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Mental health of Malaysian university students: UK comparison, and relationship between negative mental health attitudes, self-compassion, and resilience

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Abstract

Poor mental health of university students is becoming a serious issue in many countries. Malaysia - a leading country for Asia-Pacific education - is one of them. Despite the government's effort to raise awareness, Malaysian students' mental health remains challenging, exacerbated by the students' negative attitudes towards mental health (mental health attitudes). Relatedly, self-compassion and resilience have been reported to improve mental health and mental health attitudes. Malaysian students (n=153) responded to paper-based measures about mental health problems, negative mental health attitudes, self-compassion and resilience. Scores were compared with 105 UK students, who also suffered from poor mental health and negative mental health attitudes, to make a cross-cultural comparison, to contextualise Malaysian students' mental health status, using t-tests (Aim 1). Correlation, path, and moderation analyses were conducted, to evaluate the relationships among these mental health constructs (Aim 2). Malaysian students scored higher on mental health problems and negative mental health attitudes, and lower on self-compassion and resilience than UK students. Mental health problems were positively associated with negative mental health attitudes, and negatively associated with self-compassion and resilience. While self-compassion mediated the relationship between negative mental health attitudes and mental health problems (high self-compassion weakened the impacts of negative mental health attitudes on mental health problems), resilience did not moderate the same relationship (the level of resilience did not influence the impact of negative mental health attitudes on mental health problems). Self-compassion training was suggested to counter the challenging mental health in Malaysian university students.

Keywords: self-compassion; mental health attitudes; mental health; Malaysian students; cross-cultural comparison; resilience

Introduction

Concerning Mental Health of Malaysian Students

Although still under debate, mental health is commonly defined as a dynamic state of internal equilibrium, entailing the ability to cope with life's challenges to function in social roles (Galderisi et al. 2015). Good mental health is related to higher functioning and achievement, while poor mental health is related to lower productivity and poorer attainment (Royal College of Psychiatrists 2011). It is no surprise that good mental health and well-being were paid attention to, as one of the United Nations' 17 sustainable development goals ('Good health and well-being'; 2015). Poor mental health of university students has been reported in many countries, commonly recording high rates of depression, anxiety and high stress (Brown 2018; Mey and Yin 2015). Among American university students, 15% identified as having depression with 36% taking regular medication (American College Health Association 2008). In UK-based research, Aronin and Smith (2016) reported that a quarter of students suffered from some type of mental health problems. Likewise, among Asian university student populations, 9% of Chinese students had high prevalence of depressive symptoms (Song et al. 2008), 21% of Japanese students had experienced major depressive episode over a period of a year (Tomoda, Mori, Kimura, Takahashi and Kitamura 2000), and 41% of Hong Kongese students reported a high level of anxiety (Wong, Cheung, Chan, Ma and Tang 2006). These raise concerns as the majority (75%) of long-term mental disorders start to develop by the age of 25 (Kessler et al. 2007). Poor mental health of university students does not exclude Malaysia - one of the leading countries for higher education in Asia-Pacific region (Knight and Sirat 2011; Lee 2014). The rate of Malaysian students who suffer from mental health problems doubled in less than a decade (10% in 2011 to 20% in 2016; Hezmi 2018) for example, approximately 30% of medical students in

Malaysia (*n*=761) reported high prevalence of stress (Yusoff, Abdol Rahim and Yaacob 2009), associated with depression and anxiety (Rosal et al. 1997; Shapiro, Shapiro and Schwartz 2000).

Though several reasons have been reported for university students' poor mental health globally (e.g., increased mental distress in youth [Ross, et al. 2017]; a lack of personalised support due to a large cohort [Bathmaker 2003]; social media [Jacobsen and Forste 2011]; financial stress caused by increased tuition fees [Gani 2017]), some of the leading causes of Malaysian students' mental health problems were related to heavy workload, financial difficulties, and family issues (Ministry of Health 2016; Yusoff et al. 2009). A recent restructuring in Malaysian higher education, categorising public universities into research, field-specific, and comprehensive (Ministry of Higher Education 2012), may be affecting students' mental health negatively, as students underwent uncertainty in this transformation, leading to high anxiety (Mey and Yin 2015).

Malaysian Government's Approach

Today approximately 30% of people in Malaysia aged 16 years or older have mental health problems (Hassan, Hassan, Kassimand and Hamzah, 2018), with the estimated costs exceeding 80 million USD (Manaf, Aljunid and Rahman 2009). To address increasing needs of mental health support, the government launched the National Strategic Mental Health Action Plan considering i) accessibility to mental health services, ii) collaboration across agencies, iii) mental health promotion, iv) development of mental health staff, v) first aid, and vi) research in the next five years (2016-2020; Ministry of Health 2016), however its effects still remain uncertain. While the Ministry of Education in Malaysia envisions more internationally competitive academic outputs (e.g., Vision 2020; Grapragasem et al. 2014;

Ministry of Education 2012), these findings and facts suggest a need for exploring the mental health of Malaysian students.

