

Improving Psychological Well-being Among Undergraduates: How Creativity in Learning Can Contribute?

AHMAD ZAMRI KHAIRANI
HASNI SHAMSUDDIN
Universiti Sains Malaysia

IZAZOL IDRIS
Universiti Pendidikan Sultan Idris

ABSTRACT

Psychological well-being (PWB) is considered an important variable since it correlates with many other important variables, particularly in mental health. Nevertheless, studies on PWB among university undergraduates are limited. This in turn, limits our ability to provide interventions to increase their PWB. As such, the purpose of this study is to assess levels of psychological well-being among undergraduates and to suggest how creativity can contribute to the enhancement of PWB. We also assessed PWB of the undergraduates with regards to gender and years of study. A total of 1965 undergraduates from seven local public universities participated in this cross-sectional survey study. Responses from the Flourishing Scale was used to assess the levels of PWB as well as comparing the mean score of the undergraduates' PWB in terms of gender and years of study. Results showed that 256 undergraduates fall under the low and moderate low levels, with the majority of them are from the first year cohort. The undergraduates demonstrated the highest mean score with regards to leading purposeful and meaningful life at university but scored low in terms of engagement in their daily activities. We also reported that gender and age have significant effects on the PWB of the undergraduates. We discussed three methods, namely, open-ended projects, brainstorming sessions, and visualisation that can be incorporated into teaching and learning that can enhance creativity. Based on a review of past studies, we argue that incorporating creativity can contribute to enhancing undergraduates' PWB.

Keywords: *Creativity, flourishing scale, psychological well-being, Schlossberg transition theory, university undergraduates.*

INTRODUCTION

Recent years have witnessed great interest in psychological well-being (PWB). This is not unexpected since PWB has shown to have correlations with other crucial mental health variables such as stress (Clemente, Hezomi, Allahverdipour, Jafarabadi, & Safaian, 2016), resilience (Sagone & De Caroli, 2014), wellness (Harris, Martin, & Martin, 2013) and achievement motivation (Nisa, Qasim & Sehar, 2017). A positive emotion which is often associated with people with high PWB was also found to benefit health (Lyubomirsky, King, & Diener, 2005; Dockray, & Steptoe, 2010). The plethora of research in the area of PWB is not unexpected since the construct is essential to the overall health of an individual particularly by enabling the people to address challenges and thus achieving their purpose of life successfully. Therefore, it is critical to promote positive PWB, especially among university undergraduates so that the university is seen to provide better overall experience for them. Undergraduates should be able to find support, comfort, and advice on how to live wholly to their potentials. Also, they should be able to nurture coping skills for life that they are highly likely to continue with beyond their student experience.

According to World Health Organisation (2010), a healthy well-being implies that the basic needs of individuals are met, that they have a sense of purpose and are able to achieve important personal goals and socialise in the society. Nevertheless, in research, a variety of conceptualisations of PWB have been proposed including hedonic and eudaimonic wellbeing, quality-of-life, and wellness approaches. Literature shows that PWB is defined in some broad definitions. As one of the key concept in positive psychology (Seligman & Csikszentmihalyi, 2000), PWB generally characterises an individual's positive function in life (Keyes, Shmotkin, & Ryff, 2002), ranging from personal experience of individuals (Diener, Eunkook, Richard & Heidi, 1999) to association with life potential and happiness (Ryan, & Deci, 2008) to the result of accomplishing goals (Diener et al., 2009). According to Keyes (2002), psychological well-being refers to the extent to which an individual can function optimally in his life, encompassing his/her life's meaning and purpose, positive relationship, and self-acceptance.

Meanwhile, White and Jackson (2005) refer PWB as based on high self-esteem, positive relationships with others, less worrying, not having fluctuating moods and not involved in any delinquency. However, the original definition by Ryff (1989) may provide a better conceptualisation of this construct among university undergraduates. She defines PWB as the extent to which people live themselves to the fullest of their potentials and has meaningful control over his life and related activities. Huppert (2009) adds apart from the development of one's potential; the definition also includes having control over their lives, having a sense of purpose as well as experiencing positive relationships. Ryan and Deci (2008) state that individuals with high level of PWB are able to meet the basic psychological needs of autonomy, competence, and relevance in their lives. Meanwhile, Ryff (1989) and Diener et al. (2009) argue that PWB refers to the individual's optimal function in life, which includes self-acceptance, positive relationships with others, autonomy, environmental control, life goals, and personal growth. Despite the various definitions given, generally researchers in positive psychology emphasise that PWB is an important component that illustrates human mental health and becomes the basis of quality life (Huppert, 2009; Sarvimaki & Stenbock-Hult, 2000).

Various factors can drive PWB. One of the prime factors is personality, since the variable is associated with how we feel and how we function. Studies have shown that PWB correlates with the extraversion (high on sociability, assertiveness, etc.) and neuroticism (high on anxiety, worry, fear, anger, types of personality (Ruini et al., 2003). Demographic factors such as gender and age also affected PWB, even though in a more complex form. For example, recent studies showed no gender difference (Visani, Albiери, Offidani, Ottolini, Tomba, & Ruini, 2011) compared other studies that showed mixed results, i.e., higher scores for male (Stephens, Dulberg, & Joubert, 1999) or higher scores for female (Huppert, Walters, Day, & Elliott, 1989). Age is also a driver for PWB that have been extensively studied. According to Blanchflower and Oswald (2008), there seems to be a consistent U-shaped pattern that can describe the relationship between the two variables, in which younger and older people tend to have higher well-being scores compared to the middle-aged people.

