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Engagement and Burnout in UK University Students: The Role of Proactive Behaviours Strengths Use and Deficits Correction

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ABSTRACT

Low engagement and high burnout have serious implications for university students' mental health and wellbeing. Strengths use and deficits correction are two proactive behaviours found to predict engagement and burnout, but these had not been explored in UK university students. This study investigated the role of strengths use and deficits correction in engagement and burnout by using the Strengths Use and Deficits Correction scale (SUDCO; Van Woerkom et al., 2016), a proactive behaviour measure not previously used in a UK student population. A convenience sample of 133 UK university students from all levels of study, undergraduate and postgraduate, completed a self-report questionnaire, either online or in person. The results demonstrated that the SUDCO scale had high internal consistency for UK university students. In addition, this study found that engagement was independently predicted by strengths use and deficits correction behaviours, whereas burnout was independently predicted by strengths use only. The implications of these findings are that strengths use and deficits correction are important predictors of engagement and burnout in university students. As a result, universities should provide opportunities for students to use their strengths and improve their deficits in interventions designed to increase engagement and decrease burnout.

KEYWORDS

engagement, burnout, strengths use, deficits correction, university students

Poor mental health and wellbeing in students is a major concern for universities. One third of first year university students screened positive for a mental health disorder in a World Health Organisation study of eight countries (Auerbach et al., 2018). In the UK, there is increasing demand for university counselling services (Office for Students, 2019; Thorley, 2017) and 42.3% of university students have experienced a mental health problem requiring professional help (The Insight Network, 2020). Positive mental health and wellbeing outcomes in university students are associated with higher levels of academic engagement (Kotera & Ting, 2021; Ouweneel et al., 2011) and lower levels of burnout (Dyrbye et al., 2008; Galan et al., 2014). As such, greater understanding of the positive factors which predict higher academic engagement and lower burnout may assist universities in meeting these challenges.

Engagement

In the workplace, engagement has been defined as a positive state of mind comprising two component parts of vigour and dedication: vigour is energy and persistence at work in the face of

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difficulties, whilst dedication is enthusiasm and pride in work (Salanova et al., 2010; Schaufeli, Salanova, et al., 2002). University students' activities can be construed as work, for example attending lectures, writing assignments and studying for exams, and they have goals to achieve like employees (Ouweneel et al., 2011; Salanova et al., 2010). Hence, academic engagement in university students is being immersed in and dedicated to their studies. Lower levels of engagement predicted worse mental health (depression, anxiety and stress) in Kotera and Ting's (2021) study of Malaysian university students. On the other hand, Ouweneel et al.'s (2011) longitudinal study of Dutch university students found that higher engagement was related to increased positive emotions (for example, feeling inspired or relaxed).

Burnout

Burnout is a psychological response to a chronic stressor, comprising two component parts of exhaustion and cynicism: exhaustion is when emotional and physical resources are depleted, whilst cynicism is when a person has a negative view of work and distances themselves from it emotionally and cognitively (Maslach, 1998; Salanova et al., 2010; Schaufeli, Salanova, et al., 2002). As such, academic burnout is when students are exhausted by excessive studying demands, leaving them detached and cynical towards their work (Salanova et al., 2010; Schaufeli, Salanova, et al., 2002). High burnout was related to higher levels of depression in a study of Spanish dental students (Galan et al., 2014) and predicted suicidal ideation in US medical students (Dyrbye et al., 2008).

Research into engagement and burnout has been carried out from a positive psychology perspective, where the focus is on how to promote factors that enable people to flourish, rather than how to fix malfunctioning (Seligman & Csikszentmihalyi, 2000). Strengths use and deficits correction are two proactive behaviours from positive psychology that have been identified as predictors of engagement and burnout in the workplace (Van Woerkom et al., 2016). They were also found to predict engagement and burnout in university students in South Africa (Mostert et al., 2017). However, these proactive behaviours have not been studied in UK university students, despite their implications for increased engagement and reduced burnout, thereby improving mental health and wellbeing.

