ACCEPTED MANUSCRIPT

Mental Health of UK University Business Students: Relationship with Shame, Motivation

and Self-Compassion

Corresponding author: Yasuhiro Kotera (Y.Kotera@derby.ac.uk), University of Derby, UK.

Abstract

There is growing awareness of mental health problems among UK business students, which appear to be exacerbated by students' attitudes of shame towards mental health. This study recruited 138 UK business students and examined the relationship between mental health and shame, and mental health and potential protective factors such as self-compassion and motivation. A significant correlation between each of the constructs was observed and self-compassion was identified as an explanatory variable for mental health. Shame moderated the relationship between self-compassion and mental health. Integrating self-compassion training into business study programmes may help to improve the mental health of this student group.

Keywords: self-compassion, mental health attitudes, mental health, academic motivation, UK business students

Introduction

In the 2016-2017 academic year, 333,425 students were enrolled on full-time or part-time undergraduate and postgraduate business study programmes in the UK (Higher Education Statistics Agency [HESA], 2018). Although business students reflect the largest student group compared to other disciplines taught at UK universities, the increasing number of business students with mental health problems is a cause for concern. More specifically, the number of UK university business students with mental health problems increased from 13,060 in 2010 to 35,500 in 2015 (HESA, 2018). This increase was not aligned with fluctuations in enrolment volumes (i.e., overall numbers have reduced as 358,290 business students were enrolled in 2010/11; HESA, 2012) and was accompanied by a tripling of the dropout rate for business students during the same five-year period (i.e., 2010-2015). A similar problem has also been identified in other countries, such as Sweden, where a study (*n*=750) comparing business and medical students reported that business students had comparatively higher levels of stress, burnout, alcohol use, and depression (Dahlin, Nilsson, Stotzer, & Runeson, 2011).

In addition to the demands of having to balance their work, family life, and university studies, business students can experience additional stress due to a requirement to undertake long periods of independent study and attend condensed full-day teaching schedules (Matthews, 2017). Furthermore, while business educators identified the commercial advantages and need for psychological education almost twenty years ago (Goleman, 1998; Tucker, Sojka, Barone & McCarthy, 2000), only a small proportion of contemporary business educators have sought to integrate comprehensive mental health training as part of the study syllabus. For example, while 80% of the Association of Master of Business Administration's 2,000 international business schools recognise that stress management is deemed to be an

important skill from an employer's perspective, only one-third of such business schools include stress management in the teaching syllabus (Matthews, 2017).

The gap between awareness of the need for stress management skills and provision of such training in MBA programmes suggests that while some business educators are aware of mental health problems amongst their students, they may not have the knowledge and/or resources to address the problem. Research focussing on business students that furthers understanding of mental health risk and resilience factors in therefore of value, particularly given that business students who suffer from mental distress during their studies are more likely to be ill-prepared for additional stressors in a workplace (Law, 2010). Thus, the present study sought to assess the relationships between mental health symptoms and other relevant psychological constructs (i.e., shame-based mental health attitudes, academic motivation, and self-compassion) in a sample of UK university business students.

Review of the Literature

Like some other student populations, it is not uncommon for business students to perceive stress and other mental health problems negatively and feel shameful in respect of them (Vijayalakshmi, Reddy, Math, & Thimmaiah, 2013). Shame is a negative emotion of inadequacy that arises due to the violation of an accepted standard or stigma (Tangney, 1990). It is closely associated with mental health concomitants such as low self-worth, as well as with poor academic performance and reduced moral concern about academic dishonesty (Hazzouri, Carvalho & Main, 2015). In turn, reduced moral concern amongst business students can lead to a lack of ethical awareness amongst future managers and business leaders (Association to Advance Collegiate Schools of Business, 2004; Ballantine, Guo & Larres, 2018).

Studies evaluating business students' personality have noted that i) they have lower levels of openness compared to other student groups (Lounsbury, Smith, Levy, Leong & Gibson, 2009), ii) most business students are judgemental (Nourayi & Cherry, 1993), and iii) their self-enhancement bias (i.e., seeing people in the same category as you as better than people in the other categories; Taylor & Brown, 1998) was high (Schlee, Curren, Harich & Kiesler, 2007). Given these findings, it is reasonable to expect that business students would score higher in attitudes of shame towards mental health than students in other subjects. However, despite the likely interaction of shame in respect of mental health problems in UK university business students, no study to date has specifically sought to explore attitudes and shame about mental health in this student group.

Shame is also related to motivation where, for example, studies have shown that extrinsic motivation is positively related to negative attitudes towards mental health problems (Kotera et al., 2018). Studies have also shown that extrinsic motivation is associated with increased mental health problems, while intrinsic motivation is associated with decreased mental health problems in a variety of populations including university students (Kasser & Ryan, 2001; Sheldon & Kasser, 1998). According to self-determination theory (Ryan & Deci, 2017), intrinsic motivation is activated by inherent passion (e.g., a student studies because they enjoy the subject/topic), whereas extrinsic motivation is driven by external drivers such as recognition and money (e.g., a student studies because they wish to receive the top grade or secure a well-paid job). Accordingly, a study of business students in Taiwan (n=343) reported that intrinsic motivation was significantly higher than extrinsic motivation among students who successfully graduated (Cheng, Lin & Su, 2011). This is consistent with concerns that have been raised due to observing high rates of extrinsic motivation in business students in both Switzerland (Brahm, Jenert & Wagner, 2017) and the UK (Lucas & Tan,

2013). However, notwithstanding such observations, there remains a lack of clarity in terms of understanding the relationship between motivation and mental health in this student group.

