

ORIGINAL ARTICLE

Factors associated with resilient Thai students of international programs in Bangkok, Thailand.

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Abstract

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This cross-sectional study was conducted to identify the percentage of students who had high level of resilience and examine factors associated with resilience among Thai students in international programs in Bangkok and suburb, Thailand. Data collection were conducted among Thai students aged 18 to 24 in three international programs in May 2017. A self-administered questionnaire employed was composed of demographic factors, Connor-Davidson Resilience Scale (CD-RISC) and Adverse childhood experiences (ACEs) questionnaire. A total of 379 questionnaires were used in data collection and for analysis. Chi-square tests were performed to identify the association between independence variables and resilience and multiple logistic regression was used to determine predictors of resilience.

The result showed over half (53%) of respondents were in high level of resilience. The result of Chi-square tests showed that age and peer support were the factors significantly associated with resilience level (p -value<0.01). In logistic regression, age (Adj. OR= 2.53, 95%CI=1.52-4.20) sex (Adj. OR=1.67, 95%CI=1.07-2.61) and peer support (Adj. OR=2.70, 95%CI=1.66-4.41) were significant factors. In conclusion, an individual who has low resilience could be difficult to deal with adversity or difficulties regardless of ACEs level, and it would be more essential to explore the protective factors that lead to positive adaptation in different contexts.

The result also implied that resilience could have been nurtured as the times go by with close peer company in their lives. Especially among youths in the study, male had higher resilience than female. However, there are still unknown complex factors behind resilience and need to continue further investigation for complex factors under the process of their lives.

Keywords: Resilience, Adversity Childhood Experiences, Youth

ปัจจัยที่สัมพันธ์กับความยืดหยุ่นได้ทางด้านจิตใจของ นักศึกษาไทยที่กำลังศึกษาในหลักสูตรนานาชาติใน กรุงเทพมหานคร ประเทศไทย

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บทคัดย่อ

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ปัจจัยที่สัมพันธ์กับความยืดหยุ่นได้ทางด้านจิตใจของนักศึกษาไทยที่กำลังศึกษาในหลักสูตรนานาชาติ
ในกรุงเทพมหานคร ประเทศไทย
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การศึกษาแบบตัดขวางครั้งนี้มีวัตถุประสงค์เพื่อศึกษาปัจจัยที่สัมพันธ์กับความยืดหยุ่นได้ทางด้านจิตใจของนักศึกษาไทยที่กำลังศึกษาในหลักสูตรนานาชาติ ในกรุงเทพมหานครและปริมณฑล กลุ่มตัวอย่างมีอายุระหว่าง 18-24 ปี ทำการเก็บรวบรวมข้อมูลช่วงเดือนพฤษภาคม พ.ศ. 2560 ใช้แบบสอบถามโดยให้กลุ่มตัวอย่างเป็นผู้ตอบแบบสอบถามด้วยตนเอง แบบสอบถามประกอบด้วย ปัจจัยส่วนบุคคล แบบทดสอบความยืดหยุ่นได้ทางด้านจิตใจ Conner-Davidson Resilience Scale (CD-RISC) และ แบบสอบถามประสพการณ์ไม่พึงประสงค์ในวัยเด็ก ทั้งหมดจำนวน 379 ราย ทำการวิเคราะห์ข้อมูลด้วยการทดสอบไคกำลังสองเพื่อวิเคราะห์หาความสัมพันธ์ระหว่างตัวแปรอิสระและความยืดหยุ่นได้ทางด้านจิตใจ และการถดถอยลอจิสติกพหุคูณเพื่อศึกษาปัจจัยที่ทำนายความยืดหยุ่นได้ทางด้านจิตใจ

