

## Assessing Resilience among Malaysian University Undergraduates

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**Abstract.** Resilience is a process of adapting well and bouncing back from difficult experiences. It is an essential coping strategy that individuals need to possess when they are facing stress or difficult situations in life. Resilience helps students to adapt and cope with stressors skillfully. Thus, resilience should be a common skill that needs to be learned and developed. This study aims to assess resilience among undergraduates; to examine differences with regard to gender and field of study among undergraduates in a university in Penang. A total of 2604 first year undergraduates (male = 796, female = 1808) participated in this study. The responses were collected using a 26-item questionnaire developed specifically for this study. The result showed that the undergraduates from the School of Health Sciences showed the highest mean score while their counterpart from the School of Electrical Engineering demonstrated the lowest mean score. There is no statistical difference in resilience between male and female undergraduates. Significant differences in resilience, however, were reported between the two fields of study, especially between undergraduates from pure and applied sciences with other schools. The present study also documented moderate and positive relationships between resilience and the acquisition of problem-solving skills. How to improve resilience among undergraduates as well as directions for future research is also discussed in this article.

**Keywords:** Resilience, Gender, Field of Study, Undergraduates

### INTRODUCTION

Resilience is an important attribute for a person handling difficult or tense situations in life. According to Zautra (2009), resilient people can interact with the environment and process that promote either their well-being or protect them against the overwhelming influence of risk factors. Resilience is one of the positive psychology elements that explore strength and positive human values (Snyder & Lopez, 2007) and can be developed through challenges faced in an individual's life (Patterson, 2002). Individuals will be categorised according to whether they possess resilience when they are faced with risks or threats (Snyder & Lopez, 2007). Resilience involves two parts. The first part is the ability (recovery) of any individual's to deal with distress and recovery of negative results. The second part describes resilience as perseverance, which means the sense of continuity that a person has to achieve self-objectives and progress towards a positive future despite difficulties (Zautra, 2009). Thus, it can be said that resilience is the human ability to overcome difficulties and suffering, and the ability to adapt to new changes, the ability to face events in order to maintain a good level of adaptation and performance and help oneself to overcome pressure and threats in the future (Lazarus, 2004). Resilience is best defined as an outcome of a successful adaptation to adversity. Personal characteristics and context or environment may identify resilient processes, but only if they lead to healthier outcomes following stressful circumstances (Reich, Zautra & Hall, 2010).

Resilience is formed when the person is exposed to risk factors such as distress or traumatic experiences. In an academic setting, resilience refers to a students' ability to cope with academic difficulties that turn into

threats (Martin & Marsh, 2009). Cumulative protective factors such as self-efficacy, emotional self-regulation and optimism lead individuals to develop coping and problem-solving skills in order to bounce back from their challenging situations.

#### Factors improves resilience

There are several factors that are able to improve resilience, which are:

i. Self-Efficacy

Self-efficacy refers to the belief that a person can execute a specific action to achieve a goal (Bandura, 1989). Hence, a person with adequate self-efficacy approaches their goals with more positive feelings associated with the challenge rather than the negative feelings associated with threat (Larsen & Buss, 2008). In other words, in order to bounce back from failure or any other stressful events, adequate self-efficacy is required. According to Tedeschi and Calhoun (1995), self-efficacy and resilience play significant roles in triggering growth after a traumatic or stressful event.

ii. Emotional Self-Regulation

According to Thompson (1994), emotional self-regulation refers to the ability to react towards a continuous demand of experience with a tolerable range of emotions and the ability to buffer spontaneous reaction as needed.

iii. Optimism

Optimism is a learned attitude that helps one interpret situations and events as being best regardless of there being some factors that are not be fully comprehended (Vaughan, 2000). Optimism is more

related to environmental factors, supported by combinations of some traits, such as intelligence, temperament or even health (Schulman, Keith, & Seligman, 1993). Optimism is important for a university student because it enables him/her to have resilience when something unexpected happens. In this article, optimism is seen as one of the factors along with self-efficacy and emotional self-regulation that contribute to one's resilience.