A further factor that is understood to be highly associated with mental health in university student populations is self-compassion (Neely, Schallert, Mohammed, Roberts, & Chen, 2009; Ying, 2009). In addition to self-compassion as a global construct, each of the individual components of self-compassion (mindfulness, common humanity, self-kindness) have been shown to be negatively related to depression in US postgraduate students (Ying, 2009). Self-compassion refers to a healthy structure of self-acceptance, established upon (i) kindness to oneself when experiencing inadequacy, (ii) a recognition that discomfort is an inevitable human experience, and (iii) awareness of painful thoughts (Neff, 2003a; Neff 2003b). These three elements are understood to be interwoven with each other such that improving one element can improve another (Neff, 2003b). In non-business student populations, self-compassion is associated with reduced social comparison (Neff & Vonk, 2009), reduced self-centred tendencies (Leary, Tate, Adams, Allen, & Hancock, 2007), and increased wisdom and internal awareness (Brown & Ryan, 2003; Langer 1989, 2005; Wallace & Shapiro, 2006). Intervention studies in clinical samples have also demonstrated that self-compassion can ameliorate shame (Gilbert & Procter 2006). However, despite the demonstrable potential of self-compassion to serve as a protective factor in terms of mental health problems, no study to date has explored the relationship between self-compassion and mental health attitudes in UK business students.

Given that business is the most popular university subject in the UK (HESA, 2018), there is clearly a need to further empirical understanding of protective factors and concomitants of mental illness in this population group. Accordingly, the purpose of this study is to investigate the relationship between mental health, attitudes towards mental health, self-compassion, and motivation in UK business students. Furthermore, in order to help

contextualise the findings, the outcomes from UK university business students will be compared with UK social work students that have recently been the subject of cross-sectional research exploring the relationship between mental health and factors such as shame, motivation, and self-compassion (Kotera et al., 2018).

Research Methodology

Hypotheses

Four hypotheses were tested to address the aforementioned research aims.

H1: Business students would register higher level of shame in mental health attitudes compared to social work students.

H2: Mental health, attitudes towards mental health, self-compassion, and motivation would be associated with each other in a sample of UK university business students.

H3: Attitudes towards mental health, self-compassion, and motivation would be explanatory variables of mental health.

H4: Explanatory variables would mediate the relationship between mental health and attitudes towards mental health.

Participants

All participants were aged 18 years or older and were fulltime undergraduate business students studying in the East Midlands, UK. Participants were recruited using opportunity sampling through questionnaires issued via programme tutors. No credits or compensation were awarded to students for participation. Of 150 students who were asked to participate in the study, 138 (73 female, 65 male; age range 18-57, M_{age}=21.15, SD_{age}=5.75 years) completed self-reported measures relating to mental health attitudes, mental health symptoms, academic motivation, and self-compassion. Ninety-seven participants were

British, and 40 were international students (22 other Europeans, eight Asians, six Africans, one North American, one South American, one Oceanian, and one undisclosed). Ethical approval was provided by the Research Ethics Committee of the researchers' institution, and informed consent was obtained from all participants included in the study.

Instruments

The Attitudes Towards Mental Health Problems (ATMHP; Gilbert et al., 2007). consists of 35 four-point Likert items evaluating attitudes towards mental health problems. The scale assesses internal and external forms of shame as well as shame in community and family contexts. The scale also assesses 'reflected shame' that incorporates family-reflected shame (how the respondent believes their family would be perceived if they had a mental health problem) and self-reflected shame (how the respondent believes they would be perceived if a close relative had a mental health problem). All of the subscales have good Cronbach's alphas (.85-.97; Gilbert et al., 2007).

The Depression Anxiety and Stress Scale (DASS-21) is a shortened form of DASS-42 (Lovibond & Lovibond, 1995) and comprises 21 items scored on a four-point Likert scale. The DASS-21 comprises three seven-item subscales corresponding to depression (e.g., 'I felt that I had nothing to look forward to'), anxiety (e.g., 'I felt I was close to panic') and stress (e.g., 'I found it difficult to relax'). Each of the subscales has good internal consistency (α=.87-.94; Antony, Bieling, Cox, Enns, & Swinson, 1998). For the purpose of this study, the global DASS-21 score was used to provide an indication of overall mental health symptoms.

The Academic Motivation Scale (AMS; Vallerand et al. 1992) is a 28-item measure that assesses the levels of three different types of motivation, categorised 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). Each

subtype of motivation is assessed using four items on a seven-point Likert scale (from 1=
'Does not correspond at all' to 7= 'Corresponds exactly'). All of the subscales have adequate
Cronbach's alphas between .62 and .91 (Vallerand et al., 1992).

The Self-Compassion Scale-Short Form (SCS-SF; Neff, 2003b) is a shortened version
of the Self-Compassion Scale and comprises 12 five-point Likert items ('1' being 'almost
never' to '5' being 'almost always'). Respondents are asked question such as 'When I fail at
something important to me I become consumed by feelings of inadequacy'. The SCS-SF has
good internal consistency (α=.86; Neff, 2003b).

Data Analysis

All data collected was initially screened for outliers, then the rates of the scores over
the midpoint were calculated. Additionally, scores on the ATMHP, AMS, DASS-21, and
SCS-SF for the business students were compared with 105 UK undergraduate social work
students (93 female and 12 male; age range 15-58, M_{age}=30.53, SD_{age}=9.11 years; 94 UK
nationals; Kotera et al., 2018; Kotera, Green & Van Gordon, 2018). After screening the data
for the assumptions of various parametric tests, correlations between mental health attitudes,
mental health symptoms, motivation, and self-compassion were explored. Multiple regression
analyses were conducted to examine the best explanatory variables of mental health
symptoms. Finally, moderation analysis was undertaken to examine the impact of mental
health attitudes on the relationship between self-compassion and mental health symptoms.

Findings

Analyses were conducted using IBM SPSS version 24.0. Outliers (one score in extrinsic
motivation, and five scores in amotivation were identified as outliers) were identified using
the outlier labelling rule (Hoaglin & Iglewicz, 1987) and were subsequently winsorised
(Tukey, 1962). Skewness values ranged from -.73 to 1.46, and Kurtosis values from -.97

to .94. The Cronbach's alphas for all the scales and subscales were above .75, demonstrating

high internal consistency. As shown in Table 1, UK business students had higher scores in

self-reflected shame and extrinsic motivation, and lower scores in self-compassion, compared

to UK social work students (Table 1). Among the subscales of ATMHP, only self-reflected

shame was higher in business students than social work students, and the difference in the

other subscales were not significant. Thus, H1 was partially supported.