ผลการศึกษาแสดงให้เห็นว่าร้อยละ 53 ของนักศึกษาไทยที่กำลังศึกษาในหลักสูตรนานาชาติมีความยืดหยุ่นได้ทางด้านจิตใจในระดับสูง และจากการวิเคราะห์ไคกำลังสองพบว่าอายุและแรงสนับสนุนจากเพื่อนมีความสัมพันธ์กับความยืดหยุ่นได้ทางด้านจิตใจอย่างมีนัยสำคัญที่ 0.01 การถดถอยลอจิสติกพหุคูณพบว่าปัจจัยด้านอายุและแรงสนับสนุนจากเพื่อน เป็นปัจจัยที่สัมพันธ์กับความยืดหยุ่นได้ทางด้านจิตใจ นักศึกษาที่มีอายุระหว่าง 21 -24 ปี จะมีความยืดหยุ่นได้ทางด้านจิตใจมากกว่านักศึกษาที่มีอายุระหว่าง 18 - 20 ปี 2.6 เท่า เพศชายมีความยืดหยุ่นได้ทางด้านจิตใจกว่าเพศหญิง 1.67 เท่า นักศึกษาที่มีแรงสนับสนุนจากเพื่อนจะมีความยืดหยุ่นได้ทางด้านจิตใจมากกว่านักศึกษาที่ไม่มีแรงสนับสนุนจากเพื่อน 2.7 เท่า

ผลการศึกษานี้ชี้ให้เห็นว่าบุคคลที่มีระดับความยืดหยุ่นได้ทางด้านจิตใจระดับต่ำ จะมีความยากในการจัดการระดับของประสพการณ์ไม่พึงประสงค์ในวัยเด็ก ซึ่งจำเป็นต้องคำนึงถึงปัจจัยป้องกันจึงจะสามารถนำไปสู่พัฒนาการเชิงบวกในบริบทต่างๆ ยิ่งไปกว่านั้นยังพบว่าเมื่อมีอายุมากขึ้นจะมีความยืดหยุ่นได้ทางด้านจิตใจมากขึ้นทั้งนี้ต้องมีแรงสนับสนุนจากเพื่อนด้วย เพศชายจะมีความยืดหยุ่นได้ทางด้านจิตใจมากกว่าเพศหญิงแต่อย่างไรก็ตามยังมีปัจจัยที่ซับซ้อนอีกหลายปัจจัยที่อาจมีความสัมพันธ์กับความยืดหยุ่นได้ทางด้านจิตใจในชีวิตวัยรุ่น จึงควรมีการศึกษาปัจจัยที่ส่งผลต่อชีวิตวัยรุ่นให้ครอบคลุมมากยิ่งขึ้นต่อไป

คำสำคัญ: ความยืดหยุ่นได้ทางด้านจิตใจ ประสพการณ์ไม่พึงประสงค์ในวัยเด็ก วัยรุ่น

Introduction

Adversity and stress can come in the shape of family or relationship problems, health problems, or workplace and financial worries, among others¹. Reasonable stress promotes growth and development throughout childhood. Stress is normal part of daily life and learning how to manage stress and regulate stress responses is critical a child's development. Besides, acute or prolonged stress can become toxic to the developing brain and body and contribute to increasing the risk of health problems later in their life. In short, Adverse Childhood Experiences (ACEs) can cause toxic stress². The consequences of ACEs such as child maltreatment and other traumatic stressors for health risk behaviors and long-term chronic diseases has been the focus of a growing numbers of studies. These might have occurred in a context of raised global awareness of ACEs are common 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.

While, research and practice have been focusing more and more on resilience, which is defined as the ability to bend but not break, bounce back, and perhaps even grow in the face of adverse life experiences⁴, those aspects of the child's life, relationships and choices that protect them against risk⁵. And, Werner found that one third of all high-risk children displayed resilience and developed into caring, competent and confident adults despite their problematic development histories⁶. Resilience is positive adaptation within the context of significant adversity. In the face of adversity, neither resilience nor disease is a certain outcome. Resilience is the result of a dynamic set of interactions between a person's

adverse experiences and his or her protective factors. This interaction is what determines the developmental path towards health and well-being or towards illness and dysfunction². However, there are few researches examining the association between ACEs associated with resilience among youths.

The aim of this research was to identify the percentage of resilient students and examine the factors associated with resilience among Thai students of international program in Bangkok and suburb, Thailand.

