

## *Title*

Resilience and mindfulness in nurse training on an undergraduate curriculum.

*Purpose.* The aim is to investigate what relationships exist between resilience and mindfulness in undergraduate nurse training and how these might contribute to well-being.

*Design and Methods.* One hundred and six students participated in this cross-sectional study. Multivariate and bivariate procedures were utilized to assess the differences between students' demographics, academic resilience and mindfulness.

*Findings.* The findings suggested that acceptance and attention within mindfulness were important for resilience. Students who had higher levels of academic resilience also had higher indexes of mindfulness.

*Practice Implications.* A key implication is that learning and practice areas should ensure that well-being, mindfulness and resilience literacy are key issues for students in training. This is at a time when mental health support and staff retention are foremost in policymakers' minds.

## *Keywords*

Stress and coping, education, workforce issues, resilience, mindfulness

## ***Introduction***

The literature on nurse training has recognized that training, by its nature, is stressful because of the exposure to a range of potentially stressful situations (Mitchell, 2020 and Labrague *et al.*, 2018). Academics are increasingly focusing on skills such as resilience, including concepts such as emotional stability and determination (Stacey & Kurunathan, 2015). The construct of resilience has been defined as a 'trait' or 'process' in the literature (Windle, 2011). As seen as a trait, resilience is envisaged as a stable personal characteristic that a person can utilize to protect themselves from stressors in the environment. As seen from a process, resilience is seen as a person-environment interaction that strengthens over time. The focus on resilience as a 'process' is useful in education as it emphasizes that attainment and well-being amongst its workforce can be bolstered (Bird, Martinchek, & Pincavage, 2017). In nurse training, there is a recognition that resilience in the learning milieu in both academic and clinical environments is essential for student well-being (Beauvais, Stewart, DeNisco, & Beauvais, 2013). There are only a limited number of research studies that directly address resilience and fewer that address the possible link between resilience and mindfulness in nurse training.

Before proceeding to examine mindfulness, it is important to highlight specific stressors in nursing briefly and then define what is meant by resilience. It is acknowledged that nurse training can expose students to specific risk factors (Mitchell, 2020). For example, the dual nature of meeting educational and clinical demands of training, working hours and shift work when undertaking clinical duties, and interpersonal demands on students dealing with sick and vulnerable individuals (Jamshidi, Molazem, Sharif, Torabizadeh, & Kalyani, 2016). Resilience can

help students limit the effects of stressors. It has been seen as a personal trait that helps individuals cope with adversity and achieve reasonable adjustment during stressful circumstances (Reyes, Andrusyszyn, Iwasiw, Forchuk, & Babenko-Mould, 2015). It has also been linked to reduced burnout associated with workplace stressors (Craigie *et al.*, 2016). Resilience in the academic setting has been named as academic resilience been defined as an increased probability of academic success despite stressful events and conditions (Cassidy, 2016). The concept of resilience is linked to the understanding of protective and risk factors for stress. The protective factors include the ability to stick at a task despite challenges, sometimes called perseverance. Help-seeking is also seen as another crucial protective factor against stressors, along with emotional intelligence, the ability to recognize these emotions and manage them effectively. Risk factors reduce the ability to deal with adversity and impact on our ability to cope with stressors. Dyrbye *et al.* (2010) noted that health professionals showing resilience experienced less depression and perceived their learning environment more positively than those showing less resilience.

The previous section defined what is meant by resilience, and it is now necessary to discuss what is meant by mindfulness. There has been a focus on building up resilience in work and education environments to increase well-being (Jackson, 2018; Turner, Scott-Young, & Holdsworth, 2017). Mindfulness is typically conceptualized as a mental process and ability relating to attention, awareness and focus on the present (Davidson & Kaszniak, 2015).