Table 1. Descriptive statistics of UK business students, comparing with social work students

	UK business students						UK social work students		
	N	M	SD	Skewness	Kurtosis	α	N	M	SD
CA (0-12)	138	4.38	3.59	.57	-.53	.91	105	5.15	3.04
FA (0-12)	138	2.61	3.41	1.34	.94	.93	105	2.54	2.68
CES (0-15)	138	5.33	4.92	.58	-.83	.96	105	5.66	3.96
FES (0-15)	138	3.25	4.72	1.3	.33	.97	105	2.36	3.17
IS (0-15)	138	6.07	4.91	.39	-.97	.94	105	6.46	4.30
FRS (0-21)	138	5.33	5.97	1.11	.40	.91	105	5.98	5.36
SRS (0-15)	138	4.93[a]	4.94	.62	-.84	.96	105	3.37[a]	4.20
IM (4-28)	138	17.46	4.74	-.18	-.27	.90	105	18.70	5.19
EM (4-28)	138	21.57[b]	3.83	-.73	.35	.84	105	20.37[b]	4.41
AM (4-28)	138	6.99	4.08	1.46	.88	.81	105	7.44	4.05
MHS (0-63)	138	37.83	28.48	.64	-.45	.93	105	37.04	20.79
SC (1-5)	138	3.07[c]	.64	.16	.08	.75	105	3.31[c]	.50

CA=Community Attitudes, FA=Family Attitudes, CES=Community External Shame, FES=Family External Shame, IS=Internal Shame, FRS=Family-Reflected Shame, SRS=Self-Reflected Shame, IM=Intrinsic Motivation, EM=Extrinsic Motivation, AM=Amotivation, MHS=Mental Health Symptoms, SC=Self-Compassion. Superscripts indicate there was significant difference between the two groups.

Correlations

With the exception of self-compassion, all of the scales scores were square root-transformed to satisfy the assumption of normality. Pearson's correlations were used to examine relationships between attitude, motivation, mental health symptoms, and self-compassion (see Table 2). Mental health attitudes were (i) related among all the subscales, (ii) moderately positively related to extrinsic motivation, and (iii) negatively related to self-compassion. Furthermore, mental health symptoms were positively related to mental health attitudes and amotivation, and negatively related to self-compassion. Intrinsic motivation was positively related to extrinsic motivation and self-compassion. Although almost all of the subscales were associated with each other, there were some constructs that were not (e.g., intrinsic motivation and mental health attitudes). Thus, H2 was largely supported.

Table 2. Correlations between mental health attitudes, mental health symptoms, motivation,

and self-compassion in UK business students (n=138)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Gender	-													
2 Age	-.10	-												
3 CA	-.18*	.02	-											
4 FA	-.03	.02	.69**	-										
5 CES	-.05	.01	.77**	.58**	-									
6 FES	-.06	.03	.71**	.76**	.71**	-								
7 IS	-.14	-.10	.43**	.22*	.57**	.39**	-							
8 FRS	-.03	.02	.66**	.53**	.69**	.68**	.57**	-						
9 SRS	-.01	-.04	.48**	.33**	.57**	.49**	.49**	.62**	-					
10 IM	.01	.34**	.13	.09	.11	.09	.08	.12	.15	-				
11 EM	.05	-.04	.21*	.14	.25**	.10	.25**	.22**	.17*	.51**	-			
12 AM	.08	-.06	.14	.15	.16	.32**	.15	.19*	.26**	.03	-.08	-		
13 MHS	-.09	-.01	.25**	.24**	.38**	.42**	.30**	.33**	.33**	-.06	-.10	.29**	-	
14 SC	.15	.17*	-.07	-.07	-.22**	-.18*	-.43**	-.19*	-.20*	.18*	.04	-.14	-.60**	-

| *. Correlation is significant at the .05 level (2-tailed). |
| **. Correlation is significant at the .01 level (2-tailed). |

CA=Community Attitudes, FA=Family Attitudes, CES=Community External Shame, FES=Family External Shame, IS=Internal Shame, FRS=Family-Reflected Shame, SRS=Self-Reflected Shame, IM=Intrinsic Motivation, EM=Extrinsic Motivation, AM=Amotivation, MHS=Mental Health Symptoms, SC=Self-Compassion

Regression

Multiple regression analyses were conducted to explore the relative contribution of mental health attitudes, motivation, and self-compassion to mental health symptoms (Table 3). At step one, gender and age were entered to statistically adjust for their effects, and at step two, all of the mental health attitudes and motivation subscales, as well as the self-compassion scale, were entered. Adjusted coefficient of determination (Adj. R^2) are reported. Multicollinearity was not a concern as all of the VIF values were less than 10. After adjusting

for demographic information, mental health attitudes, motivation, and self-compassion accounted for 47% of the variance for mental health symptoms, with self-compassion as a significant explanatory variable. Mental health attitudes and motivation were not significant explanatory variables for mental health symptoms. Thus, H3 was partially supported.

