



# Positive Psychology of Malaysian University Students: Impacts of Engagement, Motivation, Self-Compassion, and Well-being on Mental Health

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## Abstract

Malaysia plays a key role in education of the Asia Pacific, expanding its scholarly output rapidly. However, mental health of Malaysian students is challenging, and their help-seeking is low because of stigma. This study explored the relationships between mental health and positive psychological constructs (academic engagement, motivation, self-compassion, and well-being), and evaluated the relative contribution of each positive psychological construct to mental health in Malaysian students. An opportunity sample of 153 students completed the measures regarding these constructs. Correlation, regression, and mediation analyses were conducted. Engagement, amotivation, self-compassion, and well-being were associated with, and predicted large variance in mental health. Self-compassion was the strongest independent predictor of mental health among all the positive psychological constructs. Findings can imply the strong links between mental health and positive psychology, especially self-compassion. Moreover, intervention studies to examine the effects of self-compassion training on mental health of Malaysian students appear to be warranted.

**Keywords** Malaysian students · Positive psychology · Mental health · Self-compassion · Academic engagement

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## Problematic Mental Health in Malaysian Higher Education

Malaysian higher education plays a key role in the rapidly developing region of Asia Pacific (Knight and Sirat 2011; Lee 2014), supported by more than 35,000 academic faculties (Wan et al. 2015). With the recent restructuring initiated by the “Malaysian Education Blueprint 2015–2025” scheme (Ministry of Higher Education 2012), research output of Malaysian universities has been expeditiously growing: between 2012 and 2016, Malaysia increased its scholarly output by 7.2%—one of the highest growth rates of all the researched countries (e.g., 4.6% in Australia, 4.2% in China, 3.6% Singapore; Elsevier 2018). Despite its successful academic achievement, Malaysian students suffer from poor mental health (Mey and Yin 2015; Ministry of Health 2016). The primary causes for their poor mental health are financial stress resulted from heightened tuition fees, academic pressure from increased workload, and general life stress associated with family matters (Gani 2016). To address mental health challenges, Malaysian government implemented the National Strategic Mental Health Action Plan, increasing access to mental health support and awareness (Ministry of Health 2016); however, its definite effects are yet to be seen. During these years of thriving academic development, the number of Malaysian students suffering from mental illness doubled from 10 to 20% (Bin Hezmi 2018). One cause for the increased mental illness was stigma around mental health issues (Ministry of Health 2016). Indeed, more than a third of Malaysians who suffered from mental health problems did not ask for help (Chong et al. 2013). Stigma and negative mental health attitudes are associated with, and predictors of poor mental health (Kotera et al. 2018a; b; d; e; f). For students who perceive mental health negatively, directly approaching mental health would not be effective, as they feel shame about engaging in such interventions (Kotera et al. 2018b, e, f). Instead, augmenting positive psychological constructs was suggested as an alternative approach to reduce mental health problems in UK student populations (Kotera et al. 2018b, e, f). However, to date these relationships have not been explored in Malaysian students in depth. Accordingly, this study aimed to explore positive psychological constructs, in relation to mental health of Malaysian students.

## Positive Psychology for Mental Health

Since its development, high utility of positive psychology—the term coined by Abraham Maslow during 50s (Maslow 1954), studying happiness and well-being (Seligman and Csikszentmihalyi 2000)—has been consistently reported. While traditional psychology focuses on pathologies to be removed, positive psychology attends to one’s strengths and values to be nurtured (Seligman and Csikszentmihalyi 2000). Though still nascent (Kim et al. 2018), positive psychology has been introduced in Malaysian higher education, and the importance of potentiating their well-being has been recommended (Aziz et al. 2014). Positive psychological approaches, targeting flourishing mental health (i.e., high levels of mental well-being; Hone et al. 2014), are cost-effective prevention from mental health problems (Forsman et al. 2015; Kobau et al. 2011). Longitudinal studies noted the impacts of positive psychology on reduction of mood disorders. A 10-year observation of positive psychology and mental illness among American adults identified a relationship between an increase in positive psychological constructs and a decrease in mental illness (Keyes et al. 2010). In a Dutch 3-year study, flourishing mental health was predictor of large variance (28–53%) of mood disorders (Schotanus-Dijkstra et al. 2017). Intervention studies followed these findings. A randomized