PWB began to receive attention and be seen as an important aspect in the life of an individual who is in primary, secondary, or higher education institution. Apart from the u-shaped pattern of age - PWB relationship, a study on PWB among undergraduates is essential since it marks the first time that they were away from their family and the need to on their ability to adapt to a university's environment. During this time, the

undergraduates are undergoing confusion and ambivalence that may affect their PWB (Tao, Dong, Pratt, Hunsberger & Pancer, 2007). Research shows that adaptation towards university life is not straightforward. Undergraduates need to face various challenges. According to Singh (2011), the imbalance between environment and demand (to complete assignments, engage in university programmes, etc.) creates academic stress among undergraduates.

Undergraduate students also are deemed as highly susceptible to anxiety and depression (Eisenberg, Gollust, Golbertin & Hefner, 2007; Wong, Cheung, Chan, Ma & Tang, 2006). As an important element in human life, psychological well-being is increasingly being emphasised in the field of education, especially at university level. University students with high PWB is usually also considered as having good mental health level and can maintain a positive relationship with other individuals around. They are also productive and maintain a positive attitude toward life (Waghmare, 2016). However, in the context of local university students, studies by Nor Sheereen and Rozumah (2010) found that 47.1% of students in a public university earned a low score for PWB, suggesting that a large number of students were at risk of psychological problems. In addition, another study conducted at a private medical college showed that 46.2% of their students had emotional disorders (Ahmad Zaid, Chan & Ho, 2007). Another study by Maher et al. (2015) found that prevalence rates for stress, anxiety and depression problems experienced by medical students in a public university were 16.9%, 52% and 24.4% respectively. These studies have provided an overview of the level of PWB among Malaysian university students, suggesting that indeed there exist a phenomenon of psychological discomfort among these groups.

As an important element that characterises students' life development, low level of psychological well-being becomes a very critical issue (Sherina, Rampal & Kaneson, 2004; Byrd & McKinney, 2012) and sparked in-depth studies on the factors leading to these problems. Failure to deal with problems and challenges in university life contributes to the deterioration of students' PWB. This means that the individual's happiness, development, and success depends on his ability to deal with the challenges and handle them well (Singh & Sharma, 2017). Similar opinions have also been made earlier by Ryff and Singer (2003) that the characteristic of an individual capability of functioning positively, which illustrates his state of PWB, is most appropriate to be discussed in the context of his ability to address any problems and challenges encountered in life. In other words, PWB is best suited as a construct that illustrates the positive outcome of the ability to address challenges among university students.

THE SCHLOSSBERG TRANSITION THEORY

Apart from the external challenges mentioned above, university undergraduates also facing a transition period of their self-identification. According to the Schlossberg Transition Theory, an individual transition can be categorized into three phases, namely (1) moving in, (2) moving through, and (3) moving out. During moving in, the undergraduates will try new things they experienced. They will start to shoulder responsibility especially with regards to self-management and finance. They also need to build new relationships with people they barely know. In the moving through a phase, the students will still be looking around and will try to adapt to new things. If the student feels comfortable with the new things that are experienced, the moving through phase will be traveled positively and so on.

At the moving through phase, the undergraduates are considered to have the ability to adapt to the initial challenges. They are undergoing life and keeping up with the demand of the university. However, they are still experiencing various changes and difficulties such as to maintain dynamic relationships with other surrounding communities (peer, lecturer, etc.). The undergraduates will bring the knowledge, skills, and values gained through the first two-phase challenge into the moving out phase. In this phase, the undergraduates are no longer burdensome with the problems of the moving in and the moving through phases; rather, the self-preparation phase to graduation. When they enter the labor work, the phase moving in repeats in the context of new life.

As rightly observed by Schlossberg (1984), the changes and challenges need to be appropriately addressed, to ensure positive impacts such as positive well-being, good adaptation, as well as high satisfaction among undergraduates.

LITERATURE REVIEW

Most studies on PWB in Malaysia were conducted among graduate students (Panahi, Yunus, Roslan, Kadir, Jaafar, Panahi, 2016; Roslan, Ahmad, Nabilla & Ghiami, 2017). Panahi et al. (2016) investigate the influence of components of cognitive emotion regulation, social support, and physical activity on the PWB of 534 graduate students in a local public university. Among the critical findings of this study is given as follows: Firstly, the PWB of graduate students is primarily influenced by planning, especially through facilitating goal attainment. Secondly, catastrophising and self-blame have a significant negative influence on PWB. Nevertheless, in contrast to findings from the literature, acceptance was found to have negatively influenced the PWB of the respondents. Another exciting finding is that walking was found to have a positive influence on PWB. Meanwhile, a study by Roslan et al. (2017) examines PWB of 192 master students from a local public university using the Psychological Well-being Scale (Ryff, 1989). They conclude that the students showed satisfactorily high PWB especially in the dimensions of personal growth, purpose in life and positive relations. The study also reports that age and field of study have an effect on the PWB of the graduates. In general, older graduates report a significantly higher mean score of PWB and graduates from the field of languages demonstrate substantially higher mean score compared to other fields of study.