Proactive Behaviours: Strengths Use and Deficits Correction

Strengths use behaviour is when a person capitalises on their talents or focusses on what they are good at, in order to bring about their best performance (Biswas-Diener et al., 2011; Wood et al., 2011). Examples of strengths use behaviours are: a person seeking out tasks and opportunities based on what they are good at; organising tasks in the best way to suit their strong points; and trying to use their talents as much as possible. For instance, a university student with good leadership skills might volunteer to be the project coordinator for a group presentation. In a study of first year US university students, those who behaved proactively had higher engagement levels (Wang et al., 2013). Furthermore, strengths use predicted higher engagement, lower burnout and increased life satisfaction in first year university students in South Africa (Mostert et al., 2017; Stander et al., 2015).

Deficits correction behaviour is also a proactive behaviour. However, in contrast to a person building on what they are good at, deficits correction is when they try to improve their weaknesses, or work on the tasks that they struggle with in order to become competent at them (Meyers et al., 2015). Examples of deficits correction behaviours are: a person reflecting on how to improve the tasks which they struggle with; seeking feedback on tasks which they have not performed well; and engaging in training and development to improve their weaknesses. For instance, a university student who struggles with statistics might sign up for extra training in statistical methods or computer software. In two

studies of first year university students in South Africa, deficits correction was significantly related to higher engagement in one study (Van Niekerk et al., 2016) and predicted higher engagement, lower burnout and increased life satisfaction in the other (Mostert et al., 2017).

Aim of the Present Study

It is clear from previous research that mental health and wellbeing in university students is positively affected by engagement and negatively affected by burnout. Increasing engagement and reducing burnout are vital strategies to help address poor mental health and wellbeing in university students. Therefore, predictors of engagement and burnout could form the basis of interventions. Research carried out with university students in South Africa demonstrates the potential of proactive behaviours strengths use and deficits correction for predicting higher levels of engagement and lower levels of burnout (with associated implications for mental health and wellbeing). However, strengths use and deficits correction behaviours have not been investigated in UK university students. Moreover, the scale to measure these proactive behaviours, the SUDCO scale (Van Woerkom et al., 2016) was developed and validated for use with university students in South Africa (Mostert et al., 2017), but not for a UK sample.

The aim of this study was to investigate the role of proactive behaviours strengths use and deficits correction in engagement and burnout in UK university students. In addition, this study aimed to validate the SUDCO scale for measuring strengths use and deficits correction in a UK university student sample. Based on previous research in this area with university students in South Africa (Mostert et al., 2017; Stander et al., 2015; Van Niekerk et al., 2016), it was hypothesised that higher strengths use and deficits correction behaviours would predict higher engagement and lower burnout.

Method

Participants

Participants were 133 UK university students aged 18 years or older. The convenience sample was 72% female (20% male and 8% other/prefer not to answer), 90% age 18-25 (10% age 26 and older) and 84% undergraduate students (14% postgraduate students and 2% other/prefer not to answer). Following ethical approval by the Ethics Committee of the School of Psychology at a post-1992 university in North West England, participants were recruited to the study both online and face-to-face. Online participants (n = 54) were recruited via the university's Research Participation System (RPS) for psychology students, or via advertisements posted on the researcher's personal social media (Facebook and Twitter) for students of other subjects and/or students from other UK universities. Face-to-face participants (n = 79) were students recruited by being approached in public spaces around the university's main campus. Psychology students at the university were allocated two RPS credits on completion of the study questionnaire. There was no other compensation for participation (for non-psychology students at the university or students from other universities).

A sample size of 111 was required for a linear regression with 80% power to detect a medium effect with a 0.05 significance level, according to a sample size calculator (www.statskingdom.com). Therefore, the final sample of 133 in this study exceeded this requirement.

Measures

The survey questionnaire contained demographic questions (participants' gender identity, age, level of study) and scales to measure strengths use, deficits correction, engagement and burnout.