Poor Help-Seeking among Malaysian Students

Additionally, students' low help-seeking was considered to undermine their poor mental health even further (Ministry of Health 2016): 10-35% of people in Malaysia who could benefit from mental health support, were not receiving support (Crabtree and Chong 2000; Chong, Mohamad and Er 2013). Poor mental health itself is a serious issue, however, it can lead to other diverse problems, for example it is associated with reduced academic achievement and professional development (Hashim, Freddy and Rosmatunisah 2012; Poh Keong et al. 2015), interpersonal conflicts (Clark and Rieker 1986), sleep disturbance (Niemi and Vainiomaki 2006), low concentration, poor decision-making (Shapiro et al. 2000), resulting feelings of inadequacy (Yusoff et al. 2009). These can hinder students' learning and research outputs - a highly valued university priority, reported by 250 Malaysian academics across 25 universities (Ghasemy et al. 2018).

Negative Attitudes Towards Mental Health Problems

Poor mental health of Malaysian students may be exacerbated by their negative attitudes towards mental health problems (Hanafiah and Van Bortel 2015; Yeap and Low 2009). Negative mental health attitudes refer to beliefs that mental health suffers are weak, incompetent, and unable to take care of themselves (Kotera & Maughan 2020), therefore when internalised, they can cause feelings of shame (Kotera, Gilbert, Asano, Ishimura & Sheffield 2019b). Indeed, negative attitudes towards mental health among university students are high in many countries (Hyun, Quinn, Madon and Lustig 2006; Laidlaw, McLellan, and

Ozakinci 2016), but particularly high in Asia (Al-krenawi et al. 2009; Gilbert et al. 2007). Asians are ashamed of disclosing their mental health problems, compared with the other groups (Haroz et al. 2017). Mental health attitudes (i.e., general attitudes towards mental health problems, and shame about those problems) were associated with, and predicted poor mental health (Kotera, Conway & Van Gordon 2019a; Kotera, Green & Sheffield 2019c). However, to date these relationships have not been examined in Malaysian students, indicating a need for exploration. Elucidating these relationships can inform the impacts of mental health attitudes on mental health in Malaysian students, which may help develop new approaches to mental health (Kotera & Ting 2019). We hypothesised that mental health would be associated with mental health attitudes (H1a), and mental health attitudes would predict mental health (H2).

H1a: Mental health problems would be positively associated with negative mental health attitudes.

H2: Negative mental health attitudes would positively predict mental health problems.

Self-Compassion and Resilience

Another contributing factor to Malaysian students' mental health are poor coping strategies (Ministry of Health 2016). Coping strategies are commonly regarded as behavioural and psychological efforts to tolerate or minimise negative emotional impacts from stressful events (Taylor 1998). Studies have reported that self-compassion and emotional resilience (hereafter 'resilience') undergird our coping skills, which could reduce mental health problems (Kotera, Green & Sheffield 2019d; Muris, van den Broek, Otgaar, Oudenhoven and Lennartz 2018; Williams 2016). Self-compassion refers to a healthy formation of self-reassurance, entailing (i) kindness to one's inadequacy, (ii) understanding

that discomfort is an inevitable human experience, and (iii) acknowledgement of painful emotions (Neff 2003). These components can help an individual to cope with negative mental health constructs including loneliness (Akin 2010) and shame (Gilbert and Procter 2006). Self-compassion was associated with mental health, and a stronger independent predictor for mental health than shame and motivation in 144 UK students (Kotera, Conway & Van Gordon 2019a). Cultivating self-compassion could lead to better mental health (Kotera, Green & Sheffield 2019c). Whilst previous research reported that self-compassion mediated the relationship between mental health attitudes and mental health in a Japanese population (Kotera et al. 2019b), the role self-compassion plays in this relationship (negative mental health attitudes and mental health problems) among Malaysian students has not been explored. Considering the cultural similarities to Japan (Hofstede, Hofstede and Minkov 2010), we hypothesised that (i) mental health problems would be negatively associated with self-compassion (H1b), and (ii) self-compassion would mediate the relationship between negative mental health attitudes and mental health problems in Malaysian students (H3). Exploring these relationships could help to suggest alternative solutions to poor mental health in Malaysian students, targeting self-compassion (instead of directly engaging with mental health).

H1b: Mental health problems would be negatively associated with self-compassion.

H3: Self-compassion would mediate the relationship between negative mental health attitudes and mental health problems.