Researchers have also found that mindfulness, as measured by various self-report tools, show an association with building resilience (Hanna & Pidgeon, 2018). The present research focuses

on mindfulness as an attribute rather than a practice. Mindfulness is suggested to be made up of four attributes: 1) the ability to regulate attention, 2) an orientation to present or immediate experience, 3) awareness of experience, and 4) an attitude of acceptance or non-judgment towards experience (Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007). Correlational research has demonstrated that measures of mindfulness are closely associated with higher levels of subjective well-being (Wenzel, von Versen, Hirschmüller, & Kubiak, 2015).

There is no doubt that mindfulness has been encompassed as a useful practice to build resilience and limit stress (McKinley *et al.*, 2019). There have been several apps, such as Calm and Headspace (Huberty *et al.*, 2019), that use mindfulness-based techniques. Universities, as within other organizations, have provided sessions to support individuals. However, critics point out that there is a need to make sure that the evidence matches the claims (Purser, Forbes & Burke, 2016). Lomas, Cartwright, Edginton, and Ridge (2015) found that the effects of mindfulness can be mixed and based on individual responses can increase rather than decrease distress and negatively impact on emotional disorders such as anxiety and depression. There is a need to understand the benefits and limitations of mindfulness approaches as well as whom it is likely to benefit, especially in the nursing profession (van der Riet, Levett-Jones, & Aquino-Russell, 2018).

The present study may help to identify resilience and mindfulness attributes that will assist in identifying positive qualities in student nurses to support well-being. This data would permit testing of several potentially exciting research aims regarding the relationship between

resilience and mindfulness and the closely related concept of well-being. Focus on resilience and mindfulness may improve student well-being and performance, reduce the high attrition rates, and retain nurses in training (Health Education England, 2020a and 2020b). This is at a time when health and social care employee retention is foremost in policymakers minds (Buchan *et al.*, 2019). This is even more valid at this critical time during the COVID-19 outbreak, given the WHO (2020) recommendations for supporting the mental health and social considerations of health care professionals. Furthermore, findings could strengthen the need for structured support for students which has been identified as a priority for universities (Donelan, 2020).

This project will focus on students' resilience and mindfulness. The sample will be from pre-registration nursing degree programme within the same university, covering all four of the specialist fields of training.

The aims of the present study are:

1. Is there an association between academic resilience and mindfulness in students?
2. Do resilience and mindfulness vary with demographic characteristics, such as programme field and year of study of the sample?
3. What are the best predictors of resilience and mindfulness?

## **Method**

### ***Study design***

The study design was cross-sectional and observational. Correlational and multivariate statistics

were used to evaluate any differences in year and field of study and the students' resilience and mindfulness.

### ***Participants***

One hundred and six students (8.5% male and 91.5% female) were recruited from a University in the United Kingdom. The mean age was 28 years (SD 8.3, range 19–52). The invitation was posted on an online forum for the university and went out to all students attending a three-year programme with registration as a nurse. Prior analysis using G\*Power software package ascertained a sufficient sample size for ANOVAs. An alpha of .05, a power of .80, and a medium effect size ( $f = 0.31$  and  $f = 0.33$  respectively) based on 3 and 4 groups for year and field of study (Faul, Erdfelder, Lang, & Buchner, 2013). The desired sample size was calculated as 104 using the assumptions as mentioned above.

### ***Measures***

#### *Academic Resilience Scale-30 (ARS-30)*

Resilience was measured by the ARS-30 (Cassidy, 2016), which consists of thirty items on a Likert-type scale completed in response to an adversity vignette. The Likert scale was rated as 1 = likely to 5 = unlikely. The scaled items fell into one of three factors: (a) perseverance (14 items); (b) reflecting and adaptive help-seeking (9 items), and (c) negative affect and emotional response (7 items). A lower score means lower academic resilience, while a higher score means higher levels of academic resilience. The total score range from 30-150.