controlled trial (RCT) examining the effects of acceptance and commitment therapy noted that an increase in positive psychology outcomes concurred with a decrease in depression (Bohlmeijer et al. 2015). A web-based positive psychology intervention, targeting positive emotions, engagement, and meaning, enhanced pregnant women's well-being and reduced depression (Corno et al. 2018). Further, an 8-week positive psychology training, focused on engagement and motivation, reduced PhD students' mental distress (Marais et al. 2018). Among Malaysian students, the "three good things" exercise, where students recorded three good things that happened to them on each day over 2 weeks, improved their well-being and reduced their mental distress (Noor et al. 2018). Though some reported these associations were moderate (Weich et al. 2011), significant linkages between positive psychology constructs and mental health have been reported.

## Engagement, Motivation, Self-compassion, and Well-being

One positive psychological construct that is particularly important in higher education is academic engagement (hereafter "engagement") because of its positive relationships with diverse student outcomes: their mental health (Liébana-Presa et al. 2014; Rogers et al. 2017), attainment (Casuso-Holgado et al. 2013; Neel and Fuligni 2013), and intrinsic motivation (Armbruster et al. 2009; Bicket et al. 2010). Academic engagement relates to how much students are willing to make an effort in their academic work (e.g., knowledge and skill acquisition) (Newman 1992). Unsurprisingly, student engagement was associated with mental health and resilience (a strong protective factor of mental health; Trompeter et al. 2017) among 410 students in Australia, one of the neighboring countries of Malaysia (Turner et al. 2017). The relationships between academic engagement and student mental health have been found in other countries as well (Datu 2018; Suárez-Colorado et al. 2019). However, these engagement relationships have not been explored in Malaysian students.

Mental health is also related to intrinsic motivation—a key correlate of engagement (Baard et al. 2004; Bailey and Phillips 2016; Locke and Latham 2004). Intrinsic motivation is a type of motivation that contrasts with extrinsic motivation in the self-determination theory (SDT), one of the most established motivation theories (Deci and Ryan 1985). SDT holds that each individual has an inherent tendency to express their psychological energy into self-actualization and social adjustment (Deci and Ryan 1985). Intrinsic motivation can be expressed in activities that are inherently interesting and fulfilling (i.e., undertaking the activity itself is a reward); on the other hand, extrinsic motivation can be observed in activities that are means to an end, such as money and status. Intrinsic motivation is associated with positive outcomes such as better performance (Baard et al. 2004), well-being (Bailey and Phillips 2016), life satisfaction (Locke and Latham 2004), prosocial behavior (Gagne 2003), and ethical judgment (Kotera et al. 2018c). Contrariwise, extrinsic motivation is associated with negative outcomes such as burnout (Houkes et al. 2003), shame (Kotera et al. 2018a), depression (Blais et al. 1993), limited performance (Vallerand 1997), and unethical judgment (Kotera et al. 2018c). In higher education particular, students' intrinsic motivation was related to academic performance (Khalaila 2015) and meaningfulness (Utvær 2014). However, these relationships of intrinsic motivation have not been thoroughly investigated in Malaysian students.

Self-compassion has been receiving increasing attention in mental health research for its association with mental health (Ehret et al. 2015; Kotera et al. 2018b, d, e, f; Muris et al. 2016).

Self-compassion—being kind and understanding to one’s weaknesses and inadequacies (Gilbert 2010)—ameliorates mental distress by cultivating resilience (Trompeter et al. 2017). Self-compassion is strongly associated with better mental health (Ehret et al. 2015; Hayter and Dorstyn 2014; Muris et al. 2016), and also a key predictor of good mental health in UK students (Kotera et al. 2018f).

Lastly, mental well-being (hereafter “well-being”) is central in positive psychology (Slade 2010). A shift from treating mental illness to promoting mental well-being has been implemented at the policy level in mental health-aware countries such as Canada (Mental Health Commission of Canada 2009) and the UK (Department of Health 2009), because of the high relevance between those two constructs. A 2-year longitudinal study investigated the Malaysian students undergoing the recent educational restructure also reported the concomitant changes of mental health and well-being (Mey and Yin 2015).

