

# Relationship between Resilience, Mindfulness, and Psychological Well-Being in University Students

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## **Abstract**

*The aim of this study was to explore the role of resilience and mindfulness in predicting psychological well-being in university students. A sample of 141 university students completed questionnaires that measured individual differences in mindfulness, resilience, and psychological well-being. Findings revealed significant positive relationships between mindfulness and resilience. Regression analyses revealed that mindfulness and resilience predicted 51% of the variance of psychological well-being scores, with resilience accounting for the greatest amount of variance 47%. Results indicate that, when used as a dichotomous variable in the regression model, the presence of mindfulness meditation makes a significant contribution to an individual's level of mindfulness as shown by the standardized coefficient of .23. Findings from this study show support for developing programs for university students that target cultivating resilience and mindfulness to increase their ability to effectively manage the complex challenges and competing demands of university life.*

Resilience is the capacity to adapt well over time to life-changing or stressful situations. It is the successful adaptation to adverse circumstances (Ahern, Kiehl, Sole, & Byers, 2006). For university students, resilience is particularly important, as life at a university can be complex and demanding, requiring the capacity to cope with the academic/coursework demands, study/life balance, finances and money problems. As a result, university students experience increased levels of mental ill health compared with their non-university peers (Stallman, 2010). Research on the neurobiology of stress and resilience shows that increasing the experience of positive affect is an effective means of enhancing resilience (Hamilton-West, 2010). Mindfulness is positively associated with positive affect and shows promise for enhancing resilience (Davidson et al. 2003; Ryan & Deci, 2001). Mindfulness, which is the ability to focus one's attention on

present-moment experience, releasing worries about the future and regrets about the past, has been shown to produce a host of benefits for both physical and mental health (Keng, Smoski, & Robins, 2011).

The past three decades have witnessed a surge of popular and academic interest in the psychological benefits of mindfulness. In recent years, research that has focused on the benefits of mindfulness to psychological well-being indicate that mindfulness is salubrious for mental health (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006; Brown & Ryan, 2003).

Psychological well-being is also related to resilience and mindfulness (Fredrickson, 2009). Psychological well-being is defined as the ability of an individual to balance many different thoughts, emotions, situations, to problem solve and respond to stress in a healthy manner (Bradshaw, Hoelscher, & Richardson (2007). Ryff and Singer (2003) argue that resilient individuals are generally able to maintain their physical and psychological health and have the capacity to recover more quickly from stressful events. While there is a growing body of research regarding resilience theory, and mindfulness and its association with psychological well-being, there is a paucity of empirical evidence supporting this association (Richardson et al., 1990). Therefore, the current study will explore the predictive relationship between resilience, mindfulness, and psychological well-being. It was predicted that resilience and mindfulness would be significant predictors of psychological well-being with higher levels of resilience and mindfulness predicting higher levels of psychological well-being. In addition, it was predicted that the presence of mindfulness meditation would make a significant contribution to an individual's level of mindfulness.

## Materials

Participants were required to complete a package of questionnaires comprising of The Warwick-Edinburgh Mental Well-being Scale (WEMWBS; Stewart-Brown & Janmohammed, 2008), which measures aspects of positive mental health, The Freiburg Mindfulness Inventory (FMI; Walach et al., 2006), which measures an individual's experience of mindfulness, and The Connor Davidson-Resilience Scale (CD-RISC; Connor & Davidson, 2003), which measures resilience. A demographics questionnaire was also included where participants reported gender, education level, if they meditate or not, and if yes, for how long and the type of meditation. Participants either completed the questionnaires online or as a paper copy; no identifying details were recorded.

## Results

Participants' total scores for psychological well-being, mindfulness, and resilience were calculated by summing each item within each scale. A hierarchical regression tested the predictive ability of mindfulness and resilience on psychological well-being.

Mean and standard deviations for each variable can be seen in Table 1.

**Table 1**

*Number of Participants, Mean Scores, and Standard Deviations for Mindfulness, Psychological Well-being, and Resilience*

	<i>N</i>	<i>M</i>	<i>SD</i>
Mindfulness	141	37.55	6.55
Psychological Well-being	141	50.21	8.70
Resilience	141	90.72	12.59

*Note: N= Number of Participants, M= Mean Score, SD= Standard Deviation*

Table 2 shows the correlation matrix for the predictor and criterion variables. The value of each Pearson's correlation coefficient is shown with the corresponding significance value. It can be seen mindfulness and resilience are significantly correlated,  $r = .67$ ,  $p < .000$ .

**Table 2**

*Pearson Correlation Coefficients for Predictor and Criterion Variables*

	Mindfulness	Psychological Well-being
Psychological Well-being	.62*	
Resilience	.67*	.68*

\* Correlation is significant at  $p < .000$

A hierarchical regression found as predicted that mindfulness and resilience were significant predictors of psychological well-being  $F(1, 139) = 121.96$ ,  $p < .000$ , and  $F(2, 138) = 73.76$ ,  $p < .000$  respectively. When used as predictors in the regression model, both resilience (model 1) and mindfulness (model 2) were found to have large correlations with the criterion variable as can be seen by the  $R$  values in Table 3. Furthermore, Table 3 shows the adjusted  $R^2$  values, which were all found to be moderately sized and significant. Resilience accounted for 47% of the total outcome variance, and mindfulness accounted for 5% of the total outcome variance of the psychological well-being model. Model 2 shows that combined, resilience and mindfulness accounted for 51% of the total variance in the psychological well-being model.

