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## **DISPOSITIONAL MINDFULNESS, SELF-ESTEEM, SUBJECTIVE WELL-BEING, AND MENTAL HEALTH: CROSS-CULTURE STUDY**

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**ABSTRACT**

*Several countries have studied dispositional mindfulness, self-esteem, subjective well-being, and mental health in their populations. However, a cross-cultural comparison of these constructs has not yet been conducted. The current study aimed to examine the role of these variables in three countries. A total of 764 college students from China, Indonesia, and Yemen were recruited to answer the Mindful Attention Awareness Scale (MAAS), Rosenberg Self-Esteem (RSES), Subjective Well-Being (SWB), Beck Depression Inventory-II (BDI-II), Trait Anxiety Scale (STAI), General Health Questionnaire (GHQ). The results showed that the Chinese students had higher dispositional mindfulness, self-esteem, and subjective well-being than the Indonesian and Yemeni students; in contrast, the Yemeni students reported higher mental health than the Chinese and Indonesian students. Further analysis revealed that self-esteem mediated the association between mindfulness and subjective well-being and mental health. According to moderation analysis, the country moderated the relationship between dispositional mindfulness and subjective well-being and mental health.*

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**KEYWORDS:** *Dispositional mindfulness, Self-esteem, Subjective well-being, Mental health.*

## **INTRODUCTION**

Over the last three decades, interest in the notion of mindfulness has grown (Bishop et al. 2004), with mindfulness thought to bring about fundamental changes in a person's assessment and belief systems (Kabat-Zinn, 1990). Looking at oneself with openness and acceptance is part of the more comprehensive mindful approach of being open and accepting. In addition, people who have a high level of mindfulness often show the qualities of compassion, acceptance and, empathy towards themselves and others, have advanced personal skills, communicate more effectively with others, and have a better lifestyle compared to those who do not have a high level of mindfulness (Burgoon et al., 2000; Feltman, Robinson, & Ode, 2009). Where individual deals with stimuli around him attentively and consciously by observing his thoughts, emotions, and feelings, living moment by moment with her, opening up to new experiences and communicating with them, which contributes to the self-behavioral organization of the individual, and give him the ability to make adaptive choices about different responses (Elder, 2010; Stoops, 2005).

Mindfulness has been linked to positive physical and psychological results in numerous studies and decreased levels of depression and stress, as well as lower levels of anxiety and psychological distress (Alzahrani et al., 2020), and high psychological and subjective well-being (Hanley, Warner & Garland, 2015; Nabulsi, 2015). In addition, mindfulness increases self-esteem (Ford, 2019; Rasmussen & Pidgeon, 2011; Randal, Pratt, & Bucci, 2015). At the same time, mindfulness plays a significant role as a predictor of well-being and mental health indicators such as anxiety and depression, and self-esteem plays a role in either strengthening or weakening these associations. However, no cross-cultural study has focused on whether self-esteem mediates the association between dispositional mindfulness and subjective well-being and mental health across cultures. As a result, in a sample of university students from three nations, this study investigates whether self-esteem can mediate the association between dispositional mindfulness and subjective well-being and mental health (China, Indonesia, and Yemen).

### **Dispositional mindfulness and subjective well-being**

Mindfulness has been defined as a mood, a collection of abilities, and a personality attribute. (Randal, Pratt, & Bucci, 2015). Dispositional mindfulness refers to attention and nonjudgmental focus on the present moment (Garland & Howard, 2013). This ability can be developed through mindfulness training (Birrer, Ruthlin, & Morgan, 2012) and can also occur in different populations, regardless of mindfulness practices (Brown, Ryan, & Creswell, 2007; Kabat-Zinn, 1990). One focuses on the present

moment experiences rather than imagining the future or rehashing the past when practicing mindfulness. Sensations and emotions are perceived intentionally without judging whether they are good or bad and right or wrong. Therefore, people who have a higher level of mindfulness show higher quality of compassion, acceptance and, empathy towards themselves and others, have advanced personal skills, communicate more effectively with others, and have a better lifestyle (Burgoon, Berger, & Waldron, 2000; Feltman et al. 2009). The success of these interventions has led to an increased theoretical interest in the concept of mindfulness, leading to the exploration of mindfulness as an inherent human trait or ability. According to research, dispositional mindfulness is known as a trait of awareness (Brown et al., 2007; Kabat-Zinn, 1990), which appears to provide a variety of mental health benefits (Keng et al., 2011). For example, research has found a link between dispositional mindfulness and happiness (Bajaj, Gupta & Pande, 2016a; Keng et al., 2011).

Subjective well-being is the study of happiness and life satisfaction that enables people to judge their cognitive and emotional status in life. Life satisfaction, which relates to an individual's cognitive assessment of the quality of life, is a component of subjective well-being. Positive and negative emotions describe a person's subjective emotional perception of life quality (Diener & Suh, 2000; Feng et al., 2012). Mindfulness facilitates undoing discomfort and increasing attention and awareness (Teasdale et al., 1995), which enhances good emotions and promotes well-being and meaning in life, according to Mindfulness-to-Meaning Theory (Brown and Ryan, 2003; Coffey and Hartman, 2008; Garland et al., 2015).

Furthermore, because the relationship between mindfulness and well-being has gotten much attention from researchers, multiple mindfulness studies have found that dispositional mindfulness is a good predictor of happiness. For example, Hanley, Warner, and Garland (2014) found that mindfulness is linked to psychological and subjective well-being and that higher levels of mindfulness are connected with higher levels of psychological and subjective well-being. Another study conducted by Nabulsi (2015) revealed that mindfulness predicts subjective well-being. Our study investigates the association of dispositional mindfulness on subjective well-being among university students of three different cultures (China, Indonesia, and Yemen).