Although these findings highlighted strong relationships between mental health and positive psychological constructs, no study to date has explored the relationships between mental health and positive psychology comprehensively. Further, how strongly each positive psychological construct is related to mental health has not been investigated in depth. Accordingly, this study aimed to explore these relationships and elucidate the relative contribution of each positive psychological construct to mental health in Malaysian students.

## Methods

### Participants

Participants had to be 18 years old or older, and a student of a Malaysian university. An opportunity sampling of 160 undergraduate students majoring in humanities subjects were approached by tutors’ announcements in their classes, and 153 (121 females, 31 males, 1 unanswered;  $RNG_{age} = 18\text{--}27$ ,  $M_{age} = 21.24$ ,  $SD_{age} = 1.59$  years) completed the scales regarding mental health, engagement, motivation, self-compassion, and well-being. Students taking a study break at the time of the study were excluded from the study. Majority of them were Malaysian (143 Malaysians, eight Bangladeshis, and one unanswered). No participation incentive was offered. All the participated students filled out the participation consent prior to responding to the scales. This study was conducted along with another study that explored mental health attitudes and shame about mental health problems in the same cohort of students. The findings from the other study are reported elsewhere.

### Materials

The Depression, Anxiety and Stress Scale (DASS-21) was used to evaluate their *mental health*. This 21-item scale is a short form of DASS-42 (Lovibond and Lovibond 1995) classifying mental health problems into depression, anxiety, and stress (seven items each) on a 4-point Likert scale (“0” being “Did not apply to me at all” to “3” being “Applied to me very much or most of the time”). Items include “I felt that I had nothing to look forward to” for depression, “I felt I was close to panic” for anxiety, and “I found it difficult to relax” for stress. DASS-21 had high internal consistency ( $\alpha = .87\text{--}.94$ ; Antony et al. 1998). For the purpose of this study, the global DASS-21 score was calculated to appraise the level of overall mental health (Antony et al. 1998).

*Engagement* was assessed using the Utrecht Work Engagement Scale for Students (UWES-S), a 17-item scale appraising the degree students feel active and confident towards their academic activities (Schaufeli and Bakker 2004). The three subscales of UWES-S correspond to vigor (six items including “I feel strong and vigorous when I’m studying or going to class”), dedication (five items including “I find my studies full of meaning and purpose”), and absorption (six items including “Time flies when I am studying”), rated on a 7-point Likert scale (“0” being “Never” to “6” being “Always (everyday)”). Vigor pertains to energy that leads to a great amount of effort in one’s studies determinedly; dedication considers one’s commitment to academic work; and absorption relates to positive immersion in one’s academic work (Schaufeli et al. 2002). UWES-S had high internal consistency ( $\alpha = .63-.81$ ; Schaufeli and Bakker 2004). In this study, the average of the total score for the engagement measure was used (Schaufeli and Bakker 2004).

*Motivation* was examined using the Academic Motivation Scale (AMS; Vallerand et al. 1992), consisting of 28 items considering three types of motivation categorized into seven subtypes: (i) amotivation, (ii) extrinsic motivation (external, introjected, and identified regulation), and (iii) intrinsic motivation (to know, to accomplish, and to experience stimulation). Students are asked why they go to university, and respond to items (e.g., “I don’t know; I can’t understand what I am doing in school” for amotivation, “In order to have a better salary later on” for extrinsic motivation, and “Because I experience pleasure and satisfaction while learning new things” for intrinsic motivation), which are responded on a 7-point Likert scale (“1” being “Does not correspond at all” to “7” being “Corresponds exactly”). AMS demonstrated adequate to high internal consistency ( $\alpha = .62-.91$ ; Vallerand et al. 1992).

For *self-compassion*, Self-Compassion Scale-Short Form (SCS-SF; Raes et al. 2011), a shortened version of the Self-Compassion Scale (Neff 2003) was employed. This 12-item 5-point Likert scale (“1” being “Almost never” to “5” being “Almost always”) includes “When something painful happens I try to take a balanced view of the situation,” and the scores on the negative items (1, 4, 8, 9, 11, and 12) are reversed. Internal consistency of SCS-SF was high ( $\alpha = .86$ ; Raes et al. 2011).