### *Cognitive and Affective Mindfulness Scale-Revised (CAMS-R)*

Mindfulness was measured by the CAMS-R (Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007), which consists of 12 items on a Likert-type scale. The Likert scale was rated on a scale from 1 = rarely/not at all, to 4 = almost always. The scaled items fell into one of four factors: (a) attention (3 items); (b) present focus (3 items); (c) awareness (3 items), and (d) acceptance (3 items). A lower score means lower mindful behaviours, while a higher score means higher levels of mindfulness. The total score range from 12-60.

### ***Procedure***

Proportionate ethics review was obtained from the Faculty ethics committee. Invitations were sent out to full-time nurses enrolled on the pre-registration nurse training in the same higher education institution. The students were provided with a participant information sheet and fully briefed on the characteristic and duration of the commitment. The online format provided anonymous responses.

Participants completed the online questionnaires according to the following schedule: (a) demographic questions on age, gender, field and year of study (b) the CAMS-R questionnaire was presented next followed by (c) ARS-30 as per guidelines for administration for each measure. Finally, the participants received a thank-you screen with signposting to support information.

The CAMS-R and ARS-30 were summed as directed by the scoring procedure guide. The individual subscale items were ascertained to provide four subsidiary sums for the CAM-R and three subsidiary sums for the ARS-30.

### ***Statistical methods***

The mean scores for resilience (ARS-30) and mindfulness (CAMS-R) underwent one-way between-groups ANOVAs with year or field of study as independent variables. A significance level of less than  $p = .05$  was adopted. No missing data was present due to the structural set-up of the online questionnaire. Statistical Package for Social Sciences (SPSS; IBM Statistics for Windows, Version 24.0) was engaged for the analysis. Statistical checks were employed, and requirements of the follow up linear regression adhered to.

### **Results**

The aim was to test the hypothesis on the association between resilience and mindfulness. The Pearson correlation between mean total scores on the ARS-30 and CAMS-R was  $r(106) = .62$ ,  $p < .001$ . Zero-order correlations between the sub-scales of resilience and mindfulness are presented in table 1. All the variables were significant and moderately to strongly correlated (Evans, 1996).

### **Location of table 1**

#### *Ranking of means for resilience and mindfulness*

*Academic resilience* - Cronbach's alpha computed for ARS-30 was 0.90. The mean ( $\bar{x}$ ) of



academic resilience perceived by the participants was (M=3.66, SD=0.60). Results showed that 53.8% of the participants had above  $\bar{x}$  resilience levels. The scale factor of resilience with the highest mean was perseverance (M=4.01, SD=0.62) and reflecting and adaptive help-seeking (M=3.75, SD=0.69) presented in Table 2. The mean for the negative affect and emotional response factor was 2.85 (range 0 to 5.0, with a possible high score of 5.0) suggesting that some student might be struggling with emotions, such as anxiety, and adverse moods, such as low mood and depressive symptoms, in response to academic difficulties.

## **Location of table 2**

*Mindfulness* - Cronbach's alpha computed for CAMS-R was 0.84. The mean of mindfulness perceived by the participants was (M=2.69, SD=0.53). Results showed that 49.1% of the participants had mindfulness levels above the mean (See table 2). The scale factor of mindfulness with the highest means were related to present focus (M=2.78, SD=0.62) and acceptance component of mindfulness (M=2.78, SD=0.66).

## *Demographic differences in resilience and mindfulness*

The aim was to test the hypothesis that resilience (ARS-30) and mindfulness (CAMS-R) scores would vary with training year and programme field. Table 3 shows year three with the smallest numeric mean of resilience (M=107.53, SD=17.91) and year one is shown with the highest numeric mean of resilience (M=112.79, SD=17.76). An ANOVA was undertaken to evaluate the effect of training year has on resilience. The assumptions for the test were observed and

evaluated. Skew was less than 2.0, and kurtosis was less than 9.0 (see table 3) on each variable (Schmider *et al.*, 2010). The result showed a non-significant effect,  $F(2,106) = 0.93$ ,  $p = .40$ ,  $\eta^2 = .02$ . Thus, the null hypothesis ( $H_0$ ) was accepted.