Table 3. Multiple regression: Mental health attitudes, motivation, and self-compassion to mental health symptoms among business students (n=138)

	Mental Health Symptoms		
	B	SE$_B$	β
Step 1			
Gender	-.32	.32	-.09
Age	-.01	.03	-.02
Adj. R^2		-.01	
Step 2			
Gender	-.17	.25	-.01
Age	.01	.02	.05
CA	-.13	.30	-.05
FA	-.21	.29	-.08
CES	.42	.26	.19
FES	.53	.27	.24
IS	-.28	.18	-.14
FRS	.07	.21	.04
SRS	.14	.18	.07
IM	.02	.03	.06
EM	-.33	.21	-.13
AM	.25	.16	.11
SC	-1.58	.21	**-.56****
Δ Adj.R^2		.47	

CA=Community Attitudes, FA=Family Attitudes, CES=Community External Shame, FES=Family External Shame, IS=Internal Shame, FRS=Family-Reflected Shame, SRS=Self-Reflected Shame, IM=Intrinsic Motivation, EM=Extrinsic Motivation, AM=Amotivation, MHS=Mental Health Symptoms, SC=Self-Compassion, B=unstandardised regression coefficient, SE$_B$=standard error of the coefficient, β=standardised coefficient; *p<.05; **p<.01.
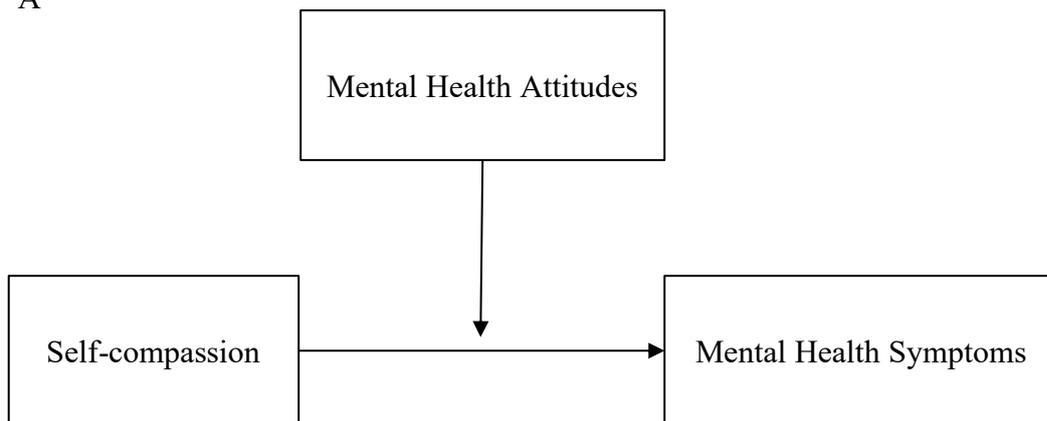
Moderation

Mental health attitudes and self-compassion, as well as the interaction between them were entered to predict mental health symptoms, using the model 1 in the Process macro
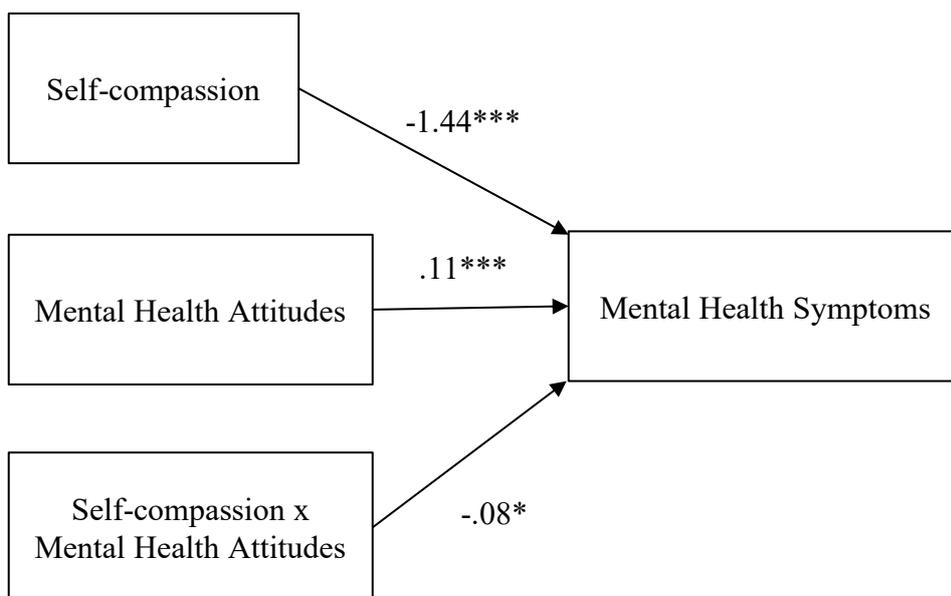
(Hayes, 2012; Panel A in Figure 1). To avoid multicollinearity issues, the predictor variables were centred prior to regression analyses.

Figure 1. Moderation of the effect of self-compassion on mental health symptoms by mental health attitudes: conceptual diagram (panel A) and statistical diagram (panel B).

A

B

$^*p<.05$; $^{**}p<.01$; $^{***}p<.001$

The interaction effects of self-compassion and mental health attitudes as predictors of mental health symptoms were significant, which indicated that mental health attitudes moderated the relationship between self-compassion and mental health symptoms (Panel B in Figure 1). Three simple regression equations were calculated (Aiken & West, 1991) at different levels of mental health attitudes: (i) one standard deviation below the mean mental health attitudes score, (ii) the mean mental health attitudes score, and (iii) one standard deviation above the mean mental health attitudes score (Figure 2). The plot of interaction showed a negative enhancing effect of mental health attitudes: as mental health attitudes scores became high, the negative relationship between self-compassion and mental health symptoms was strengthened. Simple slopes analyses showed that the relationship between self-compassion and mental health symptoms was significant at each of the three levels of mental health attitudes: (i) low mental health attitudes ($b = -1.06$, $t = .27$, $p < .001$), (ii) mean mental health attitudes ($b = -1.44$, $t = -8.63$, $p < .001$), and (iii) high mental health attitudes ($b = -1.82$, $t = .24$, $p < .001$). Thus, H4 was supported.