The studies mentioned above deal with graduates students. Nevertheless, studies that involve PWB among undergraduates is still scarce. This is considered unfortunate since it is highly likely that the results might be different. This is because there is a huge difference between the undergraduates and the graduates. For example, they are different in terms of age. Graduates students are usually older and have experience in many transitions in their life, particularly those mentioned in the Schlossberg Transition Theory. As such, they are more able to adapt to the university environment especially in addressing challenges that can influence their PWB. Besides, graduates student usually are more stable financially. Therefore this factor may not be a significant predictor to their PWB. In contrast, financial is considered one of the crucial challenges for undergraduates (Jariah, Husniyah, Laily & Britt, 2004) and many studies report financial aspects as significant predictors to well-being (Montpetit, Kapp, & Bergemen, 2015; Netemeyer, Warmath, Fernandes & Lynch, 2018).

Several studies investigate PWB and its relationship with other variables such as Facebook usage (Naeemi, Tamam, Hasan & Bolong, 2014), career satisfaction (Norizan & Siti-Rohaida, 2015), stress (Yunus & Mahajar, 2011) and self-compassion (Voon, Lau & Leong, 2017). Nevertheless, all these studies did not involve university undergraduates. It should

be noted that these variables are essential among undergraduates. For example, according to a study by Zeinab, Bahaman, Siti Zobidah, Jusang and Nurul Akhtar (2014), Facebook use has become compulsive, and the undergraduates are often logged in more than they expected. The same study also reveals that the frequency of Facebook is high and most of their samples using Facebook through the day, and some were reported using Facebook all the time because of the amount of information on the Facebook pages. Career satisfaction is also an important variable for university undergraduates and the relationship between the variable and well-being has been confirmed in many international studies such as Daraei (2013) and Cotton, Dollard and de Jonge (2002). One might speculate that undergraduates in Malaysia also share similar findings. Stress is another variable that has been shown to have an influence on PWB.

The scarcity of research on PWB (and its relationship between other variables) among undergraduates may be the cause of the lack of understanding regarding PWB in Malaysia. This in turns, limits our ability to provide interventions to enhance their PWB. Improving PWB is essential since the variable has been positively associated with other important variables such as academic success (Rüppel, Liersch & Walter, 2015), self-esteem (Ameri & Bagheri, 2015), optimism (Burris, Brechting, Salsman & Carlson, 2009) and intelligence (Wigtil & Henriques, 2015). All these variables are considered important for undergraduates. For example, academic success is imperative to students since the variable is associate with positive outcomes we value such as have more stable employment, have more employment opportunities and earn higher salaries to name a few. Studies also report that academic achievement has a positive relationship with core self-evaluations (Albrecht, Paulus, Dilchert, Deller & Ones, 2013) and emotional intelligence (Barchard, 2003). Meanwhile, self-esteem is also an important variable for university undergraduates. Apart from its association with academic success, self-esteem is also related to life satisfaction (Moknes & Espnes, 2013) as well as self-perception (Netz, 2007) and life-challenges and resilience to stress (Baumeister, Campbell, Krueger & Vohs 2003) among undergraduates. Meanwhile, university undergraduates should have high optimism because they are highly likely to experience frequent failures at university. If they are less optimistic, the failures can cause low self-esteem issues among them, and to a certain extent, making them vulnerable and give up early, and not care about academic performance.

Literature also shows that PWB is also widely studied with ill-being, such as academic stress (Chow, 2007) or anxiety (Liu, Shono & Kitamura, 2009). Nevertheless, as quotes by Huppert (2009), since well-being is more than the absence of ill-being and the drivers of well-being is very much different from the drivers of ill-being, than there is a need to study it in its own right. As such, the purpose of this study is to measure PWB among university undergraduates. More specifically, the objectives of the present study are (1) to gauge information on the agreeableness of the undergraduates in eight aspects of PWB, and (2) to identify the level of PWB of the undergraduates, and (3) to suggest how creativity can improve PWB of the undergraduates. We believe that creativity can improve PWB based on several studies conducted at various levels that confirm the association between the two variables at various levels. For example, the study by Ghorbani and Kazemi-Zahrani (2015) found that there is a significant and positive correlation between cognitive creativity and PWB ($r = .447$) among Iranian samples of high schools students. Work by Conner, DeYoung and Silvia (2016) with sample of 658 young adults also support the call for the need for everyday creativity activity in order to enhance positive psychological functioning.

METHODOLOGY

A total of 1965 undergraduates were employed from seven public universities in Malaysia. Purposive sampling was used for this study in order to have the intended composition of groups, particularly with regards to years of study. The following Table 1 shows the respondents' demographic information. Data were collected during lectures to ensure good return of the questionnaire. Prior to answering, the participants were informed about details of the objectives and nature of the study. Questionnaire was administered after asking participants for oral consent. Participants were thanked for their participation in the study.

Table 1: Undergraduates' demographic profile

Demographic Characteristics	N	%
Gender		
Male	581	29.6
Female	1384	70.4
Years of Study		
First	351	17.9
Second	757	38.5
Third	486	24.7
Fourth	371	18.9

Data were collected during lectures to ensure good returns, and it takes about 5-10 minutes to complete the task. In this study, the Flourishing Scale (FS) (Diener et al., 2009) was employed to gain information on the respondents' PWB. The 8-item instrument measures human functioning aspects such as positive relationships with others, the purpose of life as well as additional characteristics like feelings of competence and optimism. The FS is widely used in many well-being studies because of its simplicity in measuring PWB. Before it is used, the FS was translated into Malay language and then converted back to English by a language lecturer. The similarity of the meanings of both versions was endorsed by the same lecturer as well as a lecturer in psychology.