Similarly, resilience has also been reported for its protective effects on mental health. Though its definition is still being debated, it is commonly noted as a comprehensive construct embracing internal resources and behaviours, which enable people to cope with

challenging life circumstances, and strengthen themselves from such experiences (Grant and Kinman 2014). Resilience directs people's attention to positives (i.e., strengths and opportunities), instead of negatives (i.e., weaknesses and vulnerability), by reframing their perspectives (Russ et al. 2009; Harrison 2013). Indeed, resilient people can be also affected by stressful events, but they are not overwhelmed by those events lastingly (Tugade and Fredrickson 2004): They acquire new skills to cope with challenges (Carver 1998). Resilience was associated with better mental health, potentiating self-efficacy, mindfulness, and compassion (Robertson et al. 2015). This relationship has not been explored in Malaysian students to date (H1c). Further, in order to evaluate the effects of resilience, the ability to bounce back from challenges (Smith et al. 2008), we hypothesised that resilience would moderate the relationship between negative mental health attitudes and mental health problems (H4). Identifying these relationships could offer helpful insights into a different pathway to good mental health.

H1c: Mental health problems would be negatively associated with resilience.

H4: Resilience would moderate the relationship between negative mental health attitudes and mental health problems.

Comparison with UK Students' Mental Health

Similar to Malaysian students, university students in the UK also have been reported to suffer from poor mental health and negative attitudes (Kotera, Conway & Van Gordon 2019a, Kotera, Green & Sheffield 2019c; University Partnerships Programme 2017). Nearly 90% of first-year students in the UK reported stress and anxiety when adjusting to university life, this was five times higher than ten years ago (Bewick and Stallman 2018; University Partnerships Programme 2017). Half of students within the cohort reported struggling with

stress resulting from academic work (University Partnerships Programme 2017). Likewise, though some initiatives have taken place nationally (e.g., the 'Time to Talk' campaign led by mental health charities), their attitudes towards mental health problems were still negative: Students believed that their family and classmates would consider mental health problems as shameful, and reported feeling ashamed that they would be thought of as having a mental health problem (Cage et al. 2018; Kotera, Green & Sheffield 2019c). Among diverse subjects in the UK universities, social work subjects had similar male-female ratio to Malaysian students (86% female; Skills for Care, 2018). Because of these similarities – i) poor mental health, ii) negative attitudes towards mental health problems, and iii) population being in favour of female students - this study compared the levels of mental health constructs between Malaysia and UK, in order to contextualise mental health of Malaysian students. Appraising the difference between these culturally contrasting groups (i.e., collectivistic Malaysia and individualistic UK; Hofstede et al. 2010) can inform how cultures may relate to mental health and metal health attitudes. Culture-aware approaches to mental health are essential today, and especially helpful for universities and policymakers (Gopalkrishnan 2018).

Aims and Hypotheses

This study, therefore, aimed to examine the mental health of Malaysian students, considering negative mental health attitudes, self-compassion, and resilience. First, the levels of these four constructs (mental health problems, negative mental health attitudes, self-compassion, and resilience) were evaluated through comparison with UK university students (Aim 1). Then, relationships among those constructs were examined in Malaysian students (Aim 2). Four hypotheses were tested, to address Aim 2 (Figure 1);

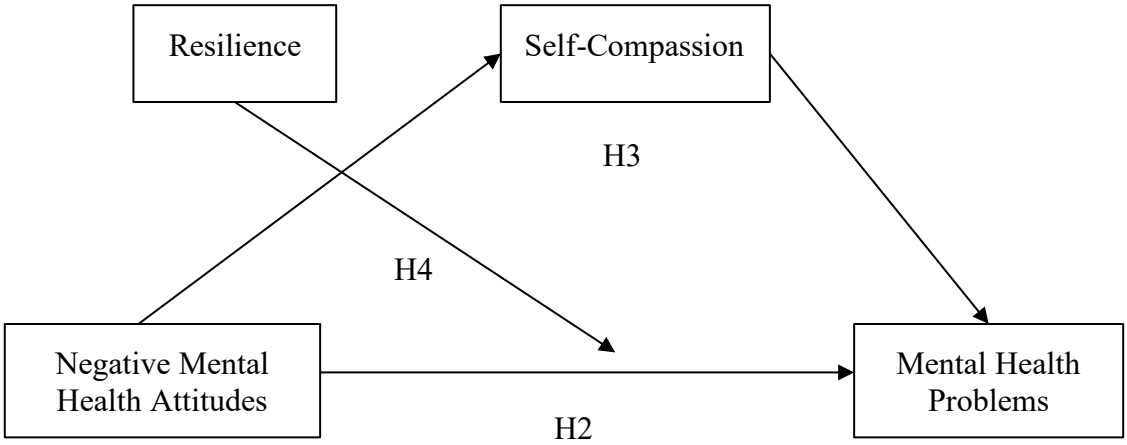
H1: Mental health problems would be positively associated with negative mental health attitudes (a), and negatively associated with self-compassion (b), and resilience (c).