Strengths Use and Deficits Correction

Two subscales from the SUDCO scale (Van Woerkom et al., 2016) were used to measure proactive behaviours strengths use (nine items) and deficits correction (eight items). Participants were asked to respond to statements such as 'In my studies I try to apply my talents as much as possible' (strengths use) and 'I seek training opportunities to improve my weaknesses' (deficits correction) using a 7-point Likert scale from '0 = *Almost never*' to '6 = *Almost always*'. A total score for strengths use was calculated by adding the scores from each of the nine questions from the strengths use subscale (minimum 0, maximum 54). A total score for deficits correction was calculated by adding the scores from each of the eight questions from the deficits correction subscale (minimum 0, maximum 48). The SUDCO scale had no reverse scoring so high scores indicated high levels of strengths use and deficits correction behaviours. The SUDCO scale was a suitable instrument for testing the sample in this study, having been validated for use in student samples by Mostert et al. (2017) who reported Cronbach's alphas of .84 for both strengths use and deficits correction subscales.

Engagement

Two subscales from the Utrecht Work Engagement Scale – Student (UWES-S; Schaufeli, Martinez, et al., 2002) were used to measure engagement: vigour (five items) and dedication (five items). Participants were asked to respond to statements such as 'How often does it happen that when I'm studying, I feel mentally strong' (vigour) and 'My studies inspire me' (dedication) using a 7-point Likert scale from '0 = *Never*' to '6 = *Every day*'. A total score for engagement was calculated by adding together the scores for each of the 10 questions (minimum 0, maximum 60). The UWES-S had no reverse scoring so a high score indicated a high level of engagement. The two subscale version of the UWES-S was a suitable instrument for testing the sample in this study, having been validated internationally and with students, for example Mostert et al. (2017) reported a Cronbach's alpha of .82 for the two subscale UWES-S in their study of university students in South Africa.

Burnout

Two subscales from the Maslach Burnout Inventory – Student Survey (MBI-SS; Schaufeli, Martinez, et al., 2002) were used to measure burnout: exhaustion (five items) and cynicism (four items). Participants were asked to respond to statements such as 'How often does it happen that I feel emotionally drained by my studies' (exhaustion) and 'I doubt the significance of my studies' (cynicism) using a 7-point Likert scale from '0 = *Never*' to '6 = *Every day*'. A total score for burnout was calculated by adding together the scores for each of the nine questions (minimum 0, maximum 54). The MBI-SS had no reverse scoring so a high score indicated a high level of burnout. The two subscale version of the MBI-SS was a suitable instrument for testing the sample in this study, having been validated internationally and with students, for example Mostert et al. (2017) reported a Cronbach's alpha of .81 for the two subscale MBI-SS in their study of university students in South Africa.

Procedure

Participants completed the survey questionnaire online (www.onlinesurveys.co.uk) after following the link to the study on the RPS or social media (Facebook and Twitter), or on paper after being approached in public spaces around the university's main campus. Participants gave their consent to participate by reading the participant information sheet and then selecting the relevant boxes on the consent form. At the end of the questionnaire, participants were issued with a debrief sheet containing information about the study, contact details for the researcher and supervisor, and support information. All participants remained anonymous throughout the study as no personally identifiable data were requested. Face-to-face participants were given an envelope for their completed questionnaire

so that they could post it in a box provided by the researcher and preserve their anonymity. Participants were informed that taking part in the study was voluntary and were made fully aware of their right to withdraw from the study at any point.

Analysis and Design

The research study design was cross-sectional and data collection was carried out online and face-to-face from March to May 2019. Data were inputted into IBM SPSS Statistics (Statistical Package for Social Sciences) Version 28 for analysis. Missing data were replaced by the series mean (total for the scale divided by the number of completed items) where less than 10 percent of data were missing. All 133 completed questionnaires were used in data analysis as there were minimal missing items. To investigate the relationships between proactive behaviours strengths use and deficits correction, engagement and burnout, a correlation analysis was conducted. To test whether strengths use and deficits correction were predictors of engagement and burnout, multiple linear regression analyses were carried out.