A further ANOVA (one-way between groups) was undertaken to evaluate the effect the training year has on mindfulness. Table 3 shows training year three with the smallest numeric mean of mindfulness ( $M=31.31$ ,  $SD=6.31$ ) and year one is shown with the highest numeric mean of mindfulness ( $M=33.33$ ,  $SD=6.25$ ). An ANOVA (one-way between groups) was undertaken to evaluate the effect of training year on mindfulness. The effect was non-significant,  $F(2,106) = 1.03$ ,  $p = .36$ ,  $\eta^2 = .02$ . The  $H_0$  was accepted.

### **Location of table 3**

The mean scores on resilience within the four programme fields are shown in table 3. It can be seen that programme field (child) is shown with the smallest numeric mean of resilience ( $M=99.00$ ,  $SD=16.62$ ) and the programme field (mental health) is shown with the highest numeric mean of resilience ( $M=122.68$ ,  $SD=13.06$ ). An ANOVA was undertaken to evaluate the effect of the programme field on resilience. The Levene's  $F(3,106) = 3.69$ ,  $p = .02$  test of homogeneity of variance was contravened. Therefore, A Kruskal-Wallis test was undertaken, which revealed a significant effect of the programme field on resilience ( $H(3) = 15.19$ ,  $p = .002$ ). Cell-wise residual analysis of the group means, suggest that the programme field (mental health) had above mean resilience scores which were significantly higher than the other programme fields  $Z = 3.9$ ,  $c^2 = 15.21$ ,  $p < .001$  (Garcia-Perez & Nunez-Anton, 2003).

The mean scores on mindfulness within the four programme fields are shown in table 3. It can be seen that the programme field (child) is shown with the smallest numeric mean of mindfulness (M=30.00, SD=5.60) and the programme field (mental health) is shown with the highest numeric mean of mindfulness (M=35.09, SD=6.10). An ANOVA was undertaken to evaluate the effect of the programme field on mindfulness. The result showed a non-significant effect,  $F(3,106) = 2.03$ ,  $p = .12$ ,  $\eta^2 = .06$ . Thus, the  $H_0$  was accepted.

#### *Predictors of academic resilience and mindfulness*

Due to the significant and strong zero-order correlations between resilience and mindfulness (table 1), a further analysis was needed to ascertain the best predictors for academic resilience and mindfulness. Two multiple linear regressions were undertaken to ascertain the predictors. The initial analysis was engaged to find out the predictors of resilience with all four mindfulness sub-scales entered for analysis. Two significant predictor variables were acceptance and attention, which accounted for a total of 40.9% of the total variance of the criterion variable academic resilience (Table 4). Present focus and awareness predictors did not add significantly to the criterion variable academic resilience.

#### **Location of table 4**

The second analysis was engaged to find out the predictors of mindfulness with all three resilience sub-scales entered for analysis. Two significant predictor variables were perseverance and adaptive help-seeking, which accounted for 35.4% of the total variance of the criterion

variable mindfulness (Table 4). Negative affect/emotion predictor did not add significantly to the criterion variable mindfulness.

## **Discussion**

The aim was to ascertain the association between academic resilience and mindfulness in pre-registration nursing students. The results of this present study show that there is a strong and positive relationship between resilience and mindfulness among pre-registration students. The finding supports the association between resilience and mindfulness that was found in previous studies. Sünbül and Güneri (2019) and Galante *et al.* (2018) reported that resilience and mindfulness are associated, and both have an important impact on student well-being at university.

The second aim was to ascertain any associations that might exist between the main demographic characteristics of the pre-registration students for either resilience or mindfulness. The results show that there is no effect on the programme training year for either resilience or mindfulness. There was no effect on the programme field and mindfulness. There was, however, an effect with programme field and resilience. Analysis suggests that the mental health field had higher resilience than the other programme fields.