H2: Negative mental health attitudes would positively predict mental health problems.

H3: Self-compassion would mediate the relationship between negative mental health attitudes and mental health problems.

H4: Resilience would moderate the relationship between negative mental health attitudes and mental health problems.

Figure 1. Hypothesised framework of this study: Self-compassion mediates, and resilience moderates the relationship between negative mental health attitudes and mental health problems.



Materials and Methods

Sample Selection

All participants were aged 18 years or older and were studying at a Malaysian university. One hundred sixty full-time undergraduate students majoring in humanities subjects, were asked to participate in the study. From this group, 153 (121 females, 31 males,

1 unanswered; M_{age}=21.24, SD_{age}=1.59, RNG_{age}=18-27 years) completed the self-reported measures about mental health, mental health attitudes, self-compassion, and resilience. Akin to the general Malaysian student population (Statista, 2019), this sample also demonstrated a disparity in favour of female students, though more male students would achieve more similar gender balance (60% female students in the general population, while 79% in our sample). One hundred forty-three students were Malaysian, eight from Bangladesh, and one unanswered. All students were currently engaged with their studies. Opportunity sampling via tutors' announcements was used to recruit participants. No compensation was awarded for participation. Informed consent was obtained from all individual participants included in the study. To ensure students' safety, academic staff who were familiar with student wellbeing were present at the research site, and available mental health support was provided to students. All study materials were paper-based, written in English, as these Malaysian students were fluent in English and undertaking modules in English.

UK students were recruited in the same way as the Malaysian students (18 years old or older, and studying at a UK university at the time of the study) through opportunity sampling. One hundred and five UK undergraduate healthcare students, who undertook another study with the same research design (93 females, 12 males; M_{age}=30.53, SD_{age}=9.11, RNG_{age}=15-58 years; 94 UK nationals; Kotera, Green & Sheffield 2019c) consented and completed the paper-based survey written in English. No compensation was awarded for participation.

Materials

Negative mental health attitudes were evaluated using the Attitudes Towards Mental Health Problems (ATMHP) scale (Gilbert et al. 2007). This 35-item on four-point Likert

scale (‘0’ being ‘Do not agree at all’ to ‘3’ being ‘Completely agree’) evaluates attitudes towards mental health problems including shame, in four sections: i) general negative attitudes, ii) external shame, iii) internal shame, and iv) reflected shame. Their general negative attitudes (i) consider how their community and family view mental health problems (e.g., ‘My community/family sees mental health problems as something to keep secret’). Their external shame (ii) relates to how they feel their community and family would perceive them if they had a mental health problem (e.g., ‘I think my community/family would look down on me’). Their internal shame (iii) examines how they perceive themselves if they had a mental health problem (e.g., ‘I would see myself as inferior’). Lastly their reflected shame (iv) regards their family-reflected shame (how their family would be seen if they had a mental health problem; e.g., ‘My family would be seen as inferior’) and self-reflected shame (worries of reflected shame on themselves, for a close relative having a mental health problem; e.g., ‘I would worry that others will look down on me’). All of the subscales had good Cronbach’s alphas in our sample, indicating high internal consistency (α=.84-.94).

Mental health problems were measured using the Depression Anxiety and Stress Scale (DASS21), a shortened form of DASS42 (Lovibond and Lovibond 1995) comprising 21 items with a four-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’). The 21 items are allocated to three subscales (seven items each); depression (e.g., ‘I found it difficult to work up the initiative to do things’), anxiety (e.g., ‘I was worried about situations in which I might panic and make a fool of myself’) and stress (e.g., ‘I found it hard to wind down’). These subscales had high internal consistency in our sample (α=.77-.88).

Self-compassion was evaluated using the Self-Compassion Scale-Short Form (SCS-SF), a shortened version of the Self-Compassion Scale. While noting the recent debates on how to measure self-compassion (Lopez et al. 2015), SCS-SF was chosen for this study for

its wide usage and participant-friendliness (Raes et al. 2011). SCS-SF comprises 12 five-point Likert items (Raes, Pommier, Neff and Van Gucht 2011) including 'I try to be understanding and patient towards those aspects of my personality I don't like', to which participants respond on the five-point response: '1' being 'Almost never' to '5' being 'Almost always'. For the negative items (1, 4, 8, 9, 11, and 12), the score is reversed. SCS-SF had high internal consistency in our sample (α=.72).