Items are rated on a 6-point Likert scale with the following pattern of responses: strongly disagree – disagree – quite disagree – somewhat agree – agree – strongly agree. The undergraduates with high scores were operationalised as possessing high PWB and vice versa. The reliability coefficient Cronbach's alpha for the instrument was .862. Table 2 depicts the FS items.

Table 2: The flourishing scale

Code	Item
FS1	I lead a purposeful and meaningful life
FS2	My social relationships are supportive and rewarding
FS3	I am engaged and interested in my daily activities
FS4	I actively contribute to the happiness and well-being of others
FS5	I am competent and capable in the activities that are important to me
FS6	I am a good person and lead a good life
FS7	I am optimistic about my future
FS8	People respect me

The present study employs cross-sectional survey design. The data from research instruments were numerically scored and quantified and were analysed by IBM SPSS 23. Descriptive analysis namely, percentages of responses, means, and standard deviations were calculated to describe the basic features of the data in a study. In addition, the samples were also classified into four levels of PWB, namely, low, moderate low, moderate high, and high levels. Meanwhile, several inferential statistics were used to provide inference from the data. The independent sample t-test was employed to infer the difference in the mean score of PWB between male and female undergraduates, while two tests of one-way ANOVA provided effect of years of study on PWB.

RESULT

Table 3 depicts the percentage of response for each category for the FS item. For example, for item 1 (FS1: I lead a purposeful and meaningful life), 26 undergraduates (1.3%) choose the “Strongly Disagree” option, 26 undergraduates (1.8%) choose the “Disagree” while 104 undergraduates (5.3%) pick the “Quite Disagree” option. Meanwhile, in the “Agree” continuum, 317 undergraduates (16.1%) pick the “Somewhat Agree” option, compared to 791 undergraduates (40.3%) for the “Agree” and 691 undergraduates (35.2%) for the “Strongly Agree.” In general, it can be seen that most of the responses clustered around the Agree categories (Somewhat Agree + Agree + Strongly Agree). This also causes a high mean score of between 4.27 and 4.98 for all items in the FS. With regards to an individual item in the FS, the undergraduates provided the highest score on FS1 (I lead a purposeful and meaningful life) (M=4.98, SD=1.05) followed by FS2 (My social relationships are supportive and rewarding) (M=4.91, SD=1.02). FS8 (People respect me) (M=4.85, SD=.96) completed the top three of the PWB dimensions. That is, the undergraduates endorsed that they are living to their full potentials in these aspects. In contrast, the undergraduates have acknowledged that their possibilities are least developed in FS3 (I am engaged and interested in my daily activities) (M=4.27, SD=1.12). Similarly, the undergraduates also endorsed that they least developed in FS4 (I actively contribute to the happiness and well-being of others) (M=4.56, SD=1.00) as well as in FS5 (I am competent and capable in the activities that are important to me) (M=4.60, SD=.95). The following Table 3 summarises the percentage of responses, mean and standard deviation for every item in the FS.

Table 3: Percentage of responses, mean and standard deviation

Item	SD	D	QD	SA	A	StrA	Mean	Std Dev
FS1	1.3	1.8	5.3	16.1	40.3	35.2	4.98	1.05
FS2	.7	2.2	6.3	17.9	42.4	30.5	4.91	1.02
FS3	2.6	4.6	16.5	29.1	33.5	13.6	4.27	1.12
FS4	1.0	2.3	8.2	33.6	38.0	16.8	4.56	1.00
FS5	.8	1.5	8.1	32.2	41.4	16.0	4.60	.95
FS6	.8	1.4	6.1	26.4	42.1	23.2	4.77	.97
FS7	.7	1.7	5.5	23.4	43.2	25.5	4.83	.97
FS8	1.1	1.5	8.5	32.8	42.0	13.9	4.85	.96

SD = Strongly Disagree, D = Disagree, QD = Quite Disagree, SA = Somewhat Agree, A = Agree, StrA = Strongly Agree

Even though the present study reported a high mean score for items in the FS, this study also revealed that there was a considerable amount of concern regarding the number of undergraduates that experience a low level of PWB. As shown by the following Table 4, a total of 71 undergraduates (3.6%) were classified as having a low score of PWB, while another 175 (8.9%) were at moderate low level. Further analysis showed that there was 4.5% male undergraduates at a low level compared to 3.3% for their female counterparts. There were also higher percentages of male undergraduates at a moderately low level (12.9%) compared to 7.2% for the females. Additional analysis showed that the first year students represent the highest percentage of undergraduates at low levels at 14.2% compared to the second year (1.6%), third year (1.6%) and the final year (.3%). A similar trend was also reported for moderate low level, where the first year undergraduates were the largest at 14%, followed by the third year (8.5%), second year (8.1%) and the final year (6.5%).