Figure 2. Moderating effect of mental health attitudes on self-compassion and mental health symptoms among business students (n=138).
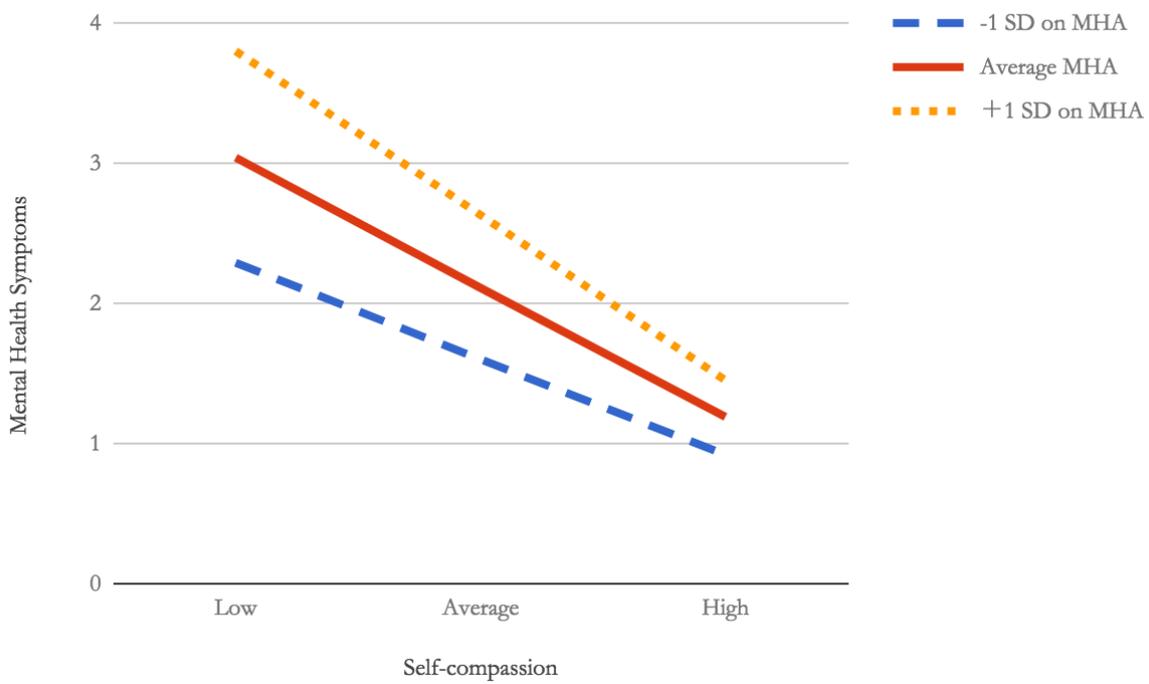
MHA = Mental Health Attitudes

Discussion and Recommendations for Additional Research

This study assessed levels of mental health attitudes, motivation, mental health symptoms, and self-compassion in UK business students, and made a comparison with UK social work students. An assessment of the relationship between mental health attitudes, motivation, mental health symptoms, and self-compassion was subsequently undertaken, followed by an investigation into the explanatory variables for mental health symptoms. Finally, moderation analysis was conducted to examine whether mental health attitudes moderated the relationship between self-compassion and mental health symptoms.

The current sample of UK business students scored higher on self-reflected shame (i.e., that relates to worries about being viewed negatively due to a family member's mental

illness) and extrinsic motivation, and lower on self-compassion, than UK social work students. The higher level of self-reflected shame may be explained by the fact that business students are likely to have reduced knowledge of mental health issues when compared with social work students. For example, social work students are arguably more likely to be aware that the heritability of mental illness is not too high (i.e., in the order of 35% for depression; Matsumoto, Kunimoto, & Ozaki, 2013) and that tolerance and understanding towards mental illness is steadily increasing amongst employers and society more generally.

The same applies to the difference between the two student groups in levels of self-compassion because given that compassion is a core value of social work (British Association of Social Workers, 2012), social work students aspire to compassionate values during their education and training. The higher levels of extrinsic motivation in business versus social work students was likewise not unexpected because although recent literature indicates a steady shift in business students from extrinsic to intrinsic forms of motivation (Hurst et al. 2016), traditionally, motivations for working in business have often been governed by the promise of external rewards (Brahm, Jenert & Wagner, 2017; Lucas & Tan, 2013).

These significant differences between social work and business students appear to reflect the previously-reported core personality characteristics of business students: low levels of openness and agreeableness, and a high level of extraversion (Lounsbury, Smith, Levy, Leong & Gibson, 2009). More specifically, low openness appears to correspond to high shame, low agreeableness appears to correspond to low self-compassion, and high extraversion appears to correspond to high extrinsic motivation. However, the originality of the findings from the current study is that it appears to specifically be self-reflected shame (i.e., worries about their self-image) that contributes to overall levels of high shame of business students. Therefore, business students' unrealistically high self-image (Mayo, Kakarika, Pastor & Brutus, 2012) coupled with a tendency to be narcissistic (Westerman,

Whitaker, Bergman, Bergman & Dalya, 2016) may cause high reflected shame, leading to low help-seeking in this student group. Future research could examine the relationships between business students' mental health constructs and personality traits in order to advance understanding relating to the concomitants and determinants of mental health in business students.

The correlation analysis revealed that mental health symptoms were positively related to mental health attitudes, extrinsic motivation, and amotivation, and negatively related to self-compassion. Similarly, extrinsic motivation was more strongly related to all the subscales of mental health attitudes and mental health symptoms compared to intrinsic motivation. Consistent with established links between extrinsic motivation and reduced mental health (e.g., Fernet 2013; Kotera et al., 2018; Raeissi, Raeissi & Shokouhandeh, 2014), these findings indicate that business students who are driven by external factors are likely to be more at risk for mental illness and shame versus business students who are intrinsically passionate about the subject. Indeed, according to a psychological justification strategy proposed by Kotera, Adhikari, and Van Gordon (2017), externally motivated students are less able to find any depth of meaning in their studies and thus have limited capacity and tolerance for study-related adversity.

These relationships have not previously been explored in this student group and the study findings indicate that it would be worthwhile to formulate and/or evaluate interventions aimed at cultivating intrinsic motivation in business students. An example of such an intervention might be the Disney strategy – modelled from how Walt Disney achieved his dreams, accessing the dreamer, realist, and critique position with a certain cognitive mode and body movement (Dilts, 1998) – that has been shown to help other student groups identify with their inner passion and augment intrinsic motivation (Kotera & Sheffield, 2017).