Methods

Target population

The target population was Thai students in three international programs in Bangkok and suburb, Thailand. International programs were selected for convenience of communication with subjects in English. Selection of target area was considered on efficiency in conducting research since most international colleges centered in the area. Target age ranged 18 to 24 years since the instrument used were asking about ACEs before 18 years old to avoid recall bias.

Sampling technique

The sample size was estimated using a confidence interval of 95%, an acceptance error of 5% and the proportion of high level of significant of 0.33⁶. The sample in the study was Thai students in international programs in Bangkok and suburb, Thailand. Multi-stage cluster sampling was used to select the sample of the study. Three international universities were purposely selected from 51 universities in the target area at Mahidol university, Thammasat university and Rangsit University, then each of three

international programs were purposely selected from each university. Participants were asked for permission/consent to participate in the study and a total of 381 self-administered questionnaires were randomly distributed to obtain data from Thai students aged 18-24.

Research instruments

A cross-sectional study was conducted by using a structured questionnaire in Thai was translated by an expert. The questionnaire comprised three parts, demographics, ACEs and resilience(CD-RISC-25). Ethical approval was granted from the Research Ethics Committee of Faculty of Social Science and Humanities, Mahidol University (COANo:2017/036.2102).

Part 1: Demographics

Demographics comprise of eight items, sex, age, grade, academic grade, school satisfaction, peer support, family structure, marital status of parents and family income.

Part 2: ACEs Questionnaire

The questionnaire derived from Adverse Childhood Experiences International Questionnaire (ACE-IQ) was applied. ACEs led by the WHO and Chronic Diseases and Health Promotion, and the US Centers for Disease Control and Prevention (CDC) for low, middle, and high income countries⁷.

The ACEs questionnaire is comprised of 32 items, six items for family environment with Yes/No response style, other 26 items with four graduating response style from never (0) to many times (3). ACEs questionnaire is comprised of 13 domains: emotional abuse; physical abuse, sexual abuse, witness violence, living with household members who were substance

abusers, mental ill or imprisoned, parental separation or divorce, emotional neglect, physical neglect, bullying, community violence and collective violence.

Once you've calculated the ACE score (0-13), the total score was then grouped into three according to low (first quartile), moderate (second and third quartiles) and high ACEs (fourth quartile).

Part 3: Connor-Davidson Resilience Scale (CD-RISC)

Resilience level among respondents was measured on the original measurement of CD-RISC includes 25 item self-rating scale with five response categories (0-4) 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 solving⁸. All 25 items 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 resilience⁸. The total score was then divided into two groups based on the mean score, over and equal mean value was considered as high resilience and less than mean as low.

Inclusion and Exclusion Criteria

Thai students aged 18 to 24 in international programs, who could understand and communicate in English or Thai and those who consented to participate in the research were included and while, those who had communication difficulties such as mute, deaf and intelligent disability were excluded in the research.

Data analysis

All data were coded and analyzed, using program SPSS version 21.0. Descriptive statistics, such as frequency, percentage, means, median, quartile deviation (QD) and standard deviation (SD) were used based on types of variables. Chi-Square test was used to examine the association of each independent factor and resilience among students. Lastly, Multiple logistic regression was used to determine the significant factors associated with resilience among students by using the significant factors from Chi-square test and suspected factors.

Validity and Reliability

Appropriateness, clarity, content, and feature of questionnaires were improved and corrected by academic advisors. While, the reliability was tested in thirty Thai students then analyzed by calculating Cronbach's Alpha Coefficient (ACEs questionnaire: $\alpha = 0.73$ CD-RISC: $\alpha = 0.96$).

Results

A total of 379 questionnaires were included for analysis. Table 1 shows the distribution of respondents by demographic factors, nearly two-third (61%) of respondents were female and over two-third (71.5%) respondents were aged between 18-20 where the mean age was 19 years old (SD=1.8). Over half (51.7%) of respondents had high GPA in their schools and nearly one third (30.3%) of respondents answered good school satisfaction. Concerning peer support, more than two-third (71.4%) of respondents felt at least a peer being close. Regarding to family structure for the first 18 years of their life, living with parents occupied with 68.6%, and living with mother (16.9%) and father (6.1%) as a single parent. Moreover, marital status of your parents shows married (71.0%). According to family income, 40.6% of respondent had Baht 30,000 or less income and 35.4% for Baht 30,001-50,000.

