doing with your free time when you were not at school or work?		162 (44.3)	168 (45.9)	33 (9.0)	3 (0.8)
Bullying					
How often were you bullied?		4 (1.1)	24 (6.6)	116 (31.7)	222 (60.7)
I was hit, kicked, pushed, shoved around, or locked indoors		4 (1.1)	9 (2.5)	56 (15.3)	297 (81.1)
I was made fun of because of my race, nationality or color		1 (0.3)	14 (3.8)	49 (13.4)	302 (82.5)
I was made fun of because of my religion		0 (0.0)	4 (1.1)	11 (3.0)	351 (95.9)
I was made fun of with sexual jokes, comments, or gestures		3 (0.8)	26 (7.1)	76 (20.8)	261 (71.3)

Table 4.8 Distribution of ACEs by item (cont.)

	n (%)			
n=366	Many times	A few times	Once	Never
Bullying				
I was left out of activities on purpose or completely ignored	4 (1.1)	12 (3.3)	50 (13.7)	300 (82.0)
I was made fun of because of how my body or face looked	4 (1.1)	27 (7.4)	91 (24.9)	244 (66.7)
How often were you in physical fight?	2 (0.5)	11 (3.0)	46 (12.6)	307 (83.9)
Community violence				
Did you see/hear someone being beaten up in real life?	33 (9.0)	171 (46.7)	142 (38.8)	20 (5.5)
Did you see/hear someone being stabbed or shot in real life?	9 (2.5)	52 (14.2)	146 (39.9)	159 (43.4)
Did you see or hear someone being threatened with a knife or gun in real life?	5 (1.4)	19 (5.2)	59 (16.1)	283 (77.3)
Collective violence				
Were you forced to go and live in another Place due to any of these events?	7 (1.9)	24 (6.6)	88 (24.0)	247 (67.5)
Did you experience the deliberate destruction of your home due to any of these events?	0 (0.0)	6 (1.6)	34 (9.3)	326 (89.1)
Were you beaten up by soldiers, police, militia, or gangs?	0 (0.0)	4 (1.1)	4 (1.1)	358 (97.8)
Was a family member or friend killed or beaten up by soldiers, police, militia, or gangs?	3 (0.8)	3 (0.8)	8 (2.2)	352 (96.2)

Table 4.8 Distribution of ACEs by item (cont.)

n=366	Yes n (%)	No n (%)
Substance abuse		
Did you live with a household member who was a problem drinker or alcoholic?	118 (32.2)	248 (67.8)
Did you live with a household member who misused street or prescription drugs?	3 (0.8)	363 (99.2)
Incarceration		
Did you live with a household member who was ever sent to jail or prison?	16 (4.4)	350 (95.6)
Mental illness		
Did you live with a household member who was depressed, mentally ill or suicidal?	12 (3.3)	354 (96.7)
Divorce or separation		
Were your parents ever separated or divorced?	69 (18.9)	297 (81.1)
Did your mother, father or guardian die?	22 (6.0)	344 (94.0)

4.4 Relations between independent variables and resilience

4.4.1 Relations between demographic factors and resilience

Table 4.9 describes the relations between the demographic factors and resilience by using a T-test. The study found that age (p-value < .001), peer support (p-value < .001) and family income (p-value < .05) were the factors significantly associated with resilience. However, other variables such as sex, GPA, school satisfaction, family structure and marital status of your parents were not supported.

Table 4.9 Relations between demographic factors and resilience

	n=366	N	$\bar{x}$	SD	t	P-value
Sex						
	Male	142	73.0	14.0	1.232	0.219
	Female	224	71.1	12.8		
Age						
	21-24	104	76.8	11.0	5.119	**0.000****
	18-20	262	69.8	13.7		
GPA						
	High(GPA3.00-4.00)	203	72.5	12.4	1.056	0.292
	Low(GPA1.00-2.99)	163	71.0	14.4		
School satisfaction						
	Good	112	73.5	13.2	1.664	0.098
	Average to Poor	254	71.0	13.3		
Peer support						
	Yes	263	74.0	12.3	4.830	**0.000****
	No	103	66.3	14.2		
Family structure						
	Parents	280	71.8	13.7	0.109	0.914
	Single parent	86	71.7	12.2		
Marital status of parent						
	Married	262	71.8	13.3	-0.056	0.956
	Not married	104	71.7	13.5		
Family income						
	High ≥ Baht 50,000	85	74.4	13.7	1.987	**0.049***
	Low < Baht 50,000	281	71.0	13.1		

P < .05*, P< .001**

4.4.2 Association between ACEs and resilience

Table 4.10 indicates the relations between the levels of ACEs score and resilience among respondents by using one-way ANOVA. The result showed that the students with low level of ACEs had higher resilience than the students with moderate

ACEs (P < .05) by using Tukey's Honest Significant Difference method. However, there were insignificant association between high ACEs and moderate ACEs and between high ACEs and low ACEs.

Table 4.11 indicates the relations between ACEs by 13 categories and resilience among respondents by using independence sample T-test. The study found that there were significant association between witness violence and resilience among respondents (P < .05) but not others.

Table 4.10 Relations between ACEs score and resilience

ACEs score	N=366	$\bar{x}$	SD	F	P-value
Low (1)	32	77.3	11.6	4.120	**0.017**
Moderate (2)	176	70.3	13.7		
High (3)	158	72.4	13.0		

1 and 2 (P < .05)

Table 4.11 Relations between 13 types of ACEs and resilience

	n=366	N	$\bar{x}$	SD	t	P-value
Physical abuse						
Yes		69	69.3	13.8	1.682	0.096
No		297	72.4	13.2		
Emotional abuse						
Yes		38	71.1	15.8	-0.328	0.743
No		328	71.9	13.0		
Sexual abuse						
Yes		5	70.6	13.1	-0.206	0.846
No		361	71.8	13.3		
Witness violence						
Yes		269	70.9	13.7	-2.272	**0.024***
No		97	74.2	11.8		
Emotional neglect						
Yes		1	71.0	9.19	-0.060	0.952
No		365	71.8	13.3		

P < .05*

Table 4.11 Association between types of ACEs and resilience (cont.)

n=366	N	$\bar{x}$	SD	t/F	P-value
Physical neglect					
Yes	361	72.0	13.3	0.831	0.467
No	5	67.0	13.5		
Bullying					
Yes	144	70.6	13.1	-1.370	0.172
No	222	72.6	13.4		
Community violence					
Yes	347	71.8	13.4	0.275	0.786
No	19	72.5	12.1		
Collective violence					
Yes	137	72.7	13.8	1.014	0.311
No	229	71.2	13.0		
Substance abuse					
Yes	118	72.1	13.1	0.306	0.760
No	248	71.2	13.5		
Incarceration					
Yes	16	69.0	16.2	-0.706	0.490
No	349	71.9	13.2		
Mental illness					
Yes	12	72.9	10.8	0.359	0.726
No	354	71.8	13.4		
Divorce or separation					
Yes	83	72.5	13.6	0.572	0.568
No	279	71.5	13.2		

P < .05*

CHAPTER V
DISCUSSION

The objectives of current study were to identify the percentage of resilience among Thai students and examine the factors associated with resilience among Thai students of international colleges in Bangkok and suburb, Thailand. This chapter discusses the result from my research as the follows;