Consistent with previous studies in student samples that have demonstrated the importance of self-compassion as a protective factor for mental illness and psychological distress (Neely et al., 2009; Ying, 2009), the multiple regression analysis revealed that self-compassion was the only significant explanatory variable for mental health symptoms. The moderation analysis added further depth to this observation and revealed that business students' mental health attitudes moderated the relationship between self-compassion and mental health symptoms. More specifically, the effects of self-compassion on mental health reduced as negative mental health attitudes increased.

Although the impact of mental health attitudes and self-compassion on mental health have been previously reported (Hazzouri, Carvalho & Main, 2015; Neely, Schallert, Mohammed, Roberts, & Chen, 2009; Ying, 2009), a mediation analysis examining the mechanisms of how these constructs relate to each other has not been conducted to date. Based on the findings from the present study, it may be helpful to integrate self-compassion training into higher-education business studies curricula, as it can lead to better self-care and mental health (Dunne, Sheffield & Chilcot, 2016). For example, embedding such training in the orientation phase of a study programme may be an effective means of building resilience in respect of the psychological stress likely to be encountered during the forthcoming semester (Law, 2010). The precise content and format of such training could be informed by the knowledge contribution made by the present study, which is that training effectiveness will likely be undermined if business students view mental health problems as shameful and/or believe that their family and peers have a similar outlook towards mental health problems. Furthermore, providing self-compassion training may also benefit business study faculty members because (i) mental health issues such as anxiety have also been observed in this tutor group (Ameen, Guffey & Jackson, 2002), and (ii) enhanced compassion is related to reduced mental health problems in university teachers (Jennings & Greenberg, 2009). Thus,

outcomes form this study suggest that examining the effects of self-compassion training in business schools would be a worthwhile future research project.

There were several limitations to this study. Firstly, students were recruited via opportunity sampling, which hinders the generalisability of the study findings. Furthermore, participants were recruited from a single academic institution, thus findings may not generalise to other higher education establishments. Secondly, although the comparison with UK social workers helped to contextualise the characteristics of UK business students, future research could compare findings with students from more diverse subjects and countries (as well as with UK business workers). Finally, the causal direction of these effects has not been investigated. A longitudinal study would help to elucidate the temporal patterning of the observed relationships and to develop interventions accordingly.

Conclusion

Poor mental health of UK business students appears to be exacerbated by their negative attitudes towards mental illness, causing help-avoidance. Though there is increasing awareness of the seriousness of student mental health issues in UK higher education, this is the first study to explore the relationship between mental health attitudes, mental health symptoms, motivation, and self-compassion in UK business students. The four hypotheses tested in this study were moderately supported: (i) self-reflected shame was higher in business students than social work students but not significant difference was observed in the other mental health attitudes subscales (H1 partially supported), (ii) mental health attitudes, mental health symptoms, motivation, and self-compassion were overall related to each other within the business students sample (H2 largely supported), (iii) self-compassion was the only significant explanatory variable for mental health symptoms (H3 partially supported), and (iv) self-compassion mediated the relationship between mental health and attitudes towards mental health (H4 supported). Consequently, intervention studies evaluating the

effects of self-compassion training and intrinsic motivation training on the mental health symptoms of UK university business students appear to be warranted.

References

Aiken, L.S., & West, S.G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.

Ameen, E.C., Guffey, D.M., & Jackson, C. (2010). Evidence of teaching anxiety among accounting educators. *Journal of Education for Business, 78*(1), 16-22. doi: 10.1080/08832320209599692

Antonak, R.F., & Livneh, H. (2000). Measurement of attitudes towards persons with disabilities. *Disability and Rehabilitation, 22*(5), 211-224.

Antony, M., Bieling, P., Cox, B., Enns, M., & Swinson, R. (1998). Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. *Psychological Assessment*, *10*(2), 176–181.

Aronin, S., & Smith, M. (2016). One in four students suffer from mental health problems. Retrieved from https://yougov.co.uk/news/2016/08/09/quarter-britains-students-are-afflicted-mental-hea/

Association to Advance Collegiate Schools of Business (2004). *Ethics education in business schools.* Tampa, FL: Association to Advance Collegiate Schools of Business Ethics Education Task Force.

Ballantine, J., Guo, X., & Larres, P. (2018). Can future managers and business executives be influenced to behave more ethically in the workplace? The impact of approaches to learning on business students' cheating behavior. *Journal of Business Ethics, 149*(1), 245–258. doi: 10.1007/s10551-016-3039-4.

Brahm, T., Jenert, T., & Wagner, D. (2017). The crucial first year: A longitudinal study of students' motivational development at a Swiss business school. *Higher Education, 73*(3), 459–478. doi: 10.1007/s10734-016-0095-8.

Bray, L., O'Brien, M.R., Kirton, J., Zubairu, K., & Christiansen, A. (2014). The role of professional education in developing compassionate practitioners: A mixed methods study exploring the perceptions of health professionals and pre-registration students. *Nurse Education Today, 34*(3), 480-486. doi: 10.1016/j.nedt.2013.06.017.

British Association of Social Workers. (2012) *The code of ethics for social work: Statement of principles*. Birmingham: Author.

Brown, K.W., & Ryan, R.M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84*(4), 822–848.

Byrne, P. (2000). Stigma of mental illness and ways of diminishing it. *Advances in Psychiatric Treatment*, *6*(1), 65-72.

Cheng, P., Lin, M., & Su, C. (2011). Attitudes and motivations of students taking professional certificate examinations. *Social Behavior and Personality: An international journal, 39*, 1303-1314. doi: 10.2224/sbp.2011.39.10.1303.

Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety: Experiencing flow in work and play*. San Francisco, CA: Jossey-Bass.

Corrigan, P., Druss, B., & Perlick, D. (2014). The impact of mental illness stigma on seeking and participating in mental health care. *Psychological Science in the Public Interest*, *15*(2), 37–70.

Corrigan, P., Edwards, A., Green, A., Diwan, S., & Penn, D. (2001). Prejudice, social distance, and familiarity with mental illness. *Schizophrenia Bulletin*, *27*(2), 219–225.