Table 4: Number of undergraduates at each level

Level	Range of Score	Number of Undergraduates
Low	8-25	71 (3.6%)
Moderate Low	26-31	175 (8.9%)
Moderate High	32-37	648 (33%)
High	38-48	1071 (54.4%)

Note* Mean = 37.47, SD = 5.78

An independent sample t-test was carried out to compare the effect of gender toward PWB. Result showed that the mean different between the two groups is statistically significant [$t(1963) = -3.918, p = .000$]. That is, the mean score of PWB of the female (37.80) undergraduates is significantly higher than the mean score of their male counterparts (36.68). A one-way ANOVA was employed to test the effect of years of study on PWB. Results in Table 6 shows that there was a significant difference in the mean score of PWB between groups [$F(3, 1961) = .183, p = .000$]. Post-hoc test using Bonferroni test showed that the mean score for the first year (was significantly lower than that of other groups. The mean score for the second year was also significantly different from the final year. No significant difference was recorded between the third year and the final year.

Table 5: Mean and standard deviation of PWB

Years of Study	N	Mean	Standard Deviation
First	351	34.36	7.76
Second	757	37.77	5.03
Third	486	38.13	5.09
Final	371	38.93	4.80

Table 6: Results of one-way ANOVA for the effect of years of study on PWB

Level	Mean Difference	p-value
First – Second	-3.41	.000
First – Third	-3.77	.000
First – Final	-4.57	.000
Second - Third	-.36	1.000
Second – Final	-1.16	.006
Third - Final	-.81	.224

DISCUSSION

The research examines the PWB among undergraduates from seven universities. The results show that 246 undergraduates were classified at the low and moderate low levels that in turns provide empirical evidence to show that they did not live to their fullest potentials (Ryff, 1989). This is rather unfortunate since the university is a perfect place for building up personal possibilities such as social skills and leadership skills. The data also explains that there were higher percentages of male undergraduates at low PWB levels compared to females. With regards to years of study, it was found that there was a higher percentage of first-year undergraduates at the two lower levels of PWB.

The present study reveals that female undergraduates demonstrated significantly higher PWB compared to their male counterparts. Nevertheless, the finding contradicts many other clinical studies on well-being and mental health where women have a higher lifetime prevalence of mood or anxiety disorders (Boyd et al. 2015) as well as depression (Kuehner, 2016). As such, there is a need to conduct further study to identify the cause of these contrasting results. The present finding also confirms that age affects the PWB of the undergraduates (Farrer, Leach, Griffiths, Christensen, & Jorm, 2008; Hadjimina & Furnham, 2017). One possible explanation is that the longer they stay at the university, they can face many challenges that in turns, help the undergraduates to manage their life independently.

As mentioned in the above paragraph, undergraduates should take advantage of the conducive university environment to flourish to their fullest potential. Therefore, university stakeholders need to play an active role in improving PWB among their undergraduates. One exciting area that can be explored was by incorporating creativity into university climate.

Creativity can be defined as the process of generating something innovative, meaningful, original and unexpected (Sternberg, 1999). Concerning life at university, creativity can also be associated with the ability to meet challenges and difficulties with openness and a sense of possibility. There is a growing number of literature that associates creativity and PWB. A study by Richards (2007) showed that happy and active participants were likely to be engaged in creative activities. Stuckey and Noble (2010) found that listening to music, visual art therapy, expressive writing, and art-based interventions can improve physiological and psychological consequences. Meanwhile, a study by Rezanezhadamirdehi (2011) showed that people with artistic abilities and jobs report higher levels of well-being than those who without. In the study of a college student in Pakistan, Arshad and Rafique (2016) found a positive and significant correlation between PWB and creativity ($r = .54$).

One pulling factor for incorporating creativity in university is that, contrary to popular belief, creativity is learnable (Lucas & Claxton, 2009). That is, the university stakeholders, including lecturers, can devise creative activities in their teaching and learning to promote positive PWB. For example, instead of the traditional standard project where undergraduates were asked to complete the task(s), an open-ended project can help them to explore their potential more creatively. In open-ended projects, the undergraduates were provided with the freedom to choose the type of project they want to create. Students are encouraged to explore different solutions and describe their answers in a way which they like. Besides, it is also essential for the lecturers to work with the undergraduates on the ways they will be evaluated. As such, open-ended projects are highly likely to create higher engagement on the programs/activities as well as better understanding of the content.

One crucial part of promoting creativity is to provide an opportunity for the undergraduates to voice out their opinions and ideas. Applying strategies such as brainstorming coincide with this purpose. This is because, during brainstorming, undergraduates generate ideas around a specific area of interest and they are encouraged to think freely and to move into new areas of thought such as problems, opportunities, etc. The idea of brainstorming sessions to provide the participants with diverse opinions in a dynamic synergy that can increase the creativity of the group. However, it should be noted that creativity requires courage and tenacity. Undergraduates need to be informed that not every idea can provide a successful solution, and failure is inevitable.

Another practical way to enhance creativity is to utilise visualisations by capturing both the creative and learning processes. This can be done by transforming texts into graphics, such as mind maps or infographics. Latest technology such as virtual reality is also able to enhance creativity by visualising events and environments the undergraduates weren't physically able to access. Video simulations through virtual reality allow students to explore different realities as well as alternative learning experience that is impossible in the traditional classroom. Undergraduates can experience high-quality educational visualisations that have a positive impact on the whole learning process. More interestingly, these visualisations can be experienced in any language. As such, it helps in eliminating language barriers for students to learn. Also, the use of comic strips can be fun as well (Gerstner, 2003; Malla, 2007). Utilisation of visuals may become essential aspects of research since many Malaysian undergraduates were visual learners (Ramalingam, 2014; Sahana Ghosh, Jaiprakash & Govindaraja, 2014). In addition, comic strips help to combine story and information simultaneously, more effectively and seamlessly, than almost any other medium.