5.1 Resilience of Thai students

5.2 ACEs of Thai students

5.3 Relations between demographic factors and resilience

5.4 Relations between ACEs and resilience

5.5 Limitation of the study

5.1 Resilience of Thai students

The result indicated that over half (53%) of the Thai students, demonstrated high level of resilience, which was higher percentage of the previous finding that one third high-risk children displayed resilience (*23*). While, mean (SD) of resilience score was 71.9 (13.3) among Thai students. According to the previous research conducted among undergraduate students at an university of Thailand in 2008, the average scores of resilience were 76.89 (*156*). Moreover, CD-RISC report of whole international samples in 2011, the mean score shows 79.0 (12.9). When compared with youth data of Asian countries, mean (SD) shows 63.5 (18.7) among China Healthy college students in 2016, 67.2 (12.7) among Korea College students in 2016, 55.8 (14.8) among Japan Undergraduates mean aged 20 in 2009(*23*). Hence, current study results implied that the resilience score among Thai youth was slightly lower that other nation's figure and youths in Thailand but higher than other Asian countries. Target samples of this study were students who were learning some programs with international language, so they could have been required higher ability

to be the ultimate mark of an educated parson, therefore there could be possibility of some bias compared to general youth as a researcher says resilience might have been affected by the type of study program, the choice of an occupation represented the individual's motivation, an understanding of self, and ability(*156*).

According to Resilience Scale, respondents scored the highest on "successful experience give me confidence in deal with new challenges and difficulties". This answer were consistent with an prior ecological study in Thailand, sense of self-confidence from successful experiences during adolescent is rooted to some considerable extent to establish both an internal sense of trust in his own ability/talent and identification with your parent and community's cultural value(*192*). Meanwhile, respondents scored the lowest on "when there are no clear solutions to my problem, sometimes fate of God can help you". This item was included to identify the individual's sense of faith which is a crucial component of resilience. According to a research on spiritual support and spiritual coping among Thai elderly, spiritual support denotes a perception of having a kinship with a higher power. Most of them received spiritual support through religious practices such as reading religious scripts, talking to friends and family about spiritual matter, praying and meditating at home or at a holy place, worshipping sacred tokens. One of participants said, "I have some believe that making merit, helping others, and offering dedicated to Buddhist monks will helped me get happy and can easily manage troubles". Moreover, coping strategy came from religious or some other beliefs in supernatural power in which one must find meaning and purpose of life and hope in order to survive. Some respondents believed that supernatural power or nature could help them cope with their ailments while religious teaching could prevent suffering (*193*). The sample of current study was youth, therefore the result implied faith might affect to resilience by ages or generation. Moreover, item on faith includes the word of "God" that might have let respondents be complicated for the Thai students who believe in higher power.

5.2 ACEs of Thai students

Distribution of adverse child Experiences (ACEs) among respondents were identified in the study. ACEs was defined as “potentially traumatic events or sources of stress that can cause negative and lasting effects on health and well-being of children during the first 18 years of their live”. The result revealed that every respondent had at least one adverse experience before they turned 18 years old, and this result was completely congruent with Minnesotans reporting one that ACE are more likely to report other ACEs in childhood (*2*). The distribution of ACEs was extremely higher relative to a prior research that two-third of adult report at least one type of Adversity (*3*). Even when compared to the data (38%) of a survey for the Thai people aged 16 to 25 years in a suburban community of Bangkok (*5*), our data were considerably higher.

Regarding the result by type of ACEs, the most common types of adversity was physical neglect and the following community violence and witness violence. When it comes to physical neglect, over half (62.3%) of respondents experienced not being given enough foods on an item “Did your parents/guardians not give you enough food even when they could easily have done so?”. In 2013, the State of Minnesota reported that over 60% of child maltreatment reports were allegations of child neglect(*2*). However, it is difficult to estimate the global dimensions of the problem or meaningfully to compare rates between countries. A few researches, for instance, has been done on how children and parents or other caregivers may differ in defining neglect. Even so most of researched related to physical neglect concluded that poverty may be its most important cause. Conditions such as hunger and poverty are sometimes included within the definition of neglect(*194*). In fact, 40% of respondents lived for the income that was less than 30,000 baht. Dramatically changes of social and economic structures might contribute to push the poverty, increasing in the number of nuclear families as well as negative effects of a household economy (*195*). Considering these facts, children were put into the situation that stood alone among families.

Regarding witness violence, 72.1% of respondents had experienced at least once on item “Did you see/hear a parent or household member in your home being yelled at, screamed at, sworn at, insulted or humiliated?”. This item was asked

about witness of domestic violence at home. From previous studies in Thailand, women's domestic violence is one of the social problem, and 44% of women have been abused by their husbands or boyfriends once in their lifetime. Within existing social and cultural structures, the status of Thai women is lower than that of men in almost all aspects of their social lives including education, access to health care, job and income security, and social participation, gender ideology, societal value and misinterpretation of religious teachings such as women who experience wife battering have bad karma. Furthermore, the Buddhist religion establishes that men are the most important individuals in the family and that women should obey their husbands. These inequalities cause structural violence against women. Furthermore, women who are abused by their husband are expected to tolerate their husbands' behavior to maintain family harmony. For instance, if women want to divorce or separate, they will be questioned by society more than men. Moreover, due to the dramatically changes of social and economic structures, there is an increase in the number of nuclear families as well as negative effects of a household economy. there is more women's domestic violence in families with lower economic status. This may result from the stress of husbands facing from their poor economic condition (*195*).

When it comes to community violence, item on "Did you see/hear someone being beaten up in real life?", majority of respondents (93.5 %) had at least one time. This item was asked about witness to physical violence in a community. Research shows that Over 80% of children living in urban areas have witnessed community violence (*140*). This data was almost consistent with our data in Bangkok and suburb in Thailand. As a research, youth living in areas with the highest crime rates report the most violence exposure, and in the city's poorest neighborhoods. Although higher crime rates increase the likelihood of direct exposure to community violence, exposure occurs through various modalities such as media, witness, hearsay, victimization, war/terrorism and extends beyond urban centers. This increased exposure may be a function of socio-economic status and community variation given that minorities are over represented in urban areas(*140*). Especially in Bangkok and suburb in Thailand have being melting pot, and many nationalities and minority groups settles in same society. These minority groups might have been brought different cultures and values brought into a society and easily influenced to youth in both good or bad way.

Furthermore, adolescents' risk of engaging in delinquent behaviors and substance use increase with repeated violence exposure from peers and relatives in their community. when individuals live in neighborhoods with high exposures to violence, there is a direct increase in the community members' use of violence. However, even young adults in low-risk areas such as rural communities have seen high rates of violence exposure(*196*).

Other than above mentioned, many other types of adversity were common among respondents, including experiencing physical abuse (18.9%), emotional abuse (10.4%), having a parent with a psychiatric problem (3.3%) or substance use problem (32.2%), and having a parent die or separate (23.8%). A survey of Minnesotans aged 18 years old or older reported, are physical abuse (16 %), emotional abuse (28 %), having mental illness in the household (17 %), living with a problem drinker (24 %) and separation or divorce of a parent (21 %) (*2*), and when compared to these to five most common, Physical abuse were slightly higher, emotional abuse was almost one third, having a parent with a mental illness was about one fifth, substance use problem considerably higher than previous data. In summary, the percentage of substance use was significantly different from the existing data.