Lastly, the Brief Resilience Scale (BRS) was used to measure the level of *resilience*. Though measurement of resilience was being debated (Cosco et al. 2017), BRS was one of the most frequently used resilience measures, focusing on how an individual deals with difficulties (Smith et al. 2008), which fitted with students who were undertaking their studies. This six-item scale evaluates the ability to bounce back from adversity (Smith et al. 2008). The six items including 'I have a hard time making it through stressful events' are responded on the five-point Likert scale ('1' being 'Strongly disagree' to '5' being 'Strongly agree'; reverse scoring for the items 2, 4, and 6). BRS demonstrated high internal consistency in our sample (α=.70).

Procedure

All data collected were first screened for outliers and the assumptions for parametric tests. Second, in order to evaluate the mental health of Malaysian students (Aim 1), the scores were compared with 105 UK undergraduate healthcare students, using t-tests. Third, to appraise the relationships among those four mental health constructs (Aim 2), correlations between mental health problems, negative mental health attitudes, self-compassion, and resilience were measured (H1). Finally, path analysis and moderation analysis were conducted to examine i) whether negative mental health attitudes would predict mental health

problems (H2), and ii) whether self-compassion would mediate, and resilience would moderate the relationship between negative mental health attitudes and mental health problems (H3 and H4). IBM SPSS version 25 and Process macro version 3 were used for these analyses.

Results

No score was identified as an outlier, using the outlier labelling rule (Hoaglin and Iglewicz 1987). Table 1 summarises the mean and standard deviation for mental health problems, negative mental health attitudes, self-compassion and resilience in both Malaysian and UK students.

Table 1. Comparison between Malaysian students and UK students in mental health problems, negative mental health attitudes, self-compassion and resilience (t-tests).

	Malaysian Students (n=153)		UK Students (n=105)		t
Measured Construct (RNG)	**M**	**SD**	**M**	**SD**	
Depression (0-42)***	**15.36**	10.09	10.33	7.14	4.41
Anxiety (0-42)***	**17.41**	8.93	10.41	7.80	6.51
Stress (0-42)**	**18.68**	9.15	15.71	8.53	2.63
Community Attitudes (0-12)***	**6.86**	3.34	5.15	3.04	4.19
Family Attitudes (0-12)***	**4.10**	3.55	2.54	2.68	3.82
Community External Shame (0-15)**	**8.72**	4.47	5.66	3.96	5.65
Family External Shame (0-15)**	**4.86**	4.74	2.36	3.17	4.73
Internal Shame (0-15)*	**7.82**	4.36	6.46	4.30	2.48
Family-Reflected Shame (0-21)***	**10.93**	5.57	5.98	5.36	7.12
Self-Reflected Shame (0-15)***	**7.59**	4.95	3.37	4.20	7.15
Self-Compassion (1-5)**	3.12	0.54	**3.31**	0.50	2.86
Resilience (1-6)***	3.05	0.46	**3.36**	0.68	4.37

*p<.05, **p<.01, ***p<.001 significant difference between Malaysian students and UK students (higher values were in bold).

Evaluating the Levels of Malaysian Students (Aim 1)

Because some of the sub/scales were not normally distributed as assessed by Shapiro-Wilk (p < .05), all of the scores were square root-transformed to satisfy the assumption of normality, followed by t-tests to compare the two groups. Homogeneity of variances for all scores was maintained, assessed by Levene's test for equality of variances (p>.05). Malaysian students had higher levels of mental health problems (Depression 95% CI, 2.78 to 7.28, t(256)=4.41, p<.0001; Anxiety 95% CI, 4.88 to 9.12, t(256)=6.51, p<.0001; Stress 95% CI,

0.75 to 5.19, $t(256)=2.63$, $p=.009$), and negative mental health attitudes including shame (Community Attitudes 95% CI, 0.91 to 2.51, $t(256)=4.19$, $p<.0001$; Family Attitudes 95% CI, 0.76 to 2.36, $t(256)=3.82$, $p=.0002$; Community External Shame 95% CI, 1.99 to 4.13, $t(256)=5.65$, $p<.0001$; Family External Shame 95% CI, 1.46 to 3.54, $t(256)=4.73$, $p<.0001$; Internal Shame 95% CI, 0.28 to 2.44, $t(256)=2.48$, $p=.014$; Family-Reflected Shame 95% CI, 3.58 to 6.32, $t(256)=7.12$, $p<.0001$; Self-Reflected Shame 95% CI, 3.06 to 4.22, $t(256)=7.15$, $p<.0001$), and lower levels of self-compassion (95% CI, -0.32 to -0.06, $t(256)=2.86$, $p=.005$) and resilience (95% CI, -0.45 to -0.17, $t(256)=4.37$, $p<.0001$), than UK students.