**Table 3**

*The Regression Models for the Predictor Variables (Resilience and Mindfulness) and the Criterion of Psychological Well-being*

	$R$	Adjusted $R^2$	$R^2$ Change	df1	df2	$p$
Model 1a	.68	.46	.47	1	139	<.000
Model 2b	.72	.51	.05	1	138	<.000

- Predictors: (Constant), Total Resilience
- Predictors: (Constant), Total Resilience, Total Mindfulness

Table 4 shows the standardized coefficients ( $\beta$ ) for the regression model. Of the predictor variables in the regression model, both resilience and mindfulness were found to be significant predictors; however, resilience was found to be the variable contributing most highly to the regression model of psychological well-being with a standardized coefficient of .68.

**Table 4**

*Coefficients for Regression Models showing Size of Significant Predictor Variable (Resilience and Mindfulness)*

		<i>B</i>	<i>SE</i>	$\beta$	95% CI for <i>B</i>
Model 1	Constant	7.39	3.91		[-.35, 15.13]
	Resilience	.47	.04	.68*	[.39, .56]
Model 2	Constant	4.97	3.80		[-2.54, 12.48]
	Resilience	.34	.06	.49*	[.23, .44]
	Mindfulness	.40	.11	.30*	[.19, .60]

\* $p < .000$

A simple linear regression was run to determine if meditation predicts mindfulness. The results show that meditation accounted for a significant 5% of the variance in mindfulness,  $R^2 = .05$ ,  $F(1,139) = 7.96$ ,  $p = .005$ . Furthermore the regression model for mindfulness can be seen in Table 5. Results indicate that, when used as a dichotomous variable in the regression model, the presence of meditation makes a significant contribution to an individual's level of mindfulness as shown by the standardized coefficient of .23.

**Table 5**

*Coefficients for Regression Model of Mindfulness showing size of Significant Predictor Variable (Meditation)*

		<i>B</i>	<i>SE</i>	$\beta$	95% CI for <i>B</i>
Model 1	Constant	36.68	.615		[35.47, 37.9]
	Meditation	3.59	1.27	.23*	[1.07, 6.10]

\* $p = .005$

## Discussion

The aim of the current study was to further our understanding of the relationship between resilience, mindfulness, and psychological well-being. The results found strong associations between all three variables with mindfulness and resilience significantly predicting psychological well-being, with resilience accounting for the greatest amount of variance when compared to mindfulness. These results support previous research, which found that mindfulness increases positive psychological well-being (Ryan & Deci, 2001) and resilience predicts psychological well-being (Souri & Hasanirad, 2011).

The results from the current study also revealed that meditation influences levels of mindfulness. These results support the use of mindfulness-based interventions with meditation components to increase levels of mindfulness (Pidgeon, Ford, & Klaassen, 2013; Segal, Williams, & Teasdale, 2002). However, the authors acknowledge that not all forms of meditation are equal or interchangeable, and in addition, as the sample of participants was very small, it is recommended that future research replicate this study with a larger sample of participants who meditate, with categories discriminating between different forms of

meditation. Therefore, the association between meditation and mindfulness found in the present study is valuable to the development of further research exploring this association.

Within the regression model of psychological well-being, of particular interest is the predictive ability of resilience on psychological well-being. In the past, resilience has been acknowledged by psychological well-being theory as a protective factor of positive thoughts and healthy personality characteristics (Flach, 1988). Results from the current study found resilience to predict psychological well-being, a finding, which provides new insight into the construct of psychological well-being.

A number of limitations must be considered when examining these results. Firstly, while the findings of the present study are theoretically grounded, the variables were not manipulated in an experimental design. As such, the researchers acknowledge that there may be other variables, which are operating within the relationships found that may be having a great influence on the results. Furthermore, as the current study relied only on self-report methods of data collection, construct validity was limited due to mono-operation and mono-method bias (Shadish, Cook, & Campbell, 2001). This method of data collection has the potential to influence results, including the risk of response bias if participants perceived the questionnaires to be negatively or positively worded. Therefore, it is recommended that future studies use other methods of measuring these variables to reduce this limitation of shared method variance. Finally, as the majority of participants in the sample were undergraduate females, generalisability of the results is limited. A suggestion for future work would be to investigate whether similar findings are found using different populations.

The current findings have implications for future research to expand upon current knowledge of the factors that influence resilience and psychological well-being. Given that mindfulness and resilience are significant predictors of psychological well-being, and meditation is a significant predictor of mindfulness, it is recommended that future studies use experimental methods to replicate these findings to gain a more comprehensive understanding of these relationships. Findings from this study show support for developing programs for university students that target cultivating resilience and mindfulness to increase their ability to effectively manage the complex challenges and competing demands of university life.

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