The result found that a percentage of Thai students who experienced living with family members who had problem drinking or drug problems were higher than previous data. As the result implied, alcohol and drug problems are major social problems in Thailand spite government measured with strict policy and strategy. From literature reviews, children who have parents, siblings or other family members who abuse alcohol or other substances are often the forgotten victims. Unpredictable behavior, lack of appropriate care and no structure to a home life are often the result of substance abuse. For a child, this can be scary, painful and lead to many problems in the future. Many children can be exposed to violence, abuse, neglect, financial problems and even malnourishment at young age if family members are addicted to drugs or alcohol (*197*). As majority of research suggested, they themselves may turn to alcohol or drugs as a way to understand or cope with their feeling or they may feel that a substance abusing life is what they are destined for. Hence, problem drinkers or problem drug use might negatively affect to other family members, especially child, and these substance problems in a family and other child abuse may be related each other closely.

Aside from above mentioned, bullying (39.3%) was also prevalent adverse experiences such as 33.4% for “I was made fun of because of how my body or face looked” or 28.7% for “I was made fun of with sexual jokes, comments, or gestures”. These results implied that of respondents, verbally violence appeared to be more common than physical bully. Verbal bullying it’s common among female than male in Thailand, and they may use to express their negative emotions by verbal bullying. The results may be affected by the bias of female’s participants. A survey among adolescent in Thailand showed that adolescents having a higher level of positive parenting practices, a healthy family relationship, and good parent-child attachment were less likely to behave violently. Parents who raised their children using boundaries, such as setting rules, and supervising them, in adolescence were less likely to develop delinquent behaviors (*198*).

5.3 Relations between demographics and resilience

This result showed that age, peer support and family income had an association with resilience. While, there were not associated between these variables (sex, grade report, school satisfaction, family structure and marital status of your parents) and resilience among respondents.

5.3.1 Significant factors associated with resilience

Age

Regarding to age, the finding was completely consistent with majority of previous studies that resilient responses were higher among older adults. Older adults appear to have a higher level of equanimity, or a more balanced perspective, existential aloneness, recognition of one’s own path and acceptance of one’s own life (*154*).

Peer support

Peer support was also related to the previous research that resilient child seek for the involvement make them foster positive connection to peer and adults, enhance adolescents’ physical, mental and psycho-social skills and protect them from

a host of health risk behaviors(*159*). Similarly, resilient adolescents display greater levels of popularity, fewer interpersonal problems, and spend more time with peers (*160*). Furthermore, we could look into the likelihood that there are some factors behind peer support from a qualitive research that subject expressed profound feelings of social isolation from his peers in his new school due to his lack of fluency in the local language, he used his previously honed knowledge of art and artistry to connect with those new peers. His art made an important contribution to the development of his social inclusion because it gave him an opportunity to communicate and contribute to his social networks through popular visual media. The contents of these sorts of drawings attracted the admiration and the interest of his peer group(*192*).

Family income

Family income was consistence with a previous study that weakness in economic resources is also part of the context for resilience among low-income families. Most low-income families attempt to achieve the same basic conditions for their households as every family, including adequate shelter, nutritional meals, positive educational experiences, appropriate clothing, and other basic requirements for subsistence. Their ability to achieve these objectives is limited by their income and economic support(*170*).

5.3.2 Insignificant factors associated with resilience

Sex

The mean of resilience score in male were slightly higher than that in female. but present study didn't show the significant by sex. The effect of gender on resilience has been assessed in many of the studies, but much consensus hasn't been observed among the studies. In this study, we supported the research that the relationships between CD-RISC score and gender are inconsistent(*12*).

Werner say risk factors may differ according to sex at different moments of an individual's life. In general, boys are more vulnerable in the first decade of life while girls are more vulnerable during the second decade. During the first decade boys are more vulnerable physically and emotionally than girls(*147*). The situation of

adversity for boys increases as expected with the presence of risk factors such as poverty, or lack of family balance; to the point that they are more susceptible to being institutionalized if they cannot remain in the home (*148*). Besides, Criss et al. (*149*) found that female peer relationships may in fact be more protective due to the fact that they are typically characterized by more support and affection. Therefore, earthier way boys and girls are supposed to demonstrate different level of resilience according to their context.

GPA

There is an argument on grade report(GPA) whether supportive or not. High GPA students manifested resilience higher than those of low GPA. Generally, there is a relationship between students' ability and self-esteem. Thus, high GPA students would be more likely to have strong self-efficacy and would take an active problem-solving approach in dealing with stress (*199*). While, a number of studies, report that academic resilience is not related to academic outcomes. A study investigating the relationship between the characteristics of resiliency and the academic performance of college students reported no significant correlations between the dimensions of resilience and cumulative grade point average. Due to the complex nature of the concept of academic resilience, qualitative studies should be included to find out what other factors influence student academic resilience, outside the confines of the questionnaire(*200*).

School satisfaction

The finding was contradicted with prior research. Most researchers supported the positive involvement in school relates to resilience. Resilient children enjoy school (*45*) (*158*). Greater school involvement and involvement in extracurricular activities, such as sports, were also found to be protective in nature(*40*). In other words, effective school and active problem solving are factors that allows individual to cope well with stress life events (*201*). As some causes of not supported in the study, there might have been different perception against school satisfaction by individual. And it also considered that most respondents' answers biased to average and less satisfaction.

Family structure

Most researchers agreed on that child resilience affected by family structures. Especially, the difference whether the child brought up by single parent or parents have been controversial. Children of sole parents have poorer records of academic achievement, display higher rates of psychological distress and have an increased likelihood of non-marital childbearing than their peers from two-parent families. In addition, sole mothers have poorer mental health than do their partnered peers, which affects their capacity to parent their children effectively and thus has a knock-on effect on their children's development (*163*).

In this study, the variable was not supportive, but a research suggests greater resilience is found in those families who reach out to others in their social environment, including extended family, friends, and community members(*162*) Furthermore, there are three dimensions to deal with adversity: cohesion, flexibility, and communication (*64*). Therefore, characteristics of family could be more essential than family setting.

Moreover, the study compared three different types of primary caregiver in divorced families: father, mother and grandparent(s), found that adolescents living with mothers reported the highest scores in family hardiness and family communication (*164*). Thus, Resilience could be affected if who is a primary care giver.

In another study, type of family at the time of childhood (0-10 years) is taken as a predictor to develop resilience in a person. The research conducted in Deli, India, showed that person that has an experience of Joint family at least 0-10 years and now living in a Nuclear family or Single from last 2 years have better score of Resilience 1 53.87 than a person has an experience of Joint family and now is living also in a Joint family. So that Joint- Joint family subgroup person get minimum chance to show his Resilient Behavior that's he develop at the time of childhood but in Joint- Nuclear family subgroup they get good and maximum chance to show his Resilient behavior(*152*). Therefore, duration time spent with family also might affect resilience.

Marital status of parents

Children whose parents separate or divorce display a great variation in their response to parental separation, but on average they show poorer outcomes such as emotional problems and a variety of conduct-related difficulties than do children of intact families (131). Nevertheless, as a research found that, the availability of social support from family and community can reduce this stress and yield positive outcomes in spite of that parental divorce produces stress (*81*). Thus, child resilience affected by social support even If child have experience adversity.