CONCLUSION

The purpose of this study is to assess levels of PWB among undergraduates and to suggest how creativity can contribute to the enhancement of the PWB among university undergraduates. In general, most of the undergraduates showed high PWB level. Nevertheless, there was a concern over the number of undergraduates at the low and moderate low levels. Results showed that there are more male undergraduates compared to the females at the two lowest levels. The analysis also revealed that the first year and the second year undergraduates were the majority at these two levels. The undergraduates demonstrated the highest mean score with regards to leading purposeful and meaningful life at university. The present study also showed that gender has significant effect of the PWB with the female undergraduates demonstrated significantly higher mean score. In addition, years of study also has significant effect on the PWB. The study revealed that the longer the undergraduates stayed at

the university, the more likely they were able to fulfill their potentials. Based on a review of past studies, we argue that incorporating creativity can contribute to enhancing undergraduates' PWB. We discuss how (1) open-ended project, (2) effective brainstorming sessions, and (3) visualisations can help improve driving creativity among undergraduates. Nevertheless, we also believe that there is a still long way of understanding PWB among undergraduates. As rightly observed by Huppert (2009), providing interventions on at-risk subgroups may provide short-term relief, a more comprehensive effort need to be intensified to find universal that can reduced number of undergraduates in the long term with common mental problems.

ACKNOWLEDGMENTS

This study was made possible by the support of Universiti Sains Malaysia Bridging Grant 304.PGURU.6316012

BIODATA

Ahmad Zamri Khairani is a senior lecturer at the School of Educational Studies, Universiti Sains Malaysia. His research areas are psychometric and educational evaluation and teacher education. Email: ahmadzamri@usm.my

Hasni Shamsuddin is a PhD student at the School of Educational Studies, Universiti Sains Malaysia. Her research interest is psychometric and educational evaluation particularly with regards to Rasch Model analysis. Email: hasni@gmail.com

Izazol Idris is a lecturer at the Faculty of Education and Human Development, Universiti Pendidikan Sultan Idris. Her research area is educational assessment & evaluation. Email: izazol@fpm.upsi.edu.my

REFERENCES

- Ahmad Zaid, Z., Chan, S. C., & Ho, J. J. (2007). Emotional disorders among medical students in a Malaysia private medical school. *Singapore Medical Journal*, 48(10), 895-899.
- Albrecht A., Paulus F.M., Dilchert S., Deller J., & Ones D.S. (2013). Construct- and criterion-related validity of the German core self-evaluations scale: A multi-study investigation. *Journal of Personality and Psychology*, 12, 85-91.
- Ameri, M. S., & Bagheri, O. (2015). Relationship between self-esteem and psychological well-being and mental health of parents of children with normal and border line IQ children. *European Psychiatry*, 30(Supplement 1), 1484.
- Arshad, S., & Rafique, R. (2016). Personality and creativity as predictors of psychological well-being in college students. *Pakistan Journal of Psychological Research*, 31(1), 139-160.
- Barchard, K. A. (2003). Does emotional intelligence assist in the prediction of academic success? *Educational and Psychological Measurement*, 63, 840-858.
- Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles?. *Psychological Science in the Public Interest*, 4(1), 1-44
- Blanchflower, D. G., & Oswald, A. J. (2008). Is well-being U-shaped over the lifecycle? *Social Science & Medicine*, 66(8), 1733-1749.
- Boyd, A., Van de Velde, S., Vilagut, G., de Graaf, R., O'Neill, S., Florescu, S., Alonso, J., Kovess-Masfety, V., & EU-WMH Investigators. (2015). Gender differences in mental disorders and suicidality in Europe: Results from a large cross-sectional population-based study. *Journal of Affective Disorders*, 173, 245-254.
- Burris, J., Brechting, E., Salsman, J., & Carlson, C. (2009). Factors associated with the psychological well-being and distress of university students. *Journal of American College of Health*, 57(5), 536-543.
- Byrd, D. R., & McKinney, K. J. (2012). Individual, interpersonal, and institutional level factors associated with the mental health of college students. *Journal of American College Health*, 60(3), 185-193.
- Chow, H. (2007). Psychological well-being and scholastic achievement among university students in a Canadian prairie city. *Social Psychology of Education*, 10(4), 483-493.
- Clemente, M., Hezomi, H., Allahverdipour, H., Jafarabadi, M. A., & Safaian, A. (2016). Stress and psychological well-being: An explanatory study of Iranian female adolescents. *Journal of Child & Adolescent Behavior*, 4(1), 1000282.
- Conner, T. S., DeYound, C. G., & Silvia, P. J. (2018). Everyday creative activity as a path to flourishing. *The Journal of Positive Psychology*, 13(2), 181-189.
- Cotton, S. J., Dollard, M. F., & de Jonge, J. (2002). Stress and student job design: Satisfaction, well-being, and performance in university students. *International Journal of Stress Management*, 9(3), 147-163.
- Daraei, M. (2013). Social correlates of psychological well-being among undergraduate students in Mysore City. *Social Indicators Research*, 114(2), 567-590.
- Diener, E, Wirtz D, Tov, W, Kim-Prieto, C., Choi, D-w, Oishi, S., & Biswas-Diener, R. (2009). New well-being measures: short scales to assess flourishing and positive and negative feelings. *Social Indicators Research*, 97(2), 143-156.
- Diener, E., Eunkook, M. S., Richard, E. L. S., & Heidi, L. S. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, 125(2), 276-302.