Overall results support the hypothesis that resilience is in part associated with, and a predictor of, acceptance and attention (mindfulness factors). Furthermore, results support the hypothesis that mindfulness is associated with, and a predictor of, perseverance and adaptive help-seeking

(resilience factors). Having provided an overview of the findings in this study, it is now necessary to look at each in more detail with reference to the literature.

#### *Ranking of means for academic resilience and mindfulness*

Studies have found that approximately fifty-eight percent of student nurses showed low levels of resilience (El-Hamid, El-Fattah, & Ayoub, 2018). This finding compares favourably with the present study. Furthermore, the present finding of low levels of mindfulness could suggest, that academics and mental health professionals may want to ensure that resilience and mindfulness training is readily available to students (Leppin, Bora, & Tilburt, 2014) as intervention shows modest but consistent results. The negative affect and emotional response indexes suggest that some students may struggle with anxiety and depressive symptoms, as a consequence of academic challenges, which is of concern because of the potential effect on academic achievement and student health (Deasy *et al.*, 2016). Academics should not overlook students' mental health during pre-registration training (Mitchell, 2018).

#### *Components of resilience and mindfulness*

It is acknowledged that nurse training itself exposes students to specific risk factors due to the educational experiences; the dual nature of meeting educational and clinical demands of training (Mitchell, 2020 and Jamshidi *et al.*, 2016). The present study showed that the highest-ranked component on the mindfulness scale was 'I am preoccupied with the past' which adversely impacts on orientation to present or immediate experience, as a key component of mindfulness. On resilience, the fifth-highest ranked component was 'I would just give up' in

response to academic adversity, and it is easy for educators to envisage how this might impact on academic attainment and retention rates. Having explored the key items and components and before proceeding to examine the predictors of resilience and mindfulness, it is important to highlight the relationships that exist between these.

#### *Relationship between resilience and mindfulness*

This study found no significant difference in the effect of programme year on mindfulness or resilience. This is surprising, as Healy and Tyrrell (2011) identified that more experienced professionals have greater resilience since they have built up previous psychological and emotional capacity to deal with the demands of everyday practice. However, the study was predominantly looking at qualified health professionals with a large number of years' experience rather than student nurses with fewer years to build up resilience. Also, the programme field had no impact on the level of mindfulness. This is less surprising as mindfulness is thought to be somewhat dispositional (Rees, Breen, Cusack, & Hegney, 2015) and may take training to bolster mindfulness but findings so far are variable and modest (Leppin *et al.*, 2014).

Programme field in the present study had a significant impact on resilience, which is thought of as a capacity that arises through person-environment interactions, which places demands on the individual (Day, 2016). This was especially so for mental health pre-registration students. There is limited literature on resilience in the field of mental health nursing which indicates that resilience is seen as a personal capacity that enables them to cope in the field of mental health

(Marie, Hannigan, & Jones, 2017). This might be due to the increased mental health literacy that one would hope to see in such related disciplines within the mental health field (Wickstead & Furnham, 2017).

The previous section defined the relationships that exist between resilience and mindfulness, and it is now necessary to focus on the main predictors that were found in the present study with reference to the literature on the student experience.

#### *Predictors of resilience and mindfulness*

Two significant variables of academic resilience were found in the present study; these were perseverance and the importance of adaptive help-seeking, which accounted for most of the variance within the mindfulness scale. This finding indicates the necessity of seeking support services. Mitchell (2018) argues that students sometimes fail to seek help due to fear of disclosure about mental health and confidentiality issues. A referral to university student welfare or counselling is recommended for those students experiencing a high level of psychological distress (Universities UK/MWBHE, 2015) and who might respond to modest institutional changes and practices (Macaskill, 2018).