#### iv. Coping

Coping is a psychological attribute in oneself when facing a problem. Based on the Coping Style Scale instrument (in Al-Bahrani et al., 2013), there are two types of coping which are maladaptive and adaptive. Maladaptive coping strategy refers to self-blaming, crying, neglecting the problem, suppressing of feelings, and anxiety. However, adaptive coping refers to strategies such as strengthening through social and spiritual support, problem-solving, focusing on positive thinking, increasing relationships and maintaining physical health. A study from Al-Bahrani et al. (2013) shows that female teenagers are prone to use maladaptive coping compared to male. Teenagers with low levels of problems in schooling, economy, personal affairs, health, family, and emotion are more reliant on adaptive coping. On the other hand, maladaptive coping is commonly used by teenagers with comparatively more problems in schooling, economy, personal affairs, health, family, and emotion. Research by Al-Bahrani et al. (2013) also found that female teenagers are prone to use maladaptive coping, involving self-blaming, isolating and anxiety. In this situation, individual who is resilient is a person with positive coping to overcome threats (Cabness, 2003).

Self-efficacy, self-regulation, optimism and coping are examples of four protective factors that help individuals to become resilient. In an academic setting, resilience refers to an individual who accomplishes academic achievement after successfully facing life's challenges and difficulties (Morales & Trotman, 2004). Thus, this article will discuss the findings of resilience amongst undergraduates in one of the universities in Penang.

### OBJECTIVES

The objectives of the present study are specified as follows:

1. To assess resilience among undergraduates;
2. To examine the differences of resilience regarding gender;
3. To examine the differences of resilience according to the field of study.
4. To investigate the relationship between resilience and problem-solving skills.

### METHODOLOGY

#### Sample

A total of 2604 first year undergraduates (male = 796, female = 1808) participated in the present study. They are from 12 schools in six fields of study as illustrated in Table 1.

**Table 1: Sample of Study**

School	Field	f	%
School of Educational Studies	Applied Arts	217	8.3
School of Communication	Applied Arts	346	13.3
School of Pharmacy	Applied Sciences	216	8.3
School of Industrial Technology	Applied Sciences	254	9.8
School of Civil Engineering	Engineering	117	4.5
School of Electrical Engineering	Engineering	254	9.8
School of Health Sciences	Medical	94	3.6
School of Medical Sciences	Medical	177	6.8
School of Humanities	Pure Arts	143	5.5
School of Social Sciences	Pure Arts	210	8.1
School of Biology	Pure Sciences	311	11.9
School of Mathematical Sciences	Pure Sciences	265	10.2
Total		2604	100.0

#### Instrument

The responses were collected using a 26-item questionnaire developed specifically for this study. In this study, resilience is conceptualised as a construct consisting of four dimensions, namely self-efficacy, emotional self-regulation, optimism, and coping.

### DATA ANALYSIS

Table 2 specifies the data analysis for the present study.

**Table 2: Research Objectives and Statistical Information**

No	Research Objective	Statistical Information
1	To assess resilience among undergraduates	Mean and standard deviation
2	To examine the differences in resilience regarding gender	Independent sample t-test
3	To examine the differences in resilience regarding field of study	One way ANOVA
4	To investigate relationship between resilience and problem-solving skill	Pearson correlation

## RESULTS AND DISCUSSIONS

Table 3 shows the mean and standard deviation according to schools. It shows that undergraduates from the School of Health Sciences reported the highest mean scores of 3.21 (SD = .39), followed by undergraduates from both the School of Civil Engineering and the School of Medical Science. Meanwhile, undergraduates from the School of Electrical Engineering reported the lowest mean score of 3.04 (SD = .52), followed by undergraduates from the School of Industrial Technology (M = 3.05, SD = .35). The undergraduates from the School of Communication (M = 3.07, SD = .60) make the three lowest mean scores for resilience.