Results

Cronbach's alpha coefficients demonstrated that the measures used to test all variables had high internal consistency in this study (Table 1). The SUDCO scales for strengths use and deficits correction were therefore reliable measures and validated for use in a UK university student sample.

Table 1

Cronbach's alpha coefficients for all measures and results of Shapiro-Wilk normality tests

Variable	Cronbach's alpha	Shapiro-Wilk		
	α	*w*	*df*	*p*
Strengths Use	.91	.98	133	.086
Deficits Correction	.92	.99	133	.304
Engagement	.87	.99	133	.393
Burnout	.91	.98	133	.112

Note. α = Cronbach's alpha coefficient; w = Shapiro-Wilk statistic; df = degrees of freedom; p = probability

Shapiro-Wilk tests showed that the data for all variables did not differ significantly from normal and therefore met the criteria for parametric testing (Table 1). Descriptive statistics were produced for all variables and a Pearson's correlation analysis conducted (Table 2).

Table 2

Descriptive statistics and Pearson correlation coefficients for all variables

Variable	Mean	*SD*	95% *CI*	1	2	3	4
1. Strengths Use	37.43	9.26	[35.84, 39.02]	-			
2. Deficits Correction	27.84	9.14	[26.27, 29.41]	.53**	-		
3. Engagement	37.17	10.76	[35.33, 39.02]	.50**	.51**	-	
4. Burnout	27.97	12.46	[25.83, 30.11]	-.34**	-.29**	-.63**	-

*Note. SD = standard deviation; CI = confidence interval; ** = correlation is significant at the 0.01 level (2-tailed)*

Results indicated that there were statistically significant correlations between all variables. Proactive behaviours strengths use and deficits correction were positively correlated with each other (medium effect), with higher levels of strengths use related to higher levels of deficits correction. Engagement and burnout were negatively correlated with each other (large effect), with higher levels of engagement related to lower levels of burnout.

In terms of potential predictors of engagement, there were significant positive correlations between strengths use and engagement, and deficits correction and engagement: higher levels of strengths use and deficits correction behaviours were each correlated with higher levels of engagement. Results also showed that there were significant negative correlations between strengths use and burnout, and deficits correction and burnout: higher levels of strengths use and deficits correction behaviours were each correlated with lower levels of burnout. Correlation coefficients also demonstrated that relationships were stronger for proactive behaviour variables and engagement (medium effect) than for burnout (small effect).

A standardised multiple linear regression was carried out to identify predictors of engagement using the variables strengths use and deficits correction. Results showed that, together, strengths use and deficits correction predicted 32.8% (adjusted to 31.8%) of variance in engagement, $F(2, 130) = 31.72$, $p < .001$. Moreover, both strengths use ($\beta = .32$, $t = 3.75$, $p < .001$, 95% *CI* [0.17, 0.56]) and deficits correction ($\beta = .34$, $t = 4.00$, $p < .001$, 95% *CI* [0.20, 0.60]) were significant independent predictors of engagement, with higher strengths use and deficits correction predicting higher levels of engagement. A standardised multiple linear regression was also carried out to identify predictors of burnout using the variables strengths use and deficits correction. Results showed that, together, strengths use and deficits correction predicted 13.3% (adjusted to 11.9%) of variance in burnout, $F(2, 130) = 9.94$, $p < .001$. Higher levels of strengths use and deficits correction together predicted lower levels of burnout. However, on this occasion only strengths use ($\beta = -.27$, $t = -2.76$, $p = .007$, 95% *CI* [-0.61, -0.10) was a significant independent predictor of burnout, not deficits correction ($\beta = -.15$, $t = -1.52$, $p = .131$, 95% *CI* [-0.46, 0.06).

The demographic variables gender and age were not included in any analyses due to the biased sample (72% female and 90% age 18-25). However, a one-way between-subjects analysis of variance (ANOVA) was conducted to determine whether there was a difference in levels of strengths use, deficits correction, engagement and burnout according to level of study. This was carried out to explore the limitation of Mostert et al.'s (2017) SUDCO study which only included first year university students. The results are shown in Table 3.