- Dockray, S., & Steptoe, A. (2010). Positive affect and psychobiological processes. *Neuroscience & Biobehavioral Reviews*, 35(1), 69-75.
- Eisenberg, D., Gollust, S. E., Golberstein, E., & Hefner, J. L. (2007). Prevalence and correlates of depression, anxiety, and suicidality among university students. *American Journal of Orthopsychiatry*, 77(4), 534-542.
- Farrer, L., Leach, L., Griffiths, K. M., Christensen, H., & Jorm, A. F. (2008). Age differences in mental health literacy. *BMC Public Health*, 8, 125.
- Gerstner, E. (2003). Superheroes Make Physics Fun: Comic Books Impart Common Sense and Critical thinking. *Nature Online*. Accessed March 3, 2011.
- Ghorbani, M., & Kazemi-Zahrani, H. (2015). Psychological well-being and creativity. *International Journal of Advances in Science Engineering and Technology*, Spl. Issue-3, 20-23
- Hadjimina, E., & Furnham, A. (2017). Influence of age and gender on mental health literacy of anxiety disorders. *Psychiatry Research*, 251, 8-13.
- Harris, M., Martin, M., & Martin, D. (2013). The relationship between psychological well-being and perceived wellness in graduate-level counseling students. *Higher Learning Research Communications*, 3(2), 14-31.
- Huppert, F. A. (2009). Psychological well-being: Evidence regarding its causes and consequences. *Applied Psychology: Health and Well-being*, 1(2), 137-164.
- Huppert, F. A., Walters, D. E., Day, N., & Elliott, B. J. (1989). The factor structure of the General Health Questionnaire (GHQ-30): A reliability study on 6317 community residents. *British Journal of Psychiatry*, 155, 178-185.
- Jariah, M., Husniyah, A. R., Laily, P., & Britt, S. (2004). Financial behavior and problems among university students: Need for financial education. *Journal of Personal Finance*, 3(1), 82-96.
- Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior*, 43, 207-222.
- Keyes, C. L. M., Shmotkin, D., & Ryff, C. D. (2002). Optimizing well-being: The empirical encounter of two traditions. *Journal of Personality and Social Psychology*, 82(6), 1007-1022.
- Kuehner C. (2016). Why is depression more common among women than among men? *Women's Mental Health*, 4(2), 146-158.
- Liu, Q., Shono, M., & Kitamura, T. (2009). Psychological well-being, depression, and anxiety in Japanese university students. *Depress Anxiety*, 26(8), E99-105.
- Lucas, B., & Claxton, G. (2009). *Wider skills for learning: What are they, how can they be cultivated, how could they be measured and why are they important for innovation.* London, UK: NESTA.
- Lyubomirsky, S. L., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success?. *Psychological Bulletin*, 131(6), 803-855.
- Maher D. Fuad Fuad, Balsam Mahdi Nasir, Mohammed Abdul Qader, Mohammed Faez Abu Bakar, Maged Elnajeh, & Mohd Rusli Abdullah (2015). Prevalence and risk factors of stress, anxiety and depression among medical students of a private medical university in Malaysia. *Education in Medicine Journal*, 7(2), 52-59.
- Mallia, G. (2007). Learning from the sequence: The use of comics in instruction. *ImageText: Interdisciplinary Comics Studies*, 3(3), 1-7.
- Moksnes, U. K., & Espnes, G. A. (2013). Self-esteem and life satisfaction in adolescents-gender and age as potential moderators. *Quality of Life Research*, 22(10), 2921-2928.