Furthermore, two significant variables of mindfulness were found in the present study; these were acceptance and attention, which accounted for most of the variance within the resilience scale. Studies of health professionals have found that certain person-related aspects, such as being able to deal with difficult emotions were significantly predictive of academic and clinical performance (Horgan, Sweeney, Behan, & McCarthy, 2016) and reduced practice errors

(Melnyk *et al.*, 2018). These person-related aspects were related to having individual mind states (e.g., acceptance) and aspects of consciousness (e.g., attention) that were beneficial to well-being. An implication is that mental health literacy and resilience training should be encouraged as a critical element in undergraduate programmes (Gulliver *et al.*, 2018).

### ***Limitations***

The design was cross-sectional and observational, and therefore associations can only be implied rather than demonstrated. In this study, resilience and mindfulness were only measured once. Therefore it is not possible to infer direct association with pre-registration training. Therefore, replication with a larger sample size and longitudinal design is required in future studies. Future investigation should focus on clinical practice and academic outcomes to satisfactorily understand the impact of resilience and mindfulness on the stress within the training and the role of mindfulness in promoting resilience.

### ***Implications for psychiatric nursing practice***

This paper contributes to a meaningful discussion on how we prepare our nursing workforce and how it has implications for the mental health of student nurses in training. A key implication is that learning and practice areas should ensure that resilience and mindfulness literacy are key issues. Three established interventions include the provision of mindfulness (Mak, Chio, Chan, Lui, & Wu, 2017), mental health literacy (Lo, Gupta, & Keating, 2018) and support with resilience within the curricula (Horgan *et al.*, 2016).



Before proceeding to examine future research, it is important to highlight practice recommendations. The House of Commons Public Accounts Committee (2020) on the NHS nursing workforce has stated that "it is vital that the NHS protects the mental health and well-being of nurses" (p 7). A recent systematic review suggests that mindfulness-based courses could improve university students' distress and well-being (Dawson et al., 2019). There is limited research on the effect of delivering mindfulness courses to student nurses, but there is research in other student groups (Baverstock & Hulatt, 2020). It would be good to see the implementation of evidenced-based mindfulness courses such as the Mindfulness Skills for Students (MSS; Galante et al., 2020) which incorporates mindfulness techniques, such as breathing, meditation, periods of reflection, interactive exercises, mindfulness homework and reading materials. The study showed that the effects were, on average, larger at stressful times, thus also providing indirect evidence that mindfulness training increases resilience to stress.

The previous section discussed practice, and it is now necessary to discuss recommendations for future research. The NHS Staff and Learners' Mental Wellbeing Commission (Health Education England, 2019) reported that further research is needed into the causes of distress among health professionals. Further research is required to highlight the benefits and utility of mindfulness courses such as MSS, specifically in nurse education. Mindfulness for student nurses is in its early development with a significant evidence base required, such inquiry as to whether mindfulness training is best as part of the core nursing curriculum or an optional curriculum enhancement (Baverstock & Hulatt, 2020). The other pressing question is whether universities should incorporate mindfulness training into a more extensive well-being program (Galante et al., 2020). Also, future research needs to consider the adapting of mindfulness

techniques for student nurses, so that students can easily incorporate methods into everyday practice, given the academic and clinical practice components of the curriculum. This is at a time when nurse retention is foremost in policymakers' minds and given the WHO (2020) recommendations for supporting the mental health of nursing staff. The fidelity of any such training must be consistent and with mindfulness techniques that work in the context of education (Baverstock & Hulatt, 2020). Therefore, it is necessary for pre-registration training, and those involved mental health provision to be active stakeholders in academic and clinical training programmes.

### ***Conclusions***

This study compares academic resilience and mindfulness in pre-registration students; thus, has brought together academic resilience and mindfulness and shows the relationships that exist between these. The findings show that low levels of resilience and low levels of mindfulness co-varied. Conversely, higher levels of resilience co-varied with a higher level of mindfulness. The findings provide valuable knowledge for future research in well-being in nurse training.

