



The relationship between trait mindfulness, loneliness, regulatory emotional self-efficacy, and subjective well-being

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ABSTRACT

This study examined the relationship between trait mindfulness, loneliness, regulatory emotional self-efficacy, subjective well-being, and the influence of trait mindfulness on loneliness. The participants were 600 college students who completed several scales; the Mindful Attention Awareness Scale, The Scale of Regulatory Emotional Self-efficacy, the General Well-Being Schedule, and the Loneliness Scale. It was found that trait mindfulness could significantly but negatively predict college student loneliness.

1. Introduction

Hawkey and Cacioppo (2010) defined loneliness as a painful feeling that indicates that a person's social needs are not being quantitatively or qualitatively met (Hawkey and Cacioppo, 2010). There has been significant long-term research into loneliness in the field of psychology, with many empirical studies finding that loneliness was a risk factor for many negative life outcomes such as depressive symptoms (Cacioppo, Hawkey, & Thisted, 2010), poor health (Caspi, Harrington, Moffitt, Milne, & Poulton, 2006), and mortality (Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015), and was closely related to college student mobile phone addiction, sleep problems and suicidal ideation (He et al., 2018; Moeller & Seehuus, 2019). Therefore, as loneliness is closely related to many negative emotions and behaviors in college students, reducing loneliness could assist in their healthy growth and also contribute to the harmonious development of schools and society.

Mindfulness is a state of mind or trait that is characterized by being aware and attentive to present-moment thoughts and sensations while at the same time adopting an accepting, non-judgmental stance towards those experiences (Kabat-Zinn, 2003). Persons with high levels of trait mindfulness are able to attend to present moment experiences and be aware of their automatic reactions, which allows them to remain non-reactive when faced with distressing thoughts, emotions, or somatic sensations (Brown, Ryan, & Creswell, 2007). There has been increased interest in the cognitive neuroscience of mindfulness over the last decade (Tang et al., 2015) mainly because of its known cognition, health, and well-being benefits (Chiesa and Serretti, 2009; Chiesa et al., 2011; Sedlmeier et al., 2012). As mindfulness training or mindfulness

meditation training has been found to reduce a sense of loneliness (Tu and Zhang, 2015; Rosenstreich, 2015), there is now a presumed relationship between mindfulness and loneliness. While mindfulness is seen as a skill that needs to be cultivated through practice, untrained individuals have been found to have widely varying trait mindfulness levels (Lim et al., 2018). However, there have been few studies on the relationships between trait mindfulness and loneliness in China.

Some studies have found that regulatory emotional self-efficacy can significantly and negatively predict an individual's loneliness experiences (Weim, 2005), while studies have found mindfulness to be significantly and positively correlated with positive emotional efficacy and the management of negative emotional efficacy (Zhang, 2019; McLaughlin, 2019). Subjective well-being has also been found to be negatively correlated with loneliness, with people who have stronger subjective well-being experiencing less loneliness (Ye, 2015; Akdoğan and Çimşir, 2019). The relationship between mindfulness and subjective well-being has received recent attention (Hanley, 2015). For example, Chang (2015) found that mindfulness was significantly and positively correlated with subjective well-being and that mindfulness could positively predict subjective well-being. In line with these recent studies, this study explored the relationship between trait mindfulness, loneliness, regulatory emotional self-efficacy and subjective well-being in a sample of Chinese college students, and then assessed the influence of trait mindfulness on loneliness.

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2. Methods

2.1. Participants

Six hundred college students from a Chinese university in Sichuan province were selected using random cluster sampling to complete the study questionnaire. After the exclusion of 34 invalid questionnaires, 566 valid questionnaires were analyzed, an effective rate of 94.33%. Of the respondents, 34 (6%) were freshmen, 188 were sophomores, 126 were juniors, 216 were seniors, 378 were female, and 188 were male. All respondents were between 17 and 25 years old, with the mean age being 20.28 ± 1.2 . Participants were given full instructions and all gave written informed consent before inclusion in the study. This study was approved by the Human Ethics Committee of Sichuan University.

2.2. Research tools

2.2.1. Mindful Attention Awareness Scale (MAAS)

The Chinese version of the Mindfulness Attention Awareness Scale was revised by Chen, Cui, and Zhou (2012) to measure mindfulness based on "current attention and awareness", for which there are 15 items, each of which is scored from 1 to 6, with high scores indicating higher levels of awareness and attention. Therefore, in this study, the MAAS total score was used as an indication of the respondents' mindfulness levels. The Cronbach's α coefficient for the MAAS in this study was 0.748, which was considered reasonable.

2.2.2. The Regulatory Emotional Self-Efficacy Scale (RESES)

In this study, the Chinese version of the Regulatory Emotional Self-efficacy Scale revised by Zhang (2010) was used, which has three dimensions and a total of 12 items measured on a 5-point Likert type scale, with higher scores indicating stronger emotional self-efficacy regulation. This questionnaire has been previously found to have good reliability and validity. The Cronbach's α for this scale in this study was 0.779.