5.4 Relations between ACEs and resilience

Our finding showed that the students with low level of ACEs had higher resilience than the students with moderate ACEs ($P < .05$). However, there were insignificant association between high ACEs and moderate ACEs and between high ACEs and low ACEs. And the association between moderate ACEs and low ACEs didn't support the challenge model we proposed. The challenge model suggests that exposure to low levels and high levels of a risk factor are associated with negative outcomes, but moderate levels of the risk are related to less negative or positive outcomes. The idea is that adolescents exposed to moderate levels of risk are confronted with enough of the risk factor to learn how to overcome it but are not exposed to so much of it that overcoming it is impossible (*11*). However, as it turns out, the students who had low level of ACEs had the highest means of resilience compared to others, and we could conclude having lower ACEs might lead to high level of resilience.

Some researchers have proved the positive aspects of resilience even though High ACEs, which implies having high ACEs can improve the resilience regardless of the level of ACEs. A research report in Washington, which concluded the correlation between ACE level and improvement in resilience before and after enrollment of school was found to be close to 0 ($r=.03$) and non-significant ($p=.401$). They found that the average improvement in resilience occurred regardless of student ACEs, even for those students who had many traumatic experiences before entering school.

As an existing fact, majority of researchers have proved a lack of resilience might lead to an inability to accept or cope with their traumas and feeling hopeless about their future due to traumatic experiences in which children feel unsafe and powerless, survival responses of ‘fight or flight’ get automatically triggered by neuron brain processes(*202*). Thus, in the first place the individual who have low resilience could be difficult to deal with ACEs regardless of the level of ACEs. Therefore, it would be more essential to explore the protective factors that lead to positive adaptation in different context.

In addition, negative life events had significant negative direct effects on resilience and social support. Adolescents who tend to interpret life experiences in a negative light might perceive less social support and, thereby, sustain a negative world view. Adolescents who perceive less social support have been found to tend to isolate themselves from others, thereby reducing their opportunities to consider alternatives to life difficulties and development of effective problem solving skills, and contributing to their emotional distress and increased risk for suicidality(*203*).

Regarding the result of association between 13 types of ACEs and resilience, only witness violence showed significant ($P < .05$), but not others. The National Child Traumatic Stress Network (NCTSN) describes complex trauma that Many children with complex trauma histories suffer a variety of traumatic events. Children’s exposure to multiple traumatic events, often of an invasive, interpersonal nature, and the wide-ranging, long-term impact of this exposure. These events are severe and pervasive, such as abuse or profound neglect. They usually begin early in life and can disrupt many aspects of the child’s development and the very formation of a self. Since they often occur in the context of the child’s relationship with a caregiver, they interfere with the child’s ability to form a secure attachment bond (*204*). Thus, although our result was mystical, in the first place, adverse childhood experiences may be related as a link of chain in the complex system, and as a result of our finding showed, ACEs are complex events involving various factors. Therefore, it could be hard to conclude that only itself witness violence had relationship with resilience in this study.

5.5 Limitation of the study

Firstly, a cross-sectional studied was to investigate at the point of time. Especially, individual resilience cannot be measured at the point but process of an individual's life. Secondly, the study was conducted for some students at only international colleges in Bangkok and suburb, Thailand, therefore it might not be able to be generalized and represented the whole population of Thailand. Thirdly, there must be a recall bias since the research instruments included the questions being asked about experiences before 18 years old. Fourthly, while asking the questions sometimes the respondents feel uneasy to give answer to the questionnaire that included to verify the traumatic events. It could have been that they didn't want to share the confidential issues related to their life. Lastly, there was only a limited amount of published data related to the study that was conducted in Thailand, so in most of the discussion part, the author discussed the results compared to other country's figure. Therefore, there could be a lot of substantial rooms to improve or explore on the study.

CHAPTER VI
CONCLUSION AND RECOMMENDATION

6.1 Conclusion

The purpose of this study was to determine the percentage of resilience and examine the factors associated with resilience among Thai students of international colleges in Bangkok and suburb, Thailand. The data were collected with a self-structured questionnaire in May 2017. A total of three international colleges were purposely selected using multistage cluster sampling method. After all, a total of 366 questionnaires were included for analysis and then data was analyzed by descriptive statistic, T-test, one-way ANOVA. Before the data collection, the current study was approved by the Office of the Committee for Research Ethics (Social Sciences), Faculty of Social Sciences and Humanities, Mahidol University Institutional Review Board (COA No:2017/036.2102). The following conclusion was drawn from the investigating the results based on the findings of the study.

The study found that of 366 respondents, over half of 53% of respondents were at high level of resilience among respondents. In terms of ACEs, the result revealed that every respondent had at least one adverse experience before they turned 18 years old, and this result was completely congruent with previous research.

The result showed that age, peer support and family income had association with resilient among respondents. However, there were not associated between these variables (Sex, GPA, school satisfaction, family structure, and marital status of your parents) and resilience among respondents. From this result, we found that resilience could have been natured and matured as the years goes by through various experiences with close peer. This process might be a driving force to be helpful for child or youth who have adverse childhood experiences to encourage them to maintain and improve further resilience. However, we also found low economic status in family may deteriorate the child resilience.

Furthermore, our findings showed that the students with low level of ACEs had higher resilience than the students with moderate ACEs ($P < .05$). However, there were insignificant association between high ACEs and moderate ACEs and between high ACEs and low ACEs. And, the association between moderate ACEs and low ACEs didn't support the challenge model we proposed. However, as it turns out, the students who had low level of ACEs had the highest means of resilience score compared to others, and we could conclude having lower ACEs might relate to high level of resilience. Besides, the individual who had low resilience could be difficult to deal with ACEs regardless of the level of ACEs. Therefore, it would be more essential to explore the protective factors that lead to positive adaptation in different contexts.

Regarding the result of association between 13 types of ACEs and resilience, only witness violence showed significant ($P < .05$), but not others. Although this result was mystical, in the first place, adverse childhood experiences may be related as a link of chain in the complex system, and as a result of our finding showed, ACEs are complex events involving various factors. Therefore, it could be hard to conclude that only itself witness violence had relationship with resilience in the study.

6.2 Recommendation for future implementation

6.2.1 Target intervention

Our finding was that younger ages groups have lower resilience, intervention is therefore needed to raise resilience at an early stage when resilience is not growing enough. It is also a matter of course to find children with a tendency of having ACEs at an early stage to support children, but it is likely to be necessary to carefully observe families with low economic in the community.

6.2.2 Role of peer

According to the findings as peer support, the support from peer is paramount component to nature. As a part of the social support, the child or youth

should be given an opportunity to involve activities with peer in any kind occasion so that they could not only learn something from their involvement but also share positive or negative experiences in their lives.

6.3 Recommendation for further research

For further research, mix qualitative and quantitative methods should be used for exploring the complex factors affecting to resilience in long period. Moreover, it would be more beneficial that qualitative methods such as focusing face to face interviews by counselors could be applied for further study to identify the complex factors associated with resilience in different context.

In addition, we examined the association between the different level of ACEs and resilience, however we did not examine that association different level of ACEs and health outcome by mitigating with resilience as a protective factor. Further research, association between the different level of ACEs and some specific outcomes would be included for further research.