Correlations between Mental Health, Mental Health Attitudes, Self-Compassion, and Resilience in Malaysian Students (H1)

Pearson's correlations were used to examine relationships between mental health problems, negative mental health attitude, self-compassion, and resilience in Malaysian students (Table 2).

Table 2. Correlations between mental health problems, negative mental health attitudes, self-compassion, and resilience in Malaysian students (n=153).

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	GN	-													
2	Age	-.12	-												
3	Depression	.05	.03	-											
4	Anxiety	.05	-.03	.61**	-										
5	Stress	.10	.03	.75**	.72**	-									
6	Community Attitudes	-.01	.004	.17*	.24**	.23**	-								
7	Family Attitudes	-.04	-.02	.28**	.34**	.25**	.49**	-							
8	Community External Shame	-.09	-.05	.29**	.30**	.29**	.52**	.40**	-						
9	Family External Shame	-.05	-.08	.48**	.38**	.39**	.30**	.54**	.54**	-					
10	Internal Shame	.09	-.11	.39**	.28**	.33**	.28**	.26**	.56**	.50**	-				
11	Family-Reflected Shame	-.01	-.14	.17*	.19*	.18*	.27**	.25**	.63**	.45**	.61**	-			
12	Self-Reflected Shame	.03	.04	.25**	.24**	.28**	.31**	.26**	.28**	.32**	.41**	.32**	-		
13	Self-Compassion	-.18*	.12	-.61**	-.45**	-.52**	-.24**	-.31**	-.30**	-.38**	-.40**	-.23**	-.19*	-	
14	Resilience	-.04	.03	-.46**	-.40**	-.43**	-.09	-.26**	-.25**	-.34**	-.30**	-.09	-.11	.46**	-

Gender (M=1, F=2); **. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

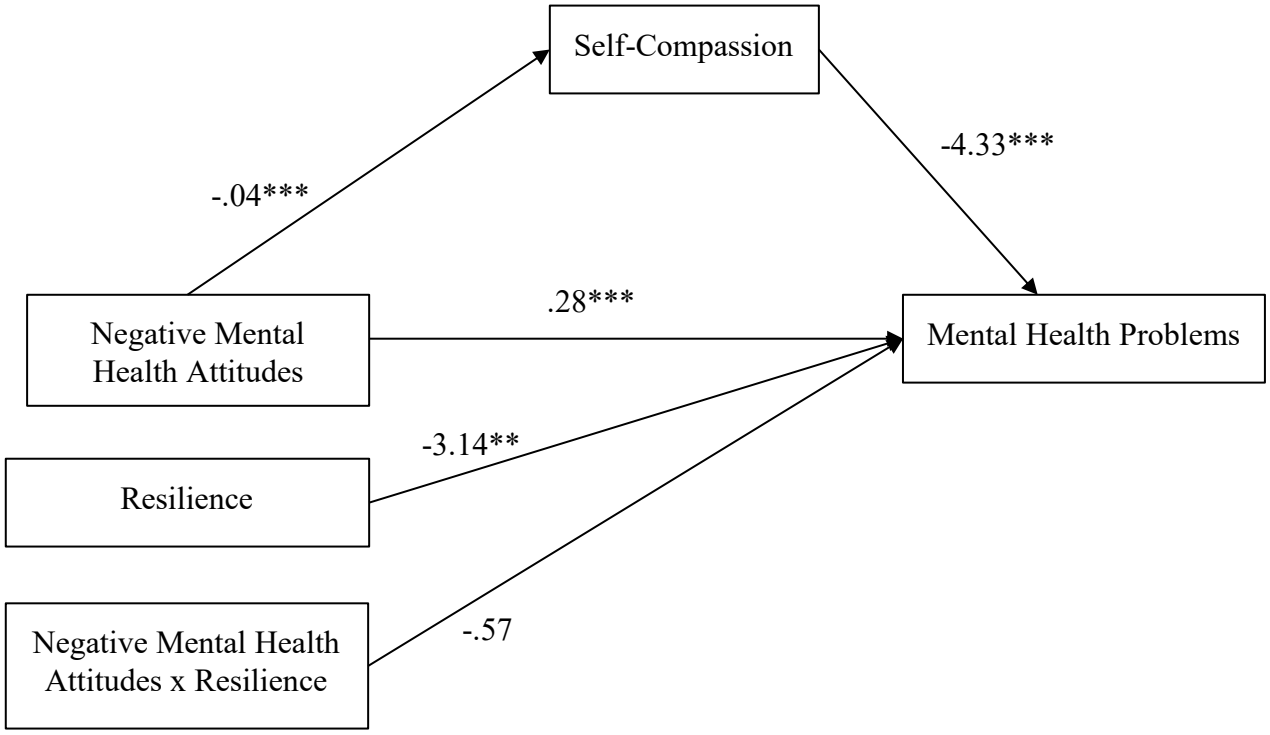
All of the mental health subscales (depression, anxiety, and stress) were positively related to negative mental health attitudes, and negatively related to self-compassion and resilience. H1 was supported. Demographics were not related to any of the sub/scales, except for gender and self-compassion (male students tended to have more self-compassion than female students).