Table 1 Distribution of respondents by demographic factors

	Frequency	Percent
Sex		
Female	230	60.7
Male	149	39.3
Age		
18-20	271	71.5
21-24	108	28.5
(Mean= 19; SD=1.8; Min= 18; Max=24)		
Grade report		
Low (GPA1.00-2.49)	43	11.1
Middle (GPA2.50-2.99)	125	33.0
High (GPA3.00-4.00)	208	54.9
School satisfaction		
Good/satisfied	115	30.3
Average	247	65.2
Poor/unsatisfied	15	4.0
Peer support		
Yes	270	71.4
No	108	28.6
Family structure		
Father	23	6.1
Mother	64	16.9
Father and Mother	260	68.6
Grandmother/Grandfather	12	3.2
Relative	9	2.4
Others	6	1.6
Marital status of parents		
Married	269	71.0
Divorce	49	12.9
Separate	25	6.6
Widow	18	4.7
Either parent have new family	11	2.9
Family income		
Baht 30,000 or less	154	40.6
Baht 30,001-50,000	134	35.4
Baht 50,001-100,000	63	16.6
Baht 100,001 or more	24	6.3

ACE scores of the current research ranged from 1 to 9, score 1 to 2 indicated low ACEs (8.4%), score 3 to 4 indicated moderate ACEs (47.5%) and score 5 to 9 indicated high ACEs (44.1%). Regarding the resilience scale, the distribution of resilience ranged from 3 to 100 (M = 71.9, SD = 13.3), over half (53.9%) of the respondents reported high level of resilience

despite the student who had high adversity. Moreover, resilient Thai students by sex shows male 58.1% and female 50.0%.

Table 2 presents association between independent variables resilience among Thai students. The study found that age and peer support were the factors significantly associated with resilience (p-value < 0.001).

Table 2 Association between independent variables and resilience

	Total n	High %	Low %	χ^2 P-value
Sex	378			0.123
Male	148	58.1	41.9	
Female	230	50.0	50.0	
Age	378			<0.001
21-24	107	68.2	31.8	
18-20	271	47.2	52.8	
Grade report	375			0.509
High(GPA3.00-4.00)	208	54.3	45.7	
Low(GPA1.00-2.99)	167	50.9	49.1	
School satisfaction	376			0.526
Good	115	55.7	44.3	
Poor to Average	261	52.1	47.9	
Peer support	378			<0.001
Yes	270	53.6	46.4	
No	108	48.6	51.4	
Family structure	373			0.592
Parents	286	53.8	46.2	
Single parent	87	50.6	49.4	
Marital status of parents	373			0.952
Married	268	53.0	47.0	
Not married	105	53.3	46.7	
Family income	374			0.052
High \geq Baht 50,000	87	62.1	37.9	
Low < Baht 50,000	287	50.2	49.8	
ACEs	378			0.269
Low	32	65.6	34.4	
Moderate	179	50.3	49.7	
High	167	53.9	46.1	

Multiple logistic regression was performed to identify which independent variables had a significant association after adjusting the effects of other factors. Table 3 shows that age (Adj. OR= 2.53, 95%CI= 1.52-4.20), sex (Adj. OR=1.67, 95%CI=1.07-2.61) and peer support (Adj. OR= 2.70, 95%CI= 1.66-4.41) were found to be significant factors among respondents. In

other words, the students aged 21-24 were about two and a half times more likely to be resilient than who aged 18-20, male students were about one and half times more likely to be resilient than female, and the students who had had peer support were nearly three times more likely to be resilient than others.

Table 3 Multiple logistic regression for predictors of resilience

Variables	Adj. OR	95% C.I. of OR		P-value
		Lower	Upper	
Sex				
Male	1.67	1.07	2.61	0.026
Female	1			
Age				
18-20	1			
21-24	2.53	1.52	4.20	<0.001
Peer support				
Yes	2.70	1.66	4.41	<0.001
No	1			
Family income				
High ≥ Baht 50,000	1.60	0.94	2.73	0.085
Low < Baht 50,000	1			
ACEs				
Low	1.57	0.68	3.62	0.289
Middle	0.89	0.57	1.39	0.608
High	1			

Discussion

Distribution of resilience among Thai students

The study showed that over half (53%) of the students demonstrated high resilience and nearly 54% of the student who had high adversity showed high resilience. It was higher percentage of the previous finding on that one third high-risk children displayed resilience⁶.

Mean(SD) of resilience score was 71.9(13.3). According to CD-RISC report among international 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 2009⁹. In summary, current study results showed that the resilience score among Thai youth was slightly lower than other nation's figure but higher than other Asian countries.

Association between independence variables and resilience

There were no association between these variables (grade report, school satisfaction, family structure, marital status of parents, family income and ACEs) and resilience.

Grade report

There is 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

stress¹⁰. 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 questionnaire¹¹.

School satisfaction

The finding was contradicted with prior research. Most researcher supported the positive involvement in school relates to resilience. Resilient children enjoy school¹²⁻¹³. Greater school involvement and involvement in extracurricular activities, such as sports, were also found to be protective in nature¹⁴. In other words, effective school and active problem solving are factors that allows individual to cope well with stress life events¹⁵.

As some causes of not supported in the study, there might have been deferent 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 development¹⁶.

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 members¹⁷ Furthermore, there are three dimensions to deal with adversity: cohesion, flexibility, and communication¹⁸. 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 communication¹⁹. 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 two years have better score of Resilience 153.87 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 behavior²⁰. Therefore, duration and duration time spent with family also might affect resilience.

Civil 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 (i.e., emotional problems and a variety of conduct-related difficulties) than do children of intact families²¹. However, we couldn't find any association with resilience in the study.

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 stress²². Thus, child resilience affected by social support even If child have experience adversity.

Family income

Weakness in economic resources is a part of the context for resilience among low-income families²³. According to Schoon et al²⁴, 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.

ACEs

Variable of ACEs wasn't supported. However, the result was congruent to some extent with the research report in Washington, which concluded the correlation between ACE level and improvement in resilience was found to be non-significant, and 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. Our study also showed that students who had high resilience are larger amount than students who are low resilient in terms of High

ACEs. Thus, low level of resilience is unlikely to be due to high ACEs. Furthermore, it seemed that there was a difference in the odds ratio between moderate ACEs and low ACEs in terms of resilience despite there were not significant. This may imply that there was a difference in resilience between low ACE and moderate ACE.

In addition, a lack of resilience might lead to an inability to accept or cope with their traumas and feeling hopeless about their future in the first place. Due to traumatic experiences in which children feel unsafe and powerless, survival responses of ‘fight or flight’ get automatically triggered by neuron brain processes from the research of youth who remain trauma victims by gaining little-no resilience²⁵. Thus, an individual who has low resilience could be difficult to deal with adversity or difficulties regardless of ACEs level. It would be more essential to explore the protective factors that lead to positive adaptation in different context.

Predictors of resilience

The current study found that age, sex and peer support had association with resilient level. Regarding age, the founding was consistent with the previous majority of 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 life²⁶.

According to sex difference related to resilience, Werner says 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 girls²⁷. 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 home²⁸.

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 behaviors²⁹. Similarly, resilient adolescents display greater levels of popularity, fewer interpersonal problems, and spend more time with peers³⁰.

Conclusion and Recommendation

There were no association between ACEs and resilience directly, however, in conclusion, an individual who had low resilience could be difficult to deal with adversity or difficulties regardless of ACEs level. It would be more essential to explore the protective factors that lead to positive adaptation in different context.

While the result implied that resilience could have been nurtured and matured as the years goes by through various experiences with close peer in their lives. Especially among youths in the study, male had higher resilience than female. However, there are still unknown complex factors related to the resilience. Further research, combination methods qualitative and quantitative should be used for exploring more about resilience status under the process of their lives, not only at the point of their lives to grasp variables affect to resilience in a long period. Moreover, it would

be more beneficial that qualitative methods such as focusing face to face interviews by counselors could be applied for farther study to identify the complex factors associated with resilience.

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