### ***Declaration of conflicting interests***

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

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**Table 1: Zero-order correlations between resilience and mindfulness**

Factor	Attention	Present focus	Awareness	Acceptance	Total CAMS-R
Perseverance	.358**	.413**	.442**	.615**	.582**
Adaptive help seeking	.345**	.303**	.436**	.434**	.487**
Affective/Emotional	.341**	.327**	.257**	.471**	.443**
Total ARS-30	.422**	.429**	.461**	.627**	.618**

\*\* Correlation is significant at the 0.01 level.

**Table 2: Scale factors for resilience (academic) and mindfulness (cognitive affective) scales**

Mindfulness (Cognitive and Affective)

Resilience (Academic)

	Scale factor	M	S.D.
Perseverance	1	4.01	0.62
Adaptive help seeking	2	3.75	0.69
Negative Affect & Emotional	3	2.85	1.01
Total ARS-30		3.66	0.60
Mindfulness (Cognitive and Affective)			
	Scale factor	M	S.D.
Acceptance	1	2.78	0.66
Present focus	1	2.78	0.62
Attention	2	2.65	0.69
Awareness	3	2.56	0.73
Total CAMS-R		2.69	0.53

Note: *M*, mean; *SD*, standard deviation

**Table 3: Descriptive statistics for resilience (academic) and mindfulness (cognitive affective) across year and field**

	N	M	S.D.	Skew	SE	Kurtosis	SE
Resilience (Academic)							
Year 1	42	112.79	17.76	-0.33	0.37	-0.33	0.72
Year 2	28	108.43	18.92	-0.18	0.44	-0.97	0.86
Year 3	36	107.53	17.91	-0.97	0.39	2.60	0.77
Mindfulness (Cognitive Affective)							
Year 1	42	33.33	6.25	0.11	0.37	-1.04	0.72
Year 2	28	32.00	6.57	-0.40	0.44	0.68	0.86
Year 3	36	31.31	6.31	-0.02	0.39	-0.80	0.77
	N	M	S.D.	Skew	SE	Kurtosis	SE
Resilience (Academic)							
Adult	73	107.58	16.54	-0.13	0.28	-0.53	0.56
Mental health	22	122.68	13.06	-0.02	0.49	-0.69	0.95
Learning disabilities #	4	99.75	37.81	-	-	-	-
Child	7	99.00	16.62	0.09	0.79	-1.33	1.59
Mindfulness (Cognitive Affective)							
Adult	73	31.66	6.20	-0.09	0.28	-0.66	0.56
Mental health	22	35.09	6.10	-0.39	0.49	-0.74	0.95
Learning disabilities #	4	32.50	9.40	-	-	-	-
Child	7	30.00	5.60	-1.47	0.79	2.07	1.59

Note: *M*, mean; *N*, number; *SD*, standard deviation; *SE*, standard error; # sample size is too small to calculate Skew and Kurtosis. A smaller critical value for rejecting the null hypothesis was utilised after dividing Skew or Kurtosis value by its standard error (Std. Error) and comparing it to a critical value of  $\pm 1.96$  rather than  $\pm 2.58$  (Rose, Spinks & Canhoto, 2015). All values within critical threshold limit.

**Table 4: Linear regression for resilience (academic) and mindfulness (cognitive affective) variables (n = 106)**

Predictor variables for resilience	Standardized Coefficient Beta ( $\beta$ )	t	p	Adj. R2	Total variance
Perseverance	0.453	4.58	0.001**	0.332	35.4%
Adaptive help seeking	0.211	2.13	0.036*	0.354	

  

Predictor variables for mindfulness	Standardized Coefficient Beta ( $\beta$ )	t	p	Adj. R2	Total variance
Acceptance	0.547	6.56	0.001**	0.387	40.9%
Attention	0.184	2.20	0.030*	0.409	

Note. \*p < .05, \*\*p < .001;  $\beta$ , standardized regression coefficient; Adj. R<sup>2</sup>, Adjusted R squared; t, t-value; %, total variance explained