Lastly, *well-being* was measured using the Short Warwick–Edinburgh Mental Wellbeing Scale (SWEMWBS; Stewart-Brown et al. 2009), a seven-item scale, shortened from the original 14-item version (Stewart-Brown and Janmohamed 2008). Items are positively worded (e.g., “I’ve been thinking clearly”), responded on a 5-point Likert scale (“1” being “None of the time” to “5” being “All of the time”). SWEMWBS had high internal consistency ( $\alpha = .85$ ; Stewart-Brown et al. 2009).

## Procedure

Collected data were screened for outliers and the assumptions for parametric tests. First, correlation analyses were performed to explore the relationships between mental health, engagement, motivation, self-compassion, and well-being of Malaysian students. Second, multiple regression analyses were conducted to evaluate how much each variable could explain the variance in mental health. Lastly, mediation analysis was performed to examine whether the strongest predictor was mediated by another variable. The correlation and regression analyses were conducted using IBM SPSS 25. Process macro 3 (Hayes 2017) was used for mediation analysis, with 5000 bootstrapping re-samples and bias-corrected 95% confidence intervals (CIs) for indirect effects.

## Results

### Relationships Between Mental Health, Engagement, Motivation, Self-compassion, and Well-being

No outlier was identified, using the outlier labeling rule (Hoaglin and Iglewicz 1987). Because mental health, extrinsic motivation, amotivation, and well-being were not normally distributed (Shapiro–Wilk,  $p < .05$ ), all the subscales were square-root-transformed. Pearson's correlation was calculated to explore the relationships between mental health, engagement, motivation, self-compassion, and well-being (Table 1).

Mental health was associated with engagement ( $r(151) = -.22, p = .008$ ), amotivation ( $r(151) = .40, p < .001$ ), self-compassion ( $r(151) = -.60, p < .001$ ), and well-being ( $r(151) = -.49, p < .001$ ), while it is not associated with demographics (gender  $r(151) = .08, p = .30$ ; age  $r(151) = .01, p = .88$ ), intrinsic motivation ( $r(151) = -.05, p = .53$ ), and extrinsic motivation ( $r(151) = .08, p = .34$ ). Well-being was related to gender ( $r(151) = -.26, p = .001$ ), mental health ( $r(151) = -.49, p < .001$ ), engagement ( $r(151) = .39, p = .001$ ), intrinsic motivation ( $r(151) = .29, p < .001$ ), and self-compassion ( $r(151) = .52, p < .001$ ).

### Predictors of Mental Health

Multiple regression analyses were conducted to explore the relative contribution of engagement, amotivation, self-compassion, and well-being (significant correlates; predictor variables)

**Table 1** Descriptive statistics and correlations between mental health, engagement, motivation, self-compassion, and well-being in Malaysian students ( $n = 153$ )

Subscale (range)	M ± SD	1	2	3	4	5	6	7	8	9
1 GN (1 = M, 2 = F) M, 31; F, 121; no answer, 1		-								
2 Age (18–27)	21.24 ± 1.59	-.12	-							
3 Mental health (0–126)	51.45 ± 25.44	.08	.01	-						
4 Engagement (0–6)	3.65 ± .97	.04	-	.12	-					
				-.22**						
5 Intrinsic motivation (4–28)	20.08 ± 3.76	.10	.02	-.05	.37**	-				
6 Extrinsic motivation (4–28)	21.71 ± 3.88	.18*	-	.01	.08	.21*	.76**	-		
				-.40**						
7 Amotivation (4–28)	12.25 ± 5.82	-	.06	.24**	-.37**	-.30**	-.24**	-		
8 Self-compassion (1–5)	3.12 ± .54	-.18*	.12	-.60**	.33**	.05	-.13	-	-.28**	-
				-.49**						
9 Well-being (7–35)	20.80 ± 3.75	-	.08	-	.39**	.29**	.11	-.13	.52**	-

\* $p < .05$ , \*\* $p < .01$

for their mental health (Table 2). Multicollinearity was of no concern (VIFs < 10). Engagement, amotivation, self-compassion, and well-being were entered as predictor variables, and mental health was entered as an outcome variable. Age and gender were not entered, as these were not significantly related to mental health. These predictor variables accounted for 47% for mental health, a large effect size (Cohen 1988). Engagement and amotivation were positive predictors, whereas self-compassion and well-being were negative predictors for mental health. Self-compassion was the strongest predictor of mental health among all the predictor variables.