Dahlin, M. Nilsson, C., Stotzer, E., & Runeson, B. (2011). Mental distress, alcohol use and help-seeking among medical and business students: A cross-sectional comparative study. *BMC Medical Education, 11*(92), 1-8. doi: 10.1186/1472-6920-11-92.

Deci, E., & Ryan, R. (1985), *Intrinsic motivation and self-determination in human behavior*, New York, NY: Plenum.

Dilts, R.B. (1998), *Modeling with NLP*, New York, NY: Meta Publications.

Dunne, S., Sheffield, D., & Chilcot, J. (2016). Brief report: Self-compassion, physical health and the mediating role of health-promoting behaviours. *Journal of Health Psychology, 4*(58), 1-11.

Eisenberg, D., Golberstein, E., & Gollust, S. (2007). Help-seeking and access to mental health care in a university student population. *Medical Care*, *45*, 594–601.

Fernet, C. (2013). The role of work motivation in psychological health. *Canadian Psychology/Psychologie Canadienne, 54*(1), 72–74.

Gilbert, P., & Procter, S. (2006). Compassionate mind training for people with high shame and self-criticism: Overview and pilot study of a group therapy approach. *Clinical Psychology & Psychotherapy, 13*(6), 353–379.

Gilbert, P., Bhundia, R., Mitra, R., McEwan, K., Irons, C., & Sanghera, J. (2007). Cultural differences in shame-focused attitudes towards mental health problems in Asian and non-Asian student women. *Mental Health, Religion & Culture*, *10*(2), 127–141.

Golberstein, E., Eisenberg, D., & Gollust, S. (2009). Perceived stigma and help-seeking behavior: Longitudinal evidence from the healthy minds study. *Psychiatric Services*, *60*(9), 1254–1256.

Goleman, D. (1998). What makes a leader? *Harvard Business Review, 77*, 93-102.

Gottfried, A.E. (1985). Academic intrinsic motivation in elementary and junior high school students. *Journal of Educational Psychology, 77*, 631-645.

Harter, S. (1981). A new self-report scale of intrinsic versus extrinsic orientation in the classroom: Motivational and informational components. *Developmental Psychology, 17*(3), 300-312. doi: 10.1037/0012-1649.17.3.300

Hayes, A.F. (2012). *PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]*. Retrieved from http://www.afhayes.com/

Hazzouri, M., Carvalho, S., & Main, K. (2015). An investigation of the emotional outcomes of business students' cheating "biological laws" to achieve academic excellence. *Academy of Management Learning and Education, 14*(4), 440–460. doi: 10.5465/amle.2013.0031.

Higher Education Statistics Agency. (2018). *Higher education student data*. London: Author.

Hoaglin, D.C., & Iglewicz, B. (2012). Fine-tuning some resistant rules for outlier labeling. *Journal of the American Statistical Association, 82*(400). 1147-1149. doi: 10.1080/01621459.1987.10478551

Hurst, A., Pearce, A., Parish, S., Erickson, C., Schnidman, A., Vesty, L., ... Pavela, A. (2016). *Purpose at work: The largest global study on the role of purpose in the workforce.* Retrieved from https://business.linkedin.com/content/dam/me/business/en-us/talent-solutions/resources/pdfs/Global-Report-on-Purpose-at-Work.pdf

Jennings, P.A., & Greenberg, M.T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research, 79*(1), 491-525. doi: 10.3102/0034654308325693

Kasser, T. (2003). *The high price of materialism*. Cambridge, MA: MIT Press

Kasser, T., & Ryan, R. (2001). Be careful what you wish for: Optimal functioning and the relative attainment of intrinsic and extrinsic goals. In P. Schmuck & K. M. Sheldon (Eds.), *Life goals and well-being: Towards a positive psychology of human striving* (pp. 116-131). Ashland, OH: Hogrefe & Huber Publishers.

Kim, Y., Kasser, T., & Lee, H. (2003). Self-concept, aspirations, and well-being in South Korea and the United States. *Journal of Social Psychology, 143*(3), 277-290.

Kotera, Y., & Sheffield, D. (2017). Disney strategy for Japanese university students' career guidance: a mixed methods pilot study. *Journal of the National Institute for Career Education and Counselling, 38*, 52-61. doi: 10.20856/jnicec.3808

Kotera, Y., Adhikari, P., & Van Gordon, W. (2017) The relationship between work motivation and worker profile in UK hospitality workers. *International Journal of Education, Psychology and Counseling, 2*(6), 231-243.

Kotera, Y., Adhikari, P., & Van Gordon, W. (2018) Motivation types and mental health of UK hospitality workers, *International Journal of Mental Health and Addiction*. doi: 10.1007/s11469-018-9874-z

Kotera, Y., Green, P., & Van Gordon, W. (2018) Mental wellbeing of caring profession students: Relationship with caregiver identity, self-compassion, and intrinsic motivation. *Mindfulness and Compassion, In Press.*

Kotera, Y., Green, P., & Sheffield, D. (2018) Mental health attitudes, self-criticism, compassion, and role identity among UK social work students. *British Journal of Social Work, In Press.*

Langer, E. (1989). *Mindfulness*. Reading, MA: Addison Wesley.

Langer, E. (2005). Well-being: Mindfulness versus positive evaluation. In C.R. Snyder & S.J. Lopez (Eds.), *Handbook of positive psychology* (pp. 214–230). New York, NY: Oxford University Press.

Leary, M.R., Tate, E.B., Adams, C.E., Allen, A.B., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. *Journal of Personality and Social Psychology, 92*(5), 887-904.

Lewis, M. (1998). 'Shame and stigma', in Gilbert, P. and Andrews, B. (eds), *Shame: Interpersonal behavior, psychopathology, and culture* (pp. 126-140). New York, NY: Oxford University Press.