Table 3

One-way analysis of variance (ANOVA) between level of study and all variables

Variable	*df*	*F*	η^2	95% *CI*	*p*
Strengths Use	(4, 126)	1.98	.06	[0.00, 0.13]	.101
Deficits Correction	(4, 126)	1.71	.05	[0.00, 0.12]	.151
Engagement	(4, 126)	1.31	.04	[0.00, 0.10]	.271
Burnout	(4, 126)	1.38	.04	[0.00, 0.10]	.244

Note. df = degrees of freedom; F = ANOVA statistic; η^2 = partial eta squared (effect size); CI = confidence interval; p = probability

No significant differences were found among the five levels of study (Levels 4, 5, 6, 7, 8) for any of the variables, and level of study was not included in any further analyses.

Discussion

This study aimed to investigate the role of proactive behaviours strengths use and deficits correction in engagement and burnout in UK university students. The results showed that, first, strengths use and deficits correction were significant predictors of engagement, both together and independently. Second, strengths use and deficits correction were significant predictors of burnout together, but only strengths use was a significant independent predictor. In addition, this study aimed to validate the SUDCO scale for measuring proactive behaviours strengths use and deficits correction in UK university students. Results confirmed that the SUDCO scale is a reliable measure for this purpose, and across both undergraduate and postgraduate levels of study.

Engagement

The finding that strengths use and deficits correction predicted engagement in UK university students was expected. Students capitalising on their strengths and taking steps to improve their weaknesses are positive and proactive behaviours which are likely to promote vigour and dedication, the key components of engagement. This finding replicates the results of Mostert et al.'s (2017) study of first year university students in South Africa.

Results from this study of UK university students also showed that strengths use and deficits correction behaviours were each independent predictors of engagement, as well as together. Furthermore, they had similar strength relationships with engagement (in both correlation and regression analyses). The implications of these findings are that strengths use and deficits correction are equally important, hence interventions designed to increase engagement in university students should aim to increase both of these proactive behaviours. This is contrary to previous research with university students in South Africa which found that deficits correction had a much stronger relationship with engagement than strengths use (Mostert et al., 2017). Moreover, in Van Niekerk et al.'s (2016) study, deficits correction was significantly related to engagement, but strengths use was not.

The samples used in previous studies consisted of first year undergraduates only and Mostert et al. (2017) acknowledged that their results may not be generalisable to all university students due to this limitation. However, whilst recognising that most of the participants in this study were undergraduates (85%) and that most of these were first year students (Level 4), no differences were found in strengths use, deficits correction, engagement or burnout by level of study. As such, this shows that level of study was not a predictor of engagement, at least in this sample of students, and does not explain the differing results between this study of UK university students and previous studies.

Burnout

The finding that strengths use independently predicted burnout in UK university students in this study was also expected. Students who proactively use their strengths in their academic work are likely to have lower levels of the exhaustion and cynicism components of burnout. In this respect, the results of this study support those found by Mostert et al. (2017) in first year university students in South Africa. However, the finding in this study that deficits correction did not independently predict burnout was unexpected. Deficits correction and strengths use together predicted burnout, but deficits correction alone did not. This is contrary to Mostert et al.'s (2017) results for first year university students in South Africa, although they too found that strengths use had a stronger relationship with burnout

than deficits correction.

Taken together, therefore, the findings from this study suggest that deficits correction is a better predictor of the more positive aspects of university work (engagement) than the more negative aspects (burnout). Although both are proactive behaviours, deficits correction may be more aligned to the deficit model associated with traditional psychology than strengths use. In addition, both strengths use and deficits correction explained more of the variance in engagement compared to burnout. As such, this suggests that a greater percentage of the variance in burnout will be explained by other factors that were not included in this study. However, level of study does not appear to be one of these. Nevertheless, engagement and burnout were significantly and negatively correlated in this study, as in previous research (Cazan, 2015; Mostert et al., 2017), hence increased engagement brought about by increased strengths use and deficits correction may also decrease burnout. That is, engagement is a predictor of burnout too.