Further, a mediation analysis was performed to examine whether the strongest prediction of self-compassion (predictor variable) for mental health problems (outcome variable) was mediated by well-being (mediator variable), using model 4 in the Process macro (parallel mediation model; Hayes 2012) (Fig. 1).

The total and direct effects of self-compassion on mental health problems were significant (total  $b = -7.00$ ,  $t(151) = -9.25$ ,  $p < .001$ ; direct  $b = -6.94$ ,  $t(150) = -9.11$ ,  $p < .001$ ), whereas the indirect effect of self-compassion on mental health problems through well-being was not ( $b = -.06$ , BCa CI [- .32, .12]). Well-being did not mediate the effect of self-compassion on mental health problems: Self-compassion independently predicted the variance in mental health problems.

## Discussion

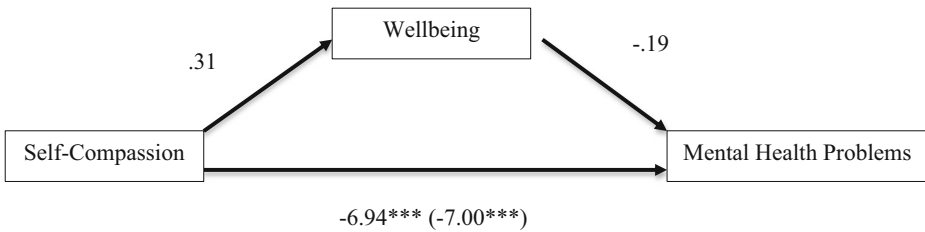
This study explored relationships between mental health, engagement, motivation, self-compassion, and well-being of Malaysian university students. Their mental health was associated with engagement, amotivation, self-compassion, and well-being. Those significant correlates of mental health predicted 47% (a large effect size) of mental health, and were all significant predictors of mental health. Self-compassion was the strongest independent predictor.

Mental health was related to all the positive psychological constructs, except for intrinsic motivation. These significant relationships were in line with previous research (Kotera et al. 2018b; Mey and Yin 2015; Rogers et al. 2017) and may imply the importance of positive psychology for mental health in Malaysian students. Contrary to previous findings, intrinsic motivation was not associated with mental health. This may be explained by a type of passion (i.e., intrinsic motivation) students experience towards their academic work. If they are passionate to study, because of social acceptance (e.g., parents' approval), that could create

**Table 2** Multiple regression: engagement, amotivation, self-compassion, and well-being for mental health problems in Malaysian students ( $n = 153$ )

	Mental health		
	<i>B</i>	<i>SE<sub>B</sub></i>	$\beta$
Engagement	.99	.46	.15*
Amotivation	.64	.14	.30***
Self-compassion	- 4.81	.83	- .41***
Well-being	- 1.33	.33	- .29***
Adj. $R^2$	.47		

*B* unstandardized regression coefficient, *SE<sub>B</sub>* standard error of the coefficient,  $\beta$  standardized coefficient; \* $p < .05$ , \*\*\* $p < .001$



**Fig. 1** Parallel mediation: self-compassion as a predictor of mental health problems, mediated by well-being. The confidence interval for the indirect effect is a BCa-bootstrapped CI based on 5000 samples. Direct effect (total effect). Values attached to arrows are coefficients indicating impacts. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

obsessive passion, which could damage their well-being (Vallerand et al. 2003). Because obsessive passion is derived from outside of their control, the activities that are attached to social acceptance can take exaggerated importance, harming the other areas of life (i.e., they cannot stop doing the activity). As one of the primary reasons for mental health problems in Malaysian students was family matters (Gani 2016), some students might have had this type of passion, who could score high in intrinsic motivation but also high in mental health problems. On the other hand, harmonious passion—an autonomous internalization of the activities into their identity—was positively associated with well-being and negatively associated with mental distress (Vallerand et al. 2003). Future research should explore types of passion, in relation to mental health of Malaysian students. Moreover, a consideration of cultural acceptance for intrinsic motivation may be needed. Intrinsic motivation presumes that each individual has inherent proclivity to express their psychological energy for self-actualization and social adaptation, which can be more resonated with the Western individual cultures than the Asian collective cultures. Indeed, some motivation studies have been done with Asian populations (e.g., Israel; Khalaila 2015); however, a cultural fit of intrinsic motivation in highly collective cultures such as Malaysia and Indonesia has not been explored yet (Hofstede et al. 2010). As an understanding of “self” is different in between an individual culture and collective culture (Markus and Kitayama 1991), how intrinsic motivation is related to mental health can be also different in these two types of cultures. Comprehensive perceptions of these types of motivation (i.e., intrinsic, extrinsic, and amotivation) should be investigated in depth.

Engagement, amotivation, self-compassion, and well-being were associated with, and predictors of mental health. These four constructs predicted 47% of the variance in mental health, indicating a large effect size. Consistent with previous research, these constructs were also strongly related to mental health in Malaysian students. Considering their negative attitudes towards mental health (Chong et al. 2013), this can imply great clinical usefulness: augmenting these positive psychological constructs may be more effective to reduce mental distress, than directly targeting mental health symptoms of Malaysian students (as positive psychological approaches can bypass their negative mental health attitudes). As recent health policies endorsed (e.g., in Canada; Mental Health Commission of Canada 2009, and in the UK; Department of Health 2009), potentiating positive psychology, while considering the cultural characteristics (Marecek and Christopher 2017; Noda 2012; Singh and Groll 2015), should be also recommended in Malaysian students.

Among all the predictor variables, self-compassion was the strongest independent predictor of mental health. As reported in other student populations (Kotera et al. 2018b, e, f; Neely et al. 2009; Ying 2009), self-compassion was also important for Malaysian students’ mental health. This may suggest that providing self-compassion training to this student group may be useful,



as it can result in better self-care and mental health (Dunne et al. 2016). One effective way to implement this type of training may be to embed it in the orientation stage, because informing students of common mental distress, and how to cope with it, in the beginning of their studies could protect them from the forthcoming academic stress (Law 2010). Further, such information about mental health care could prevent students from delaying help-seeking, leading to better clinical outcomes (Reavley and Jorm 2010). Additionally, this type of sessions can benefit tutors too, as enhanced compassion was associated with better mental health in a tutor population (Jennings and Greenberg 2009). Future research should evaluate the effects of self-compassion training on mental health of Malaysian students.

Although this study offers useful insights into student mental health in Malaysia, there are several limitations to be noted. First, students were recruited via opportunity sampling from one university, which restricts the generalizability of the study findings. Second, the scales used were self-report, which limits the accuracy of the student responses for social desirability bias (Latkin et al. 2017). Lastly, because it was a cross-sectional study, the causal direction of the relationships cannot be ascertained. Longitudinal studies would be useful to identify the causality and to develop interventions.

Although Malaysian universities successfully grew their academic impacts rapidly, mental health of Malaysian students remains challenging. This study explored the relationships between their mental health and positive psychological constructs. Academic engagement, amotivation, self-compassion, and well-being were associated with, and predicted 47% of variance in mental health. Intrinsic motivation was not related to mental health. Self-compassion was the strongest independent predictor of mental health among all the positive psychological constructs explored. Findings can imply the strong links between mental health and positive psychology, especially self-compassion, and a need for further research into passion. Moreover, intervention studies to examine the effects of self-compassion training on mental health of Malaysian students appear to be warranted.

## Compliance with Ethical Standards

**Conflict of Interest** Yasuhiro Kotera and Su-Hie Ting declare that they have no conflict of interest. All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (Universiti Malaysia Sarawak, Malaysia) and with the Helsinki Declaration of 1975, as revised in 2000 (5). Informed consent was obtained from all patients prior to being included in the study.

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