### **Dispositional mindfulness and mental health**

In recent years, there has been a surge in a study into the role of dispositional mindfulness in boosting mental health, notably reducing anxiety and depression, two critical mental health markers (Steel, Marnane, Iranpour, et al., 2014). Depression is a common mental disorder worldwide (Lépine & Briley, 2011). This disorder is a significant public health problem with consequences for affected people and their family members and society, with extremely high economic costs in using services and

lost productivity (Cassano & Fava, 2002). The most common symptoms of depression are the mood of persistent depression that may last for a few days or perhaps months. The physical and cognitive changes that affect the individual daily include loss of general interest, exposure to stress, low self-esteem, irritability, loss of appetite, sleep disturbances, and feeling tired (American Psychiatric Association, 2013). At the same time, anxiety defines as an active psychophysiological and behavioral state (Spielberger, 1975; Beck, Laude & Bohnert, 1974). The literature had distinguished between trait anxiety and state anxiety. The anxiety trait means a tendency to feel anxious and not necessarily anxious at present, while anxiety states that the person suffers from anxiety (Glanzman & Laux, 1978; Spielberger, 1972; Endler & Magnusson, 1976).

Studies have found a link between dispositional mindfulness and psychopathological symptoms such as depression (Barnhofer et al., 2011; Bränström et al., 2011; Jimenez et al., 2010; Marks et al. 2010), and anxiety (Marks et al. 2010). (He et al., 2015). In addition, other studies such as (Bowlin & Baer, 2012; Coffey & Hartman, 2008; Fabrice et al., 2019; Mahali, Beshai & Wolfe, 2020; Tang et al., 2007; Williams, 2008) showed that mindfulness relates to lower levels of stress, depression, anxiety, and psychological distress. Studies also indicated that high mindfulness scores might associate with lowering fibromyalgia impact, pain interference, stress, anxiety, depression, and better mental health-related quality of life (Pleman et al., 2019), and buffered the effects of perceived stress on anxiety and depression (Bergin and Pakenham, 2016). This study examines the association of dispositional mindfulness on mental health among Chinese, Indonesian, and Yemeni university students.

### **Self-esteem as a mediator**

Self-esteem is a one-dimensional construct that relates to a person's assessment and a general sense of self-worth toward himself or herself (Rosenberg, 1965; Waterman, 1992). Self-esteem is a reasonably stable personality attribute that varies from person to person and is linked to a variety of positive psychological consequences (Diener, Emmons, Larsen, & Griffin, 1985; Leary & MacDonald, 2003). Therefore, research has provided increasing evidence about the relationship between mindfulness and self-esteem as the most critical mental health and well-being predictors. In addition, mindfulness is a helpful way to address low self-esteem by promoting positive views of self and focusing on achievement. Randal, Pratt, and Bucci (2015) showed that most empirical studies evaluating the role of mindfulness on self-esteem concluded that mindfulness raised self-esteem significantly. Mindfulness was found to predict high levels of self-esteem in several studies (Ford, 2019; Pepping, O'Donovan & Davis, 2013; Rasmussen & Pidgeon, 2010).

Two research looked into the function of self-esteem in mediating the relationship

between mindfulness and happiness and anxiety and depression. Bajaj, Robins, and Pande (2016) conducted the first study, which looked at the impact of self-esteem in mediating the connection between mindfulness and well-being among 318 Indian university students. Self-esteem was found to fully mediate the association between mindfulness, positive affect, and mental well-being in the study. In their second study, Bajaj, Gupta, and Pande (2016) evaluated the impact of self-esteem in mediating the relationship between mindfulness and anxiety and depression among 417 Indian university students. The study's findings revealed that self-esteem had a role in mediating the link between mindfulness and anxiety and depression. That is to say, mindfulness is a strong predictor of happiness and mental health indicators like anxiety and sadness, and self-esteem plays a role in building or weakening these relationships. In a sample of university students from three countries, we assess whether self-esteem will regulate the association between dispositional mindfulness and subjective well-being and mental health (China, Indonesia, and Yemen).

### **This research**

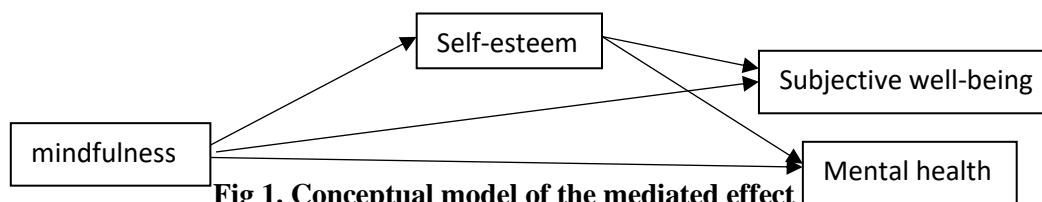
The current study belongs to the comparative, cross-cultural studies, which helps to understand the psychology of different peoples compared to each other by enhancing and expanding our knowledge beyond our surrounding context, including a global perspective in understanding human behavior (Papayiannis & Anastassiou-Hadjicharalambous, 2011). The study aimed (a) to examine the differences between college student's mindfulness levels, self-esteem, subjective well-being, and mental health in three countries (China, Indonesia, and Yemen), (b) to investigate the relationship between these variables and the mediation role of self-esteem in the relationship between dispositional mindfulness, subjective well-being, and mental health (Figure 1 illustrates the suggested mediation model), and (c) to investigate whether the country moderates the relationship between dispositional mindfulness, subjective well-being, and mental health (Figure 2 illustrates the suggested moderation model); so our hypotheses are as following:

### **RESEARCH OBJECTIVES**