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APPENDICES

APPENDIX A
ETHICAL APPROVAL DOCUMENT

Certificate of MUSSIRB Approval

★★★★★★★★★★★★

Certificate of Approval No.:	2017/036.2102
MUSSIRB No.:	2017/014 (B2)
Student ID:	5838317 ADAD/M
Title of Project:	FACTORS ASSOCIATED WITH RESILIENCE THAI STUDENT OF INTERNATIONAL COLLEGES
Principal Investigator:	Mr.Satoshi Inoura
Major Advisor:	Lect.Dr.Prapapun Chucharoen
Name of Institution:	ASEAN Institute for Health Development
Approval includes:	1) MUSSIRB Submission Form version received date 28 December 2016 2) Participant Information sheet version date 20 February 2017 3) Informed Consent Form version date 20 February 2017

The Committee for Research Ethics (Social Sciences) is in full compliance with International Guidelines of Human Research Protection such as Declaration of Helsinki, The Belmont Report, and CIOMS Guidelines.

Date of Approval: February 21, 2017
Date of Expiration: February 20, 2018

Chairman

(Emeritus Professor Dr.Santhat Sermsri)

Head of the Institute

(Assoc.Prof.Dr.Luechai Sri-Ngernyuang)
Dean of Faculty of Social Sciences and Humanities

Office of The Committee for Research Ethics (Social Sciences), Faculty of Social Sciences and Humanities, Mahidol University
Phuttamonthon 4 Rd., Salaya, Phuttamonthon District, Nakhon Pathom 73170. Tel.(662) 441 9180 Fax.(662) 441 9181
Website: www.mussirb.com ; e-mail: mussirb310@gmail.com

APPENDIX B
QUESTIONNAIRE (THAI)

แบบสอบถาม

โครงการวิจัย เรื่อง ปัจจัยที่มีผลต่อการฟื้นคืนได้ของนักเรียนนักศึกษาไทย

ส่วนที่ 1 ข้อมูลทั่วไป โปรดทำเครื่องหมาย / ลงในช่อง ☐

1.เพศ ☐ ชาย ☐ หญิง

2. ท่านเกิดวันที่.....เดือน.....ปี พ.ศ.....

3. ปัจจุบันท่านอายุ ☐ 18 – 20 ปี ระบุ..... ปี

☐ 20 -24 ปี ระบุ..... ปี

4. ท่านศึกษาอยู่ชั้นปีที่

☐ ชั้นปีที่ 1

☐ ชั้นปีที่2

☐ ชั้นปีที่ 3

☐ ชั้นปีที่ 4

5. ผลการเรียนของท่านอยู่ในระดับ

☐ ดี (เกรดเฉลี่ย3.00-4.00)

☐ ปานกลาง (เกรดเฉลี่ย2.50-2.99)

☐ พอใช้ (เกรดเฉลี่ย1.00-2.49)

6. ความพึงพอใจกับผลการเรียนของท่านอยู่ในระดับ

☐ มาก

☐ ปานกลาง

☐ ไม่พอใจ

7. ขณะนี้ใครคือผู้ดูแลหลัก

☐ บิดา

☐ มารดา

☐ บิดาและมารดา

☐ ปู่,ย่า หรือ ตา,ยาย

☐ ญาติพี่น้อง ระบุ.....

☐อื่นๆ (ระบุ) ระบุ.....

8. สถานภาพสมรสของบิดามารดา

☐ บิดามารดา**อยู่ด้วยกัน**

☐ มารดามารดา**แยกกันอยู่**

☐ บิดามารดา**หย่าร้าง**

☐ บิดา/มารดา **เสียชีวิต**

☐ บิดา/มารดา **มีครอบครัวใหม่**

☐อื่นๆ (ระบุ).....

9. รายได้เฉลี่ยของครอบครัวต่อเดือน

☐ ต่ำกว่า 30,000 บาท

☐ 30,001 - 50,000 บาท

☐ 50,001-100,000 บาท

☐ มากกว่า 100,000 บาทขึ้นไป

10. ท่านใช้สิ่งต่อไปนี้ (ตอบได้มากกว่า 1 ข้อ)

☐ เหล้า

☐ บุหรี่

☐ กัญชา

☐ ยานอนหลับ

☐ ยาบ้า/สารกระตุ้น

☐ อื่นๆ ระบุ.....

โปรดทำเครื่องหมาย / ลงในช่อง ☐ ใช่หรือไม่ใช่ ที่ตรงกับความเป็นจริง

	ใช่	ไม่ใช่
1.10 สมาชิกในครอบครัวของท่านดื่มเหล้าหรือติดเหล้า	☐	☐
1.11 สมาชิกในครอบครัวของท่านใช้ยาหรือสารเสพติด	☐	☐
1.12 สมาชิกในครอบครัวของมีประวัติเป็นโรคซึมเศร้า/ปัญหาสุขภาพจิต/หรือฆ่าตัวตาย	☐	☐
1.13 สมาชิกในครอบครัวของมีประวัติเคยติดคุก	☐	☐
1.14 พ่อหรือแม่ของท่านมีประวัติหย่าร้าง	☐	☐
1.15 บิดา มารดาหรือผู้ปกครองเสียชีวิต	☐	☐

ส่วนที่ 2 แบบสอบถามเกี่ยวประสบการณ์ในวัยเด็ก

เห็นด้วยมาก หมายถึง เห็นด้วยกับข้อความตรงกับความรู้สึกของท่านมากที่สุด

เห็นด้วยปานกลาง หมายถึง เห็นด้วยกับข้อความตรงกับความรู้สึกของท่านมาก

เห็นด้วยน้อย หมายถึง เห็นด้วยกับข้อความตรงกับความรู้สึกของท่านปานกลาง

ไม่เคยมีประสบการณ์ หมายถึง ท่านไม่เคยมีประสบการณ์ดังกล่าวเลย

ข้อความ	ระดับความคิดเห็น			
	มาก	ปานกลาง	น้อย	ไม่เคย
สัมพันธภาพในครอบครัว 2.1. บิดา/ มารดา/ ผู้ปกครอง มีความเข้าใจเมื่อท่านประสบปัญหา				
2.2. บิดา/ มารดา/ ผู้ปกครองรู้เรื่องการทำกิจกรรมอิสระนอกห้องเรียน				
3.1 บิดา/ มารดา/ ผู้ปกครองเตรียมอาหารให้ท่านอย่างเพียงพอ				
3.2 บิดา/ มารดา/ ผู้ปกครองดื่มเหล้า/ใช้ยาหรือสารเสพติดในระหว่างเลี้ยงดูท่าน				
3.3 บิดา/ มารดา/ ผู้ปกครองไม่ไปส่งที่โรงเรียนทั้งๆที่ว่าง				
4.1 สมาชิกในครอบครัวมีการทะเลาะเบาะแว้ง				
4.2 สมาชิกในครอบครัวมีการทะเลาะเบาะแว้งทำร้ายร่างกายโดยไม่ใช้อาวุธ				
4.3 สมาชิกในครอบครัวมีการทะเลาะเบาะแว้งทำร้ายร่างกายโดยใช้อาวุธ เช่น มีด หรือ ไม้ หรือ เชือก หรือ ขวด				
5.2 บิดา/ มารดา/ ผู้ปกครองก่นด่าไล่ท่านให้ออกไปจากบ้าน				
5.3 บิดา/ มารดา/ ผู้ปกครองทุบตีท่าน				
5.4 บิดา/ มารดา/ ผู้ปกครองใช้อาวุธ เช่น มีด หรือ ไม้ หรือ เชือก หรือ ขวดทำร้ายท่าน				