Mediation and Moderation in Negative Mental Health Attitudes and Mental Health Problems (H2-4)

To assess mediation and moderation in Malaysian students' mental health, using the model 5 in the Process macro (Hayes 2013), negative mental health attitudes (predictor variable), self-compassion (mediator variable), resilience (moderator variable), and mental health problems (outcome variable) were entered. To avoid multicollinearity issues, the

predictor variable was centred prior to regression analyses. 'Negative mental health attitudes' were calculated by totalling the subscale scores of the Attitudes Towards Mental Health Problems scale (Gilbert et al. 2007). Likewise, 'mental health problems' were the total score of DASS 21 (Antony, Bieling, Cox, Enns, and Swinson 1998).

Figure 2. Mediation of self-compassion, and moderation of resilience in the relationship between negative mental health attitudes and mental health problems: Statistical diagram.



**p<.01, ***p<.001. The confidence interval for the indirect effect is a BCa bootstrapped CI based on 5000 samples.

Negative mental health attitudes were a significant predictor of mental health problems (p<.001). H2 was supported. The indirect effect of negative mental health attitudes on mental health problems through self-compassion was significant, b = .17, BCa CI [.10, .26], which accounted for 61% of the total effect, indicating a large effect. The total effect of negative mental health attitudes on mental health problems, including self-compassion, was significant,

b = .28, p<.001. Both of the paths from negative mental health attitudes to self-compassion (b = -.04, p<.001), and from self-compassion to mental health problems (b = -4.33, p<.001) were significant. Self-compassion partially mediated the relationship between negative mental health attitudes and mental health problems. H3 was supported. Lastly, there was no significant interaction effects of negative mental health attitudes and resilience (b = -.57, p=.22): Resilience did not moderate the relationship between negative mental health attitudes and mental health problems. H4 was rejected.

Discussion

This study explored mental health problems, negative mental health attitudes, self-compassion and resilience in Malaysian students and UK students. Their mental health problems and negative mental health attitudes were higher than UK students, while their self-compassion and resilience were lower than UK students. Malaysian students' mental health problems were associated with their negative mental health attitudes, self-compassion, and resilience. Negative mental health attitudes predicted their levels of mental health problems. Self-compassion partially mediated the relationship between negative mental health attitudes and mental health problems, while resilience did not moderate the relationship.

Comparison Between Malaysian and UK Students

Our comparative evaluation of mental health between Malaysian students and UK students, highlighted the serious nature of mental health status in Malaysia. Consistent with previous findings (Hezmi 2018; Ministry of Health 2016), Malaysian students scored higher on all the subscales for mental health problems and negative mental health attitudes than UK students, who were also known to have challenging mental health and negative mental health attitudes (Kotera, Green & Sheffield 2019c). Because poor mental health is linked with

diverse negative consequences (e.g., academic performance, relational conflicts, low concentration, and feelings of inadequacy (Clark and Rieker 1986; Hashim et al. 2012; Shapiro et al. 2000; Yusoff et al. 2009), solutions for this problem need to be explored and implemented. The high levels of negative mental health attitudes in Malaysian students may be related to low awareness of mental health in the country (Su Lin 2018). In Malaysian universities, it may be the case that mental health issues are still stigmatised, thus students feel shameful to talk about them. On the other hand, there are various initiatives and movements taken place in the UK, encouraging people to talk about mental health issues (e.g., 'Mental Health Crisis Care Concordat'; Welsh Government 2016). The number of students who have sought out mental health support in the UK increased by more than 50% in the past five years (Spitzer-Wong 2018). Negative mental health attitudes delay people to seek out help, which can lead to poor clinical outcomes (Brown 2018). Particularly shame related to others had a greater difference ($p<.01$) from UK students, than internal shame ($p<.05$). This was consistent with previous research, comparing Asian students and British students (Gilbert et al. 2007). This difference may lie in the cultural difference of collectivism/individualism: Collectivism prefers tightly-connected society, where people expect their group members to take care of them in return for loyalty, whereas individualism perceives a society loosely-connected, where individuals only take care of themselves and their immediate families (Hofstede et al. 2010). Collectivistic Malaysian students are more concerned with how other people would see them if they had a mental health problem, while individualistic UK students are more concerned of how they would see themselves (Kotera et al. 2019b). This may suggest that collective understanding (a shared perspective held by the peers of a university community) rather than individual understanding of mental health would be beneficial to Malaysian students.