Lounsbury, J.W., Smith, R.M., Levy, J.J., Leong, F.T., & Gibson, L.W. (2009). Personality characteristics of business majors as defined by the Big Five and Narrow Personality Traits. *Journal of Education for Business , 84*(4), 200-205. doi: 10.3200/JOEB.84.4.200-205

Lovibond, S., & Lovibond, P. (1995). *Manual for the depression anxiety stress scales* (2nd ed). Sydney: Psychology Foundation.

Lucas, U., & Tan, P.L. (2013) Developing a capacity to engage in critical reflection: Students' 'ways of knowing' within an undergraduate business and accounting programme. *Studies in Higher Education, 38*:1, 104-123, doi: 10.1080/03075079.2011.569706.

van Luttervelt, L. (2006). *Business education and corporate misbehavior* (Master thesis). Maastricht University, Maastricht.

Matthews, V. (2017). Mental health at business school: 'The anxiety was overwhelming'. Retrieved from https://www.ft.com/content/e3824c38-81c3-11e7-94e2-c5b903247afd.

Matsumoto, Y., Kunimoto, S., & Ozaki, N. (2013). Developmental risk of depression and gene/environment interaction. *Journal of Mental Health*, 59, 7–15.

Mayo, M., Kakarika, M., Pastor, J.C., & Brutus, S. (2012). Aligning or inflating your leadership self-image? A longitudinal study of responses to peer feedback in MBA teams. *Academy of Management Learning & Education, 11*(4), 631-652.

Murdock, T.B., & Anderman, E.M. (2006). Motivational perspectives on student cheating: Toward an integrated model of academic dishonesty. *Educational Psychologist, 41*(3), 129–145.

Neely, M.E., Schallert, D.L., Mohammed, S.S., Roberts, R.M., & Chen, Y.-J. (2009). Self-kindness when facing stress: The role of self-compassion, goal regulation, and support in college students' well-being. *Motivation and Emotion, 33*, 88–97. doi: 10.1007/s11031-008-9119-8

Neff, K. (2003a). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity, 2*, 85-101.

Neff, K. (2003b). The development and validation of a scale to measure self-compassion. *Self and Identity, 2*(3), 223–250.

Neff, K., & Vonk, R. (2009). Self-compassion versus global self-esteem: Two different ways of relating to oneself. *Journal of Personality, 77*(1), 23-50.

Nourayi, M.M., & Cherry, A.A. (1993). Accounting students' performance and personality types. *Journal of Education for Business, 69*(2), 111-115. doi: 10.1080/08832323.1993.10117667

Oishi, S., Diener, E., Lucas, R., & Suh, E. (1999). Cross-cultural variations in predictors of life satisfaction: Perspectives from needs and values. *Personality and Social Psychology Bulletin, 25*(8), 980-990.

Raeissi, P., Raeissi, N., & Shokouhandeh, L. (2014). The relationship between nurses' mental health and working motivation. *Advances in Nursing & Midwifery, 24*(86), 36-41.

Ryan, R. & Deci, E. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. New York, NY: Guilford.

Ryan, R., Chirkov, V., Little, T., Sheldon, K., Timoshina, E., & Deci, E. (1999). The American dream in Russia: Extrinsic aspirations and well-being in two cultures. *Personality and Social Psychology Bulletin, 25*(12), 1509-1524.

Schmuck, P., Kasser, T., & Ryan, R. (2000). Intrinsic and extrinsic goals: Their structure and relationship to well-being in German and U.S. college students. *Social Indicators Research, 50*(2), 225-241.

Sheldon, K., & Kasser, T. (1998). Pursuing personal goals: Skills enable progress, but not all progress is beneficial. *Personality and Social Psychology Bulletin, 24*(12), 1319-1331.

Tangney, J. (1990). Assessing individual differences in proneness to shame and guilt: Development of the self-conscious affect and attribution inventory. *Journal of Personality and Social Psychology*, *59*(1), 102–111.

Ting, L. (2011). Depressive symptoms in a sample of social work students and reasons preventing students from using mental health services: An exploratory study. *Journal of Social Work Education, 47*(2), 253-268.

Tucker, M.L., Sojka, J.Z., Barone, F.J., & McCarthy, A.M. (2010). Training tomorrow's leaders: Enhancing the emotional intelligence of business graduates. *Journal of Education for Business, 75*(6), 331-337. doi: 10.1080/08832320009599036

Tukey, J.W. (1962). The future of data analysis. *The Annals of Mathematical Statistics, 33*(1), 1–67.

Vallerand, R.J., Blais, M.R., Brière, N.M., & Pelletier, L.G. (1989). Construction et validation de l'échelle de motivation en éducation (EME) [Construction and validation of the Motivation toward Education Scale]. *Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement, 21*(3), 323-349. doi: 10.1037/h0079855

Vallerand, R.J., Pelletier, L.G., Blais, M.R., Briere, N.M., Senecal, C., & Vallieres, E.F. (1992). The Academic Motivation Scale: A measure of intrinsic, extrinsic and amotivation in education. *Educational and Psychological Measurement, 52*, 1003–1017.

Vijayalakshmi, P., Reddy, D., Math, S.B., & Thimmaiah, R. (2013). Attitudes of undergraduates towards mental illness: A comparison between nursing and business management students in India. *South African Journal of Psychiatry, 19*(3), 66-73. doi: 10.4102/sajpsychiatry.v19i3.398

Wallace, A.B., & Shapiro, S.L. (2006). Mental balance and wellbeing: Building bridges between Buddhism and Western psychology. *The American Psychologist, 61*, 690–701. doi: 10.1037/0003-066X.61.7.690

Westerman, J.W., Whitaker, B.G., Bergman, J.Z., Bergman, S.M., & Dalya, J.P. (2016).

Faculty narcissism and student outcomes in business higher education: A student-faculty fit

analysis. *The International Journal of Management Education, 14*(2), 63-73. doi:

10.1016/j.ijme.2016.02.001

Ying, Y.-W. (2009). Contribution of self-compassion to competence and mental health in

social work students. *Journal of Social Work Education, 45*(2), 309-323. doi:

10.5175/JSWE.2009.200700072