- Montpetit, M. A., Kapp, A. E., & Bergeman, C. S. (2015). Financial stress, neighborhood stress, and well-being: Mediation and moderation models. *Journal of Community Psychology*, 43(3), 364-376.
- Naeemi, S., Tamam, E., Hasan, S. H., Bolong, J. (2014). Facebook usage and its association with psychological well-being among Malaysian adolescents. *Procedia - Social and Behavioral Sciences*, 155(2), 87-91.
- Netemeyer, R. G., Warmath, D., Fernandes, D., Lynch, J. G. (2018). How am i doing? Perceived financial well-being, its potential antecedents, and its relation to overall well-being. *Journal of Consumer Research*, 45(1), 68-89.
- Netz, Y. (2007). Physical activity and three dimensions of physical functioning in advanced age: Cognition, affect, and self-perception. In G. Tenenbaum & R. C. Eklund (Eds.), *Handbook of sport psychology* (pp. 492–508). NJ: John Wiley & Sons.
- Nisa, S. U., Qasim, N., & Sehar. (2017). Relationship of achievement motivation and psychological well-being in adolescents. *International Journal of Applied Research*, 3(12), 102-104.
- Nor Sheereen Zulkefly, & Rozumah Baharudin (2010). Using the 12-item General Health Questionnaire (GHQ-12) to assess the psychological health of Malaysian college students. *Global Journal of Health Science*, 2(1), 73-80.
- Norizan, B. R., & Siti-Rohaida, M. Z. (2015). Career satisfaction and psychological well-being among professional engineers in Malaysia: The effect of career goal development. *Asian Academy of Management Journal*, 20(2), 127-146.
- Panahi, S., Yunus, A. S. M., Roslan, S., Kadir, R. A., Jaafar, W. M. W., & Panahi, M. S. (2016). Predictors of psychological well-being among Malaysian graduates. *The European Journal of Social and Behavioural Sciences*, 16, 2067-2082.
- Ramalingam, S. (2014). *Learning styles among Malaysian undergraduates: A survey at a Malaysian higher learning institution*. Seminar Penyelidikan Kebangsaan 2014, Universiti Pendidikan Sultan Idris. Retrieved from <https://www.researchgate.net/publication/268448612/download>
- Rezanezhadmirdehi, A. (2011). Comparison investigation of personality traits and mental health in artistic and normal people. *European Psychiatry*, 26(1), 1041.
- Richards, R. (2007). Everyday creativity and the arts. *World Futures*, 63(7), 500-525.
- Roslan, S., Ahmad, N., Nabilla, N., & Ghiami, Z. (2017). Psychological well-being among post-graduate students. *Acta Medica Bulgarica*, 44(1), 35-41
- Ruini, C., Ottolini, F., Rafanelli, C., Tossani, E., Ryff, C.D., & Fava, G. A. (2003). The relationship of psychological well-being to distress and personality. *Psychotherapy and Psychosomatics*, 72(5), 268-275.
- Rüppel, F., Liersch, S., & Walter, U. (2015). The influence of psychological well-being on academic success. *Journal of Public Health*, 23(1), 15-24.
- Ryan, R. M., & Deci, E. L. (2008). Self-determination theory and the role of basic psychological needs in personality and the organization of behavior. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (pp. 654-678). New York, NY, US: The Guilford Press.
- Ryff, C. D., & Singer, B. (2003). Flourishing under fire: Resilience as a prototype of challenged thriving. In C. L. M. Keyes & J. Haidt (Eds.), *Flourishing: Positive psychology and the life well-lived* (pp. 15-36). Washington, DC: APA
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069-1081.

- Sagone, E., & De Caroli, M. E. (2014). Relationships between psychological well-being and resilience in middle and late adolescents. *Procedia: Social and Behavioral Sciences*, 141, 881-887.
- Sahana, G. N. & Ghosh, S., Jaiprakash, H., & Govindaraja, C. (2014). Learning style preferences: A comparison between students of an Indian and a Malaysian medical school. *Southeast Asian Journal of Medical Education*, 8, 14-19.
- Sarvimäki, A., & Stenbock-Hult, B. (2000). Quality of life in old age described as a sense of well-being, meaning and value. *Journal of Advanced Nursing*, 32, 1025-1033.
- Schlossberg, N. K. (1984). *Counseling adults in transition: Linking theory to practice* (1st ed.). New York: Springer Publishing.
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55(1), 5-14.
- Sherina, M. S., Rampal, L., & Kaneson, N. (2004). Psychological stress among undergraduatemedical students. *Medical Journal Malaysia*, 59(2), 207-211.
- Singh, S., & Sharma, T. (2017). Affect of Adversity Quotient on the occupational stress of IT managers in India. *Procedia Computer Science*, 122, 86-93.
- Singh, B. P. (2011). Study and analysis of academic stress of B.Ed. students. *International Journal of Education Planning and Administration*, 1, 119-27.
- Sternberg, R. J. (1999). *Handbook of creativity*. London: Cambridge University Press.
- Stephens, T., Dulberg, C., & Joubert, N. (1999). Mental health of the Canadian population: A comprehensive analysis. *Chronic Diseases in Canada*, 20(3), 118-126.
- Stuckey, H. L., & Nobel, J. (2010). The connection between art, healing, and public health: Are view of current literature. *American Journal of Public Health*, 100(2), 254-263.
- Tao, S., Dong, Q., Pratt, M. W., Hunsberger, B., & Pancer, S. M. (2007). Social support: Relations to coping and adjustment during the transition to university in the Peoples Republic of China. *Journal of Adolescents Research*, 5(1), 123-144.
- Voon, S. P., Lau, P. L., & Leong, K. E. (2017). A review on self-compassion and psychological well-being among counselors in Malaysia. *International Journal of Education, Psychology and Counseling*, 2(6), 46-56.
- Waghmare, R. D. (2016). A study of psychological well-being among male and female college students. *The International Journal of Indian Psychology*, 3(3), 26-31.
- White, H. R., & Jackson, K. (2005). Social and psychological influences on emerging adult drinking behavior. *Alcohol Research Health*, 28(4), 182-190.
- Wong, J. G., Cheung, E., Chan, K. K., Ma, K. K., & Tang, S. W. (2006). Web-based survey of depression, anxiety and stress in first-year tertiary education students in Hong Kong. *Australian and New Zealand Journal of Psychiatry*, 40(9), 777-782.
- World Health Organization (WHO). (2010). *Mental health: Strenthening our response (Fact Sheet N'220)*. Retrieved from <http://www.who.int/mediacentre/factsheets/fs220/en/>
- Yunus, M. J., & Mahajar, J. A. (2011). Stress and psychological well-being of government officers in Malaysia. *Journal of Human Resources and Adult Learning*, 7(2), 40-50.
- Zeinab, Z., Bahaman, A. S., Siti Zobidah, O., Jusang, B., & Nurul Akhtar, K. (2014). Addictive Facebook uses among university students. *Asian Social Science*, 10(6), 107-116.