2.2.3. General Well-Being Schedule (GWB)

This study used the General Well-Being Schedule, which has six dimensions: satisfaction and interest in life, health concerns, energy, depression or pleasant mood, control of emotions and behavior, and relaxation and tension: with higher scores indicating higher levels of subjective well-being. The Cronbach's α for this scale in this study was 0.758.

2.2.4. Loneliness Scale, University of California, Los Angeles (UCLA)

This study also used the Loneliness Scale (UCLA 3rd Edition 1996) compiled by Russell et al., which has 11 items, with each item being scored from 1 (never) to 4 (always), and nine of which (1, 5, 6, 9, 10, 15, 16, 19, and 20) use reverse scoring. The total loneliness score, therefore, is the sum of the scores for each question, with the higher the score, the higher the degree of loneliness. The Cronbach's α value for this scale in this study was 0.842.

2.3. Statistical methods

Descriptive statistics, correlation analysis and regression analysis were applied using SPSS22.0.

3. Results

3.1. Common method deviation test

To control for common method bias, the data collection process was controlled using mature scales and by explaining the anonymity and confidentiality of the study to the participants. Harman's single factor test found that the unrotated principal component analysis had a total

Table 1

Correlation analysis results of mindfulness, regulatory emotional self-efficacy, subjective well-being and loneliness ($N = 566$).

	M	SD	1	2	3	4
1.Mindfulness	55.954	9.995	–			
2.RESE	41.120	6.414	0.302**	–		
3.SWB	76.237	11.534	0.335**	0.449**	–	
4.loneliness	46.237	7.679	0.346**	0.395**	0.607**	–

Note: * $P < 0.05$.

** $P < 0.01$.

*** $P < 0.001$.

RESE: regulatory emotional self-efficacy.

SWB: subjective well-being.

of 26 factors with eigenvalues greater than 1, and that the first factor explained a 15.655% variation, which confirmed that there was no serious common method bias.

3.2. Descriptive statistics and correlation analysis between variables

The Pearson's Product-Moment correlation analysis (Table 1) showed that: there was a significant negative correlation between mindfulness and loneliness; mindfulness was significantly positively correlated with regulatory emotional self-efficacy and subjective well-being; regulatory emotional self-efficacy was significantly negatively correlated with loneliness and positively correlated with subjective well-being; and subjective well-being was significantly negatively correlated with loneliness.

3.3. Trait mindfulness predicts loneliness

To examine the effect of trait mindfulness on loneliness, a stratified regression analysis was conducted in which gender, grade, regulatory emotional self-efficacy and subjective well-being were included as the control variables in the first step, trait mindfulness was the prediction variable in the second step, and loneliness was the outcome variable, from which it was found (Table 2) that trait mindfulness significantly and negatively predicted loneliness.

4. Discussion

College student mental health has been an important research topic in psychology (Auerbach et al., 2016; Mortier, Auerbach, et al., 2017), primarily because a person's college years are the peak period for the onset of many common mental disorders associated with mood, anxiety, and substance abuse (De Girolamo, Dagani, Purcell, Cocchi, & McGorry, 2012; Kessler et al., 2007). As loneliness has been found to be a significant risk factor in many negative emotions and behaviors (Pfund and Miller-Perrin, 2019), college student loneliness research could assist in the development of university level counselling strategies.

This study investigated the relationship between trait mindfulness,

Table 2

Regression model of mindfulness and loneliness ($N = 566$).

	Model 1			Model 2		
Variable	B	t	P	B	t	P
Gender	0.252	0.459	.646	0.595	0.037	.278
Grade	–0.305	–1.157	.248	–0.320	–1.234	.218
RESE	–0.178	–3.961	.000	–0.140	–3.086	.002
SWB	–0.358	–14.295	.000	–0.337	–13.355	.000
Mindfulness				–0.112	–4.076	.000
ΔF	88.914***			16.610***		
ΔR^2	0.389***			0.018***		

1 = men, 2 = women.

loneliness, regulatory emotional self-efficacy and subjective well-being, and found that all four measured variables were pairwise correlated, which confirmed the results of previous studies (Weim, 2005; Zhang, 2019; Akdoğan and Çimşir, 2019). After controlling for gender, grade, regulatory emotional self-efficacy, and subjective well-being, it was found that trait mindfulness negatively predicted loneliness, which confirmed that mindfulness training could positively affect loneliness and that trait mindfulness was present in most people (Lim et al., 2018). Therefore, future studies should account for the participants' trait mindfulness to reduce errors (Tu and Zhang, 2015). As this study only conducted a cross-sectional study on the influence of trait mindfulness on college student loneliness, it was not clear whether there were any causal relationships. In future studies, longitudinal intervention studies should be conducted and intermediate models established to further explore the internal mechanisms.

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Supplementary materials

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