ข้อความ	ระดับความคิดเห็น			
	มาก	ปาน กลาง	น้อย	ไม่เคย
5.5 บิดา/ มารดา/ ผู้ปกครองลวนลามทางเพศกับท่าน				
5.6 บิดา/ มารดา/ ผู้ปกครองให้ท่านเล้าโลมทางเพศ				
5.7 บิดา/ มารดา/ ผู้ปกครองพยายามมีเพศสัมพันธ์กับท่าน				
5.8 ท่านเคยมีเพศสัมพันธ์กับ บิดา/ มารดา/ ผู้ปกครอง				
การถูกรังแกจากเพื่อน 6.1 ท่านถูกเพื่อนรังแก				
6.2 ท่านถูกเพื่อนรังแกโดย 6.2.1 ท่านถูกเพื่อนเขก หรือ ผลัก หรือขังในห้อง				
6.2.2 ท่านถูกเพื่อนล้อเลียนเกี่ยวกับพื้นเพบ้านเกิด				
6.2.3 ท่านถูกเพื่อนล้อเลียนเกี่ยวกับการนับถือศาสนา				
6.2.4 ท่านถูกเพื่อนล้อเลียนเห็นท่านเป็นตัวตลก				
6.2.5 ท่านถูกเพื่อนล้อเลียนไม่รับเข้ากลุ่ม				
6.2.6 ท่านถูกเพื่อนล้อเลียนติเตียนหน้าตา				
6.3 ท่านถูกเพื่อนทำร้ายร่างกาย				
การรับรู้ เคยพบเห็นความรุนแรง 7.1 ท่านเคยเห็นคนทะเลาะกัน				
7.2 ท่านเคยเห็นคนทำร้ายร่างกายกันด้วยอาวุธ				

ข้อความ	ระดับความคิดเห็น			
	มาก	ปานกลาง	น้อย	ไม่เคย
7.3 ท่านเคยเห็นเหตุการณ์คนถูกยิง หรือถูกแทง				
<u>การเผชิญเหตุการณ์รุนแรง/ภัยพิบัติ/สงคราม</u> 8.1 ท่านเคยอาศัยอยู่ในพื้นที่ประสบภัยพิบัติ				
8.2 ท่านเคยมีประสบการณ์ความรุนแรงทางการเมือง/สงคราม				
8.2 ท่านเคยถูกจับกุม				
8.3 สมาชิกในครอบครัวท่านเคยถูกจับกุม				

ส่วนที่ 3 แบบสอบถามเกี่ยวความถี่ในการมีประสบการณ์ในวัยเด็ก

ระดับคะแนน 4 หมายถึง ท่านเคยมีประสบการณ์มากที่สุด

ระดับคะแนน 3 หมายถึง ท่านเคยมีประสบการณ์มาก

ระดับคะแนน 2 หมายถึง ท่านเคยมีประสบการณ์ปานกลาง

ระดับคะแนน 1 หมายถึง ท่านเคยมีประสบการณ์น้อย

ระดับคะแนน 0 หมายถึง ท่าน<u>ไม่เคย</u>มีประสบการณ์

ข้อความ	ระดับความคิดเห็น				
	4	3	2	1	0
1. ท่านสามารถปรับตัวกับการเปลี่ยนแปลง					
2. เมื่อท่านเผชิญปัญหาท่านจะใช้ที่พึ่งทางศาสนา					
3. โชคชะตาและสิ่งศักดิ์สิทธิ์ช่วยท่านผ่านพ้นปัญหา					
4. เมื่อท่านเผชิญปัญหาท่านจะหาทางออกได้ด้วยตัวท่านเอง					
5. ท่านเชื่อว่าทุกปัญหาสามารถหาทางออกได้เสมอ					
6. เมื่อท่านเผชิญปัญหาท่านยิ้มสู้กับปัญหา					
7. ปัญหาที่เผชิญทำให้ท่านแข็งแกร่ง					
8. ท่านภูมิใจที่ผ่านกับความเจ็บปวดหรือช่วงเวลาที่ยากลำบากได้					
9. ทุกสิ่งที่เกิดขึ้นกับท่าน ล้วนแล้วแต่มีเหตุผลของมัน					
10. เมื่อท่านอยู่ในสถานการณ์ที่ยากลำบาก ท่านสามารถหาทางออกได้					
11. ท่านสามารถจัดการปัญหานั้นได้แม้โชคชะตาไม่เข้าข้าง					
12. ท่านเคยเผชิญสถานการณ์สิ้นหวังแต่ท่านก็สามารถผ่านพ้นได้					
13. เมื่อเผชิญปัญหาท่านรู้จักวิธีขอความช่วยเหลือ					
14. เมื่อท่านเผชิญปัญหาท่านมีความมุ่งมั่นแน่วแน่แก้ไขปัญหา					
15. ท่านตัดใจอย่างรอบคอบในการแก้ปัญหา					
16. ท่านผิดหวังแต่ไม่เคยสิ้นหวัง					

ข้อความ	ระดับความคิดเห็น				
	4	3	2	1	0
17. ท่านผิดหวังแต่ไม่เคยสิ้นหวัง					
18. ท่านเชื่อว่าตนเองสามารถผ่านช่วงเวลาที่ยากลำบากได้					
19. ท่านสามารถจัดการความเสียใจ ความกลัว และความโกรธ					
20. ท่านเชื่อว่าเมื่อชีวิตมีปัญหาแค่คิดเปลี่ยนชีวิตก็เปลี่ยน					
21. ท่านมีเข้าใจในการดำเนินชีวิต					
22. ท่านมีความเป็นตัวของตัวเอง					
23. ท่านชอบความท้าทาย					
24. ท่านพร้อมที่จะรับผิดชอบในสิ่งที่ท่านกระทำ และยอมรับผลของการกระทำนั้น					
25. ท่านเป็นคนที่มีความภาคภูมิใจในตนเอง					

APPENDIX C
QUESTIONNAIRE (ENGLISH)

Questionnaire

PART 1 Demographic Information

INSTRUCTION

Please mark your answer for each item by putting a mark ☑ or a number in the box.

		For researcher
1.1 Sex	☐Male ☐Female	☐
1.2 Date of birth	Day ____Month_____Year_____	
1.3 Age	☐18-20 years old_____	☐
	☐20-24 years old_____	☐
1.4 Which grade are you in now?		
	☐First-year	☐
	☐Second-year	☐
	☐Third-year	☐
	☐Fourth-year	☐
1.5 How are you getting on at school?		
	☐Low(GPA1.00-2.49)	☐
	☐Middle(GPA2.50-2.99)	☐
	☐High(GPA3.00-4.00)	☐
1.6 How is your current school satisfaction?		
	☐Good/satisfied	☐
	☐Average	☐
	☐Poor/unsatisfied	☐

1.7 What is your family structure during the first 18 years of your life?

☐Father ☐

☐Mother ☐

☐Mother and Father ☐

☐Grandmother/Grandfather ☐

☐Relative ☐

☐Others ☐

1.8 Civil status of your parents

☐Married ☐

☐Divorce ☐

☐Separate ☐

☐Widow ☐

☐Either parent have new family ☐

☐Others ☐

1.9 What is the family income (Baht)

☐30,000 or less ☐

☐30,001-50,000 ☐

☐50,001-100,000 ☐

☐100,001 or more ☐

1.10 What substance do you use?

☐Alcohol ☐

☐Cigarette ☐

☐Marijuana ☐

☐Sleeping pill ☐

☐Marijuana ☐

☐Sleeping pill ☐

☐Stimulants ☐

☐Others ☐

INSTRUCTION

Please recall when you were growing up, during **the first 18 years of your life** . . .