Correlations Between Mental Health, Attitudes, Self-Compassion and Resilience

Malaysian students' mental health problems scores were positively related with negative mental health attitudes, and negatively related with self-compassion and resilience. Consistent with previous research, these correlations may imply the importance of having good mental health. Though the causal directions were not certain, students with good mental health tended to have positive attitudes (less shame) about mental health problems, more compassion towards themselves, and resilience. For example, common humanity (one component of self-compassion) relates to understanding of life's challenges and noticing that we all have similar problems. Such understanding can help develop their resilience, as well as educate them that resilience is not a fixed trait (which many students seem to assume), rather is a quality that can be developed, resulting in better student mental health (Burke and Scurry 2019). These findings may suggest that Malaysian students can benefit from potentiating their self-compassion and resilience, to improve their mental health and mental health attitudes.

Importance of Self-Compassion to Mental Health

Our path and moderation analyses illustrated the importance of self-compassion to the mental health of Malaysian students. Self-compassion was the key protecting factor for their mental health. Cultivating self-compassion can reduce mental health problems and negative mental health attitudes (Gilbert and Procter 2006). Malaysian universities can benefit from incorporating self-compassion training into their curriculum. For example, three weekly 45-minute group sessions with everyday homework (20 minutes of guided meditation over two weeks) of self-compassion training improved students' mental health and self-compassion (Haukaas, Gjerde, Varting, Hallan and Solem 2018). Considering their high shame relating to others, self-compassion training emphasising on the connectedness (e.g., common humanity)

would help maximise the effects on their mental health. Students would be able to learn that many others also have similar problems and stop shaming and criticising themselves for disclosing their mental health issues. This training can counter a key contributing factor to poor mental health of university students - loneliness (McIntyre et al. 2018), additionally, the connectedness component of self-compassion can also contribute to a reduction in loneliness (Akin 2010). Because transitional times were related to lower levels of mental health (Cvetkovski, Jorm, and Mackinnon 2019), such training would be especially helpful to be implemented in the beginning and/or towards the end of their university life. Future research should evaluate the effects of self-compassion training, focusing on the connectedness, on mental health of Malaysian students.

Although this study offered novel insights into mental health of Malaysian students, several limitations need to be considered. First, opportunity sampling was used for student recruitment, which thwarted the generalisability of the findings. Moreover, students were recruited from a single academic institution - the institutional bias might have been present (e.g. student recruitment profiles, institutional focus on teaching and research, student support). Second, although the comparison with UK students helped to evaluate the levels of mental health in Malaysian students, future research could compare findings with students from more diverse countries. Further, this study compared the Malaysian humanities students and the UK social work students for their similarities, however comparing with students in the same discipline would capture the cultural difference more accurately. Third, self-report measures might have had limited accuracy to evaluate mental health issues because of social desirability bias (Latkin, Edwards, Davey-Rothwell and Tobin 2017). Moreover, cultural differences in survey responding, potentially further affected by the survey written in English, might have been present (e.g., self-enhancement bias in the UK sample; Harzing, 2006). Future research can benefit from using implicit tests provided in Malay or biological

measurements in order to counter these biases. Finally, while this study illuminated the relationships, the causality of these effects has not been evaluated. A longitudinal study would help to elucidate the temporal patterning of the observed relationships and to develop approaches addressing the causality.

Conclusion

Mental health awareness in Malaysia has been increasing, especially among university students (e.g., the National Strategic Mental Health Action Plan; Ministry of Health 2016). Malaysian students' mental health is exacerbated by their negative attitudes towards mental health problems, leading to low help-seeking. This was the first study to evaluate and explore mental health of Malaysian students, in relation to negative mental health attitudes, self-compassion, and resilience. Malaysian students had higher levels of mental health problems (depression, anxiety, and stress) and negative mental health attitudes (negative attitudes with external, internal, and reflected shame), and lower levels of self-compassion and resilience, when compared with UK students. Their mental health problems were positively associated with negative mental health attitudes, and negatively associated with self-compassion and resilience. While self-compassion mediated the relationship between mental health problems and negative mental health attitudes, resilience did not moderate the same relationship. Considering their high shame concerning others, the effects of self-compassion training focused on connectedness should be evaluated, while considering cultural adjustments to Malaysian students. The findings in this study will inform researchers, educators, and students in Malaysia of novel means to counter the challenging mental health of Malaysian students.

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