Implications

The findings in this study have implications for the type of interventions which may be deployed to increase engagement, decrease burnout and thereby improve mental health and wellbeing. Previous research shows that strengths interventions are effective and produce positive outcomes. In a systematic review conducted by Quinlan et al. (2012), the eight included studies demonstrated that strengths interventions had consistent positive effects on wellbeing (for example, increased satisfaction with life). Ghielen et al. (2018) updated this systematic review and the 18 included studies demonstrated that strengths interventions had myriad positive effects on wellbeing (for example, increased life satisfaction, happiness, engagement and personal growth initiative, and decreased burnout).

However, the results of this study indicate that interventions should use a two-pronged approach of encouraging both strengths use and deficits correction behaviours for maximum effect. This is supported by the findings of previous studies. For example, Els et al. (2018) found that a combined approach was more effective for predicting work engagement, learning, job satisfaction and turnover intention in teachers than focussing on either strengths use or deficits correction alone. Similarly, Meyers et al. (2015) found that both strengths and deficits interventions led to increases in students' personal growth initiative (although increases were greater for the strengths intervention). Moreover, the correlation between engagement and burnout found in this study and others (Cazan, 2015; Mostert et al., 2017) indicates that an intervention based on strengths use and deficits correction as predictors of engagement is likely to have a positive effect on burnout too.

Limitations and Directions for Future Research

A limitation of this study is that it used a convenience sample due to constraints on time and resources, hence findings may not be generalisable to the university student population as a whole. Nevertheless, the sample included university students from a variety of institutions, subjects (not just psychology) and levels of study (undergraduate and postgraduate). A further limitation of this study is that it was cross-sectional. This could be addressed in future research by using a longitudinal design to capture differences in variables over time, particularly pre and post any intervention. Longitudinal data could also track differences in variable scores over the academic year, either to calculate a mean score for the whole academic year, or to gauge the effect of different times of the academic year. For example, as data collection for this study coincided with examinations for all undergraduate years and dissertation deadlines for final year undergraduates, it would be interesting to compare these data with data from the start of the academic year.

An additional limitation of this study was the use of self-report questionnaires. Although the scales used to measure the variables demonstrated good reliability in this study, the current findings could be extended with rich and more nuanced data by using qualitative methods, particularly interviews or focus groups. For example, a qualitative study by Bowers and Lopez (2010) produced rich contextual data on strengths use from interviews with eight US university students. Having said this, a strength of this study was that it demonstrated the reliability of the SUDCO scale for a UK student population.

Research studies using the SUDCO scale to investigate proactive behaviours strengths use and deficits correction in university students had previously only been carried out in South Africa. This UK study has laid the groundwork for more research to be carried out, and in other contexts, in order to fully investigate the potential of proactive behaviours. Future engagement and burnout research should also build on this study by investigating differences between groups of university students, for example using demographic variables such as gender, first generation student status and socio-economic status. Research studies of demographic group differences in engagement and burnout would allow more effective design and implementation of interventions. In addition, it is likely that targeted interventions would have greater success in increasing engagement and decreasing burnout.

Conclusion

This study aimed to investigate the role of proactive behaviours strengths use and deficits correction in engagement and burnout in UK university students. Results showed that engagement was predicted by strengths use and deficits correction behaviours, both together and independently. In contrast, burnout was predicted by strengths use and deficits correction behaviours together, but independently predicted by strengths use only. These findings demonstrate the importance of designing interventions which encourage both strengths use and deficits correction behaviours to increase engagement and decrease burnout in UK university students. This study also builds on existing research, adding new insights from a UK perspective and from university students of all years of study, including undergraduates and postgraduates. It makes a valuable contribution to the field because it investigated strengths use and deficits correction behaviours in UK university students for the first time, validating the SUDCO scale as a reliable measure for use in this population. Furthermore, this study provides clear direction for future research into engagement and burnout interventions. Developing and implementing effective engagement and burnout interventions is critical, particularly in view of their serious implications for mental health and wellbeing, and universities must rise to the challenge.

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