1.10 Did you live with a household member who was a problem drinker or alcoholic?

☐Yes ☐ No ☐

1.11 Did you live with a household member who misused street or prescription drugs?

☐Yes ☐ No ☐

1.12 Did you live with a household member who was depressed, mentally ill or suicidal?

☐Yes ☐ No ☐

1.13 Did you live with a household member who was ever sent to jail or prison?

☐Yes ☐ No ☐

1.14 Were your parents ever separated or divorced?

☐Yes ☐ No ☐

1.15 Did your mother, father or guardian die?

☐Yes ☐ No ☐

PART 2 Adverse Childhood Experiences (ACEs) Questionnaire

INSTRUCTION

Please mark your answer for each item by putting a mark ☑ in the box. Please recall when you were growing up, during **the first 18 years of your life** . . .

A. RELATIONSHIP WITH PARENTS/GUARDIANS	Many times	A few times	Once	Never	FOR RESEARCHER
2.1 Did your parents/guardians understand your problems and worries?					☐
2.2 Did your parents/guardians really know what you were doing with your free time when you were not at school or work?					☐
3.1 How often did your parents/guardians not give you enough food even when they could easily have done so?					☐
3.2 Were your parents/guardians too drunk or intoxicated by drugs to take care of you?					☐
3.3 How often did your parents/guardians not send you to school even when it was available?					☐

INSTRUCTION

These next questions are about certain things you may actually have heard or seen **IN YOUR HOME**. These are things that may have been done to another household member but not necessarily to you. When you were growing up, during the first 18 years of your life . . .

B. FAMILY RELATIONSHIP	Many times	A few times	Once	Never	
4.1 Did you see or hear a parent or household member in your home being yelled at, screamed at, and sworn at, insulted or humiliated?					☐
4.2 Did you see or hear a parent or household member in your home being slapped, kicked, punched or beaten up?					☐
4.3 Did you see or hear a parent or household member in your home being hit or cut with an object, such as a stick (or cane), bottle, club, knife, whip etc.?					☐

INSTRUCTION

These next questions are about certain things **YOU** may have experienced. Please recall when you were growing up, **during the first 18 years of your life . .**

	Many times	A few times	Once	Never	FOR RESEARCHER
5.1 Did a parent, guardian or other household member yell, scream or swear at you, insult or humiliate you?					☐
5.2 Did a parent, guardian or other household member threaten to, or actually, abandon you or throw you out of the house?					☐
5.3 Did a parent, guardian or other household member spank, slap, kick, punch or beat you up?					☐
5.4 Did a parent, guardian or other household member hit or cut you with an object, such as a stick (or cane), bottle, club, knife, whip etc.?					☐
5.5 Did someone touch or fondle you in a sexual way when you did not want them to?					☐
5.6 Did someone make you touch their body in a sexual way when you did not want them to?					☐
5.7 Did someone attempt oral, anal, or vaginal intercourse with you when you did not want them to?					☐
5.8 Did someone actually have oral, anal, or vaginal intercourse with you when you did not want them to?					☐

INSTRUCTION

These next questions are about **BEING BULLIED** when you were growing up. Bullying is when a young person or group of young people say or do bad and unpleasant things to another young person. It is also bullying when a young person is teased a lot in an unpleasant way or when a young person is left out of things on purpose. It is not bullying when two young people of about the same strength or power argue or fight or when teasing is done in a friendly a fun way. Please recall when you were growing up, during **the first 18 years of your life** . . .

C. PEER VILOENCE	Many times	A few times	Once	Never	
6.1How often were you bullied?					☐
6.2How were you bullied most often?					
6.2.1 I was hit, kicked, pushed, shoved around, or locked indoors					☐
6.2.2 I was made fun of because of my race, nationality or color					☐
6.2.3 I was made fun of because of my religion					☐
6.2.4 I was made fun of with sexual jokes, comments, or gestures					☐
6.2.5 I was left out of activities on purpose or completely ignored					☐
6.2.6 I was made fun of because of how my body or face looked					☐

INSTRUCTION

This next question is about **PHYSICAL FIGHTS**. A physical fight occurs when two young people of about the same strength or power choose to fight each other. When you were growing up, **during the first 18 years of your life . . .**

	Many times	A few times	Once	Never	FOR RESEARCHER
6.3 How often were you in a physical fight?					☐

D. WITNESSES COMMUNITY VIOLENCE	Many times	A few times	Once	Never
7.1 Did you see or hear someone being beaten up in real life?				
7.2 Did you see or hear someone being stabbed or shot in real life?				
7.3 Did you see or hear someone being threatened with a knife or gun in real life?				

☐
☐
☐

INSTRUCTION

These questions are about whether **YOU** did or did not experience any of the following events when you were a child. The events are all to do with collective violence, including wars, terrorism, political or ethnic conflicts, genocide, repression, disappearances, torture and organized violent crime such as banditry and gang warfare. When you were growing up, **during the first 18 years of your life** . .

E. EXPOSURE TO WAR/COLLECTIVE VIOLENCE	Many times	A few times	Once	Never
8.1 Were you forced to go and live in another Place due to any of these events?				
8.2 Did you experience the deliberate destruction of your home due to any of these events?				
8.3 Were you beaten up by soldiers, police, militia, or gangs?				
8.4 Was a family member or friend killed or beaten up by soldiers, police, militia, or gangs?				

☐
☐
☐
☐

PART 3 Connor-Davidson Resilience Scale 25(CD-RISC-25)

Please mark an "X" in the box below that best indicates how much you agree with the following statements as they apply to you over the last month. If a particular situation has not occurred recently, answer according to how you think you would have felt.

		Not true at all	Rarely true	Sometimes true	Often true	True nearly all the time	FOR RESEARCHER
		0	1	2	3	4	
1	I am able to adapt when changes occur						☐
2	I have at least one close and secure relationship that helps me when I am stressed						☐
3	When there are no clear solutions to my problems, sometimes fate of God can help						☐
4	I can deal with whatever comes my way						☐
5	Past successes give me confidence in dealing with new challenges and difficulties.						☐
6	I try to see the humorous side of things when I am faced with problems						☐
7	Having to cope with stress can make me stronger						☐
8	I tend to bounce back after illness, injury or other hardships						☐
9	Good or bad , I believe that most things happen for a reason						☐
10	I give my best effort no matter what the outcome may be						☐
11	I believe I can achieve my goals, even if there are obstacles.						☐
12	Even when things look hopeless, I don't give up						☐

13	During times of stress/crisis, I know where to turn for help						☐
14	Under pressure, I stay focused and think clearly						☐
15	I prefer to take the lead in solving problems rather than letting others make at the decisions						☐
16	I am not easily discouraged by failure						☐
17	I think of myself as a strong person when dealing with life's challenges and difficulties.						☐
18	I can make unpopular or difficult decisions that affect other people, if it is necessary.						☐
19	I am able to handle unpleasant or painful feelings like sadness, fear, and anger.						☐
20	In dealing with life's problems, sometimes you have to act on a hunch without knowing why.						☐
21	I have a strong sense of purpose in life						☐
22	I feel in control of my life						☐
23	I like challenge						☐
24	I work to attain my goals no matter what roadblocks I encounter along the way						☐
25	I take pride in my achievements.						☐

APPENDIX D

CALCULATING THE ACE SCORE FROM THE ACE-IQ

Calculating the ACE score from the ACE-IQ

Table 1: Calculating the ACE score from the ACE-IQ - BINARY VERSION
All questions are yes/no - if the participant entered **yes** for any of the categories, mark a 1 in the response column

Category	Q	Written question	Response
Physical abuse	A3 A4	Did a parent, guardian or other household member spank, slap, kick, punch or beat you up? OR Did a parent, guardian or other household member hit or cut you with an object, such as a stick (or cane), bottle, club, knife, whip etc? Yes No	
Emotional abuse	A1 A2	Did a parent, guardian or other household member yell, scream or swear at you, insult or humiliate you? OR Did a parent, guardian or other household member threaten to, or actually, abandon you or throw you out of the house? Yes No	
Contact sexual abuse	A5 A6 A7 A8	Did someone touch or fondle you in a sexual way when you did not want them to? OR Did someone make you touch their body in a sexual way when you did not want them to? OR Did someone attempt oral, anal, or vaginal intercourse with you when you did not want them to? OR Did someone actually have oral, anal, or vaginal intercourse with you when you did not want them to? Yes No	
Alcohol and/or drug abuser in the household	F1	Did you live with a household member who was a problem drinker or alcoholic, or misused street or prescription drugs? Yes No	
Incarcerated household member	F3	Did you live with a household member who was ever sent to jail or prison? Yes No	
Someone chronically depressed, mentally ill, institutionalized or suicidal	F2	Did you live with a household member who was depressed, mentally ill or suicidal? Yes No	
~~Mother~~ Household member treated violently	F6 F7 F8	Did you see or hear a parent or household member in your home being yelled at, screamed at, sworn at, insulted or humiliated? OR Did you see or hear a parent or household member in your home being slapped, kicked, punched or beaten up? OR Did you see or hear a parent or household member in your home being	

		hit or cut with an object, such as a stick (or cane), bottle, club, knife, whip etc.? Yes No	
One or no parents, parental separation or divorce	F4 F5	Were your parents ever separated or divorced? OR Did your mother, father or guardian die? Yes No	
Emotional neglect	P1 P2	Did your parents/guardians understand your problems and worries? OR Did your parents/guardians **really** know what you were doing with your free time when you were not at school or work? Yes No* * Note: for this question, it's the "no" answer which scores a "1".	
Physical neglect	P3 P4 P5	Did your parents/guardians **not** give you enough food even when they could easily have done so? OR Were your parents/guardians too drunk or intoxicated by drugs to take care of you? OR Did your parents/guardians **not** send you to school even when it was available? Yes No	
Bullying	V1	Were you bullied? Yes No	
Community violence	V4 V5 V6	Did you see or hear someone being beaten up in real life? OR Did you see or hear someone being stabbed or shot in real life? OR Did you see or hear someone being threatened with a knife or gun in real life? Yes No	
Collective violence	V7 V8 V9 V10	Were you forced to go and live in another place due to any of these events? OR Did you experience the deliberate destruction of your home due to any of these events? OR Were you beaten up by soldiers, police, militia, or gangs? OR Was a family member or friend killed or beaten up by soldiers, police, militia, or gangs? Yes No	

APPENDIX E
PARTICIPANT INFORMATION SHEET

In this document, there may be some statements that you do not understand. Please ask the principal investigator or his/her representative to give you explanations until they are well understood. To help your decision making in participating the research, you may bring this document home to read and consult your relatives, intimates, personal doctor or other doctor.

Title of Research Project:
Factors associated with resilience Thai student of international colleges
Name of Researcher: Satoshi Inoura
Research Site-Office and its telephone number available for contact both in and out of the office hours: Addiction Studies, ASEAN institute of Health Development, Mahidol University
Tel. 02 441 9040 -3 ext.12, 54
Source of Fund: Japan Overseas Cooperative Association (JOCA)

This research project aims to determine the percentage of resilient students and examine factors associated with resilience among Thai students of international college in Bangkok and suburb, Thailand in order to examine strength in young adults that may have been affected by negative experiences in childhood. Which expects the following benefits: to obtain the theoretical context of child resilience and it will help to clarify the resilience strategy and construct the ideal and appropriate support system for health and wellbeing of children, family and community.

You are invited to participate in this research project because you meet the research eligibility the following; 18-20 years, first-year or second-year and Thai student of international college located in Bangkok or suburb and it excludes those who have communication difficulties such as mute, deaf, intelligent disability and

acute psychotic stage. There will be 380 participants, and the research will last for 2 months.

Confidentially of the information that you provide will be maintained. Your corporation and honesty in answering each question is required.

If you decide to participation the research project, you will go through the following procedure.

- In case that this is a research project in the field of social sciences conducting web-based survey, details must be given such as a participant information sheet, a description form about questionnaire, a consent form and 3 parts of questionnaires. It is desirable to perform the answer to question at the place where the privacy is kept. The survey will take an average of 25-30 minutes to complete. The survey is anonymous and names of participants will not be required to be indicated.
- In case that this is a research project in the field of social sciences conducting web-based survey, the likely risks include uneasiness or discomfort due to some questions. In that case, the participant has the right to stop answering the questions in the middle of survey.
- In case that the questionnaire, especially, adverse childhood experiences (ACEs) questionnaire are questions about the negative situations that the respondent had faced in their childhood, therefore the respondent will be likely to have the risk of evoking a negative experience in childhood during the survey. Avoiding that case, the participant needs to consider enough about your health condition before the survey participation.

All information obtained during survey will be kept confidentially. Information that would make it possible to identify you will never be including in any sort of report.

If you have any questions about this research please feel free to contact Satoshi Inoura Telephone: 097-238-6770

The participant is not response for any expense for participating in this research.

If relevant information arises about benefits and risks of the research project, the researcher will inform the participant immediately and without concealment.

The bellow information "adverse CHILDHOOD EXPERIENCES IN MINNESOTA" could help the participant better understanding about my research topic on Adverse Childhood Experiences and resilience.

URL:http://www.health.state.mn.us/divs/chs/brfss/ACE_ExecutiveSummary.pdf#search=%27Minesotta+survey+ACE%27

The participant's private information will be kept confidential, it will not be subject to an individual disclosure, but will be included in the research report as part of the overall results. Individual information may be examined by a researcher, the ethics committee, etc.

The participant has the right to withdraw from the project at any time without prior notice. And the refusal to participate or the withdrawal from the research project will not at all affect the proper service or treatment that he/she will receive.

On the condition that I am not treated as indicated in the information sheet distributed to the subjects, I can contact the Chair of The Committee for Research Ethics (Social Sciences) at the office of MU-SSIRB, Office of Faculty of Social Sciences and Humanities, Mahidol University, Tel 66 2 441 9180, Fax 66 2 441 9181

I thoroughly read the details in this document.

Signature……
(Participant) (…….....)

Date…….....

BIOGRAPHY

NAME	Satoshi Inoura
DATE OF BIRTH	14 June 1985
PLACE OF BIRTH	Niigata, Japan
INSTITUTIONS ATTENDED	Niigata Seiryo University, Niigata, Japan, 2004-2008 Bachelor of Nursing Mahidol University, Thailand, 2016-2017 Master of Arts in Addiction studies
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