Table 3:

School	Mean	SD
School of Health Sciences	3.21	.39
School of Civil Engineering	3.19	.41
School of Medical Science	3.19	.34
School of Social Sciences	3.17	.42
School of Educational Studies	3.16	.35
School of Biology	3.15	.48
School of Humanities	3.15	.52
School of Pharmacy	3.12	.35
School of Mathematical Sciences	3.10	.37
School of Communication	3.07	.60
School of Industrial Technology	3.05	.35
School of Electrical Engineering	3.04	.52

Results from an independent sample t-test shows that there is no significant difference between mean scores for resilience between male (M = 80.08, SD = 12.56) and females (M = 81.25, SD = 11.69) [ $t(2601) = -.550, p = .582$ ]. The result is consistent with the findings of Katyal (2014) and Isaacs (2014). One might speculate that the result may be explained in terms of societal gender effect. Malaysia, like many other progressive countries, emphasises on gender equality where both genders are given similar opportunities to excel in their studies. As a result, female undergraduates also experience self-discovery and are able to nurture positive views of themselves, to name a few, that helps them build their resiliency. In contrast, female undergraduates in male dominated countries are often shown to have significantly lower resilience compared to their male counterparts as documented in a study by Sarwar, Inamullah, Khan and Anwar (2010) in Pakistan.

Meanwhile, results from the one way ANOVA shows that there is a significant difference in the mean scores for resilience between the six fields of study as shown in Table 4. LSD post hoc results show that undergraduates from medical schools (M = 83.18, SD = 9.27) show significantly higher mean scores compared to their counterparts from pure sciences (M = 81.37, SD

= 11.17) and applied sciences (M = 80.03, SD = 9.12) as well as engineering (M = 80.30, SD = 12.72). The results are rather expected since medical undergraduates begin their study with better mental health compared to other university undergraduates (Brazeau, Shanafelt, Durning, Massie, Eacker, Moutier, 2014). This is probably due to their understanding that life as medical undergraduates is challenging posed by the difficult curriculum, especially in the clinical learning environment. To cope with the challenges, medical undergraduates transform to become more competent (Peyton, 1998) and also become more resilient. However, more research needs to be conducted in explaining why the undergraduates from pure arts schools (M = 82.26, SD = 11.97) demonstrated higher mean scores compared to students studying applied sciences (M = 80.03, SD = 9.12) and engineering (M = 80.30, SD = 12.72). This is due to the fact that undergraduates from sciences and engineering also face more daunting academic challenges that should nurture higher resilience compared to the art students.

Table 4: Result from ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2510.558	5	502.112	3.773	0.002
Within Groups	345734.939	2598	133.077		
Total	348245.497	2603			

Meanwhile, there is a moderate correlation between resilience and problem-solving skills ( $r = .459$ ), with resilience providing a 21.1% variance explained in problem-solving skills. Undergraduates with high resilience also have high problem-solving skills. This is very likely since people with resilience are often associated with trying to solve problems they encounter rather than run away from the problem. In addition, resilient people always try to learn from each mistake or failure. This includes identifying skills, ideas, and life lessons that can be useful when facing other challenges. Moreover, there is a tendency for resilient people to think that whenever they are not able to complete the task satisfactorily, they consider how to approach the issue differently in future. Note that all these characteristics can be associated with problem-solving skills.

## CONCLUSION

The findings of the current study enhance our understanding of undergraduate students' resiliency and how different fields of study can make a significant difference among students. However, gender is not the demographic factor that makes a significant difference in the resilience among students. This is due to equality and accessibility to the Malaysian education system from primary education until tertiary education without gender discrimination. Current studies have led us to take a broader view of the relationship between resilience and problem-solving skills among student. Optimism and coping are dimensions in resilience construct which are important for a university student

because it enables those to develop problem-solving skills when encountering challenges in their life. These strengths will benefit students in developing their full potential in order to sustain health and psychological well-being in a dynamic and challenging environment. This study has shown us two directions for future research. The first is to conduct longitudinal studies in order to investigate the contribution of the resilient construct from the initial period of the study until the end of the study in university, especially with academic achievements. Second, is to identify the contributive factors that predict abilities to enhance the resilience among students. As a conclusion, although resilience is a dynamic and multidimensional construct that incorporates interaction between individuals and their environments, educators and top management of universities need to identify and promote resilience among undergraduate students to ensure the success of students in the 21<sup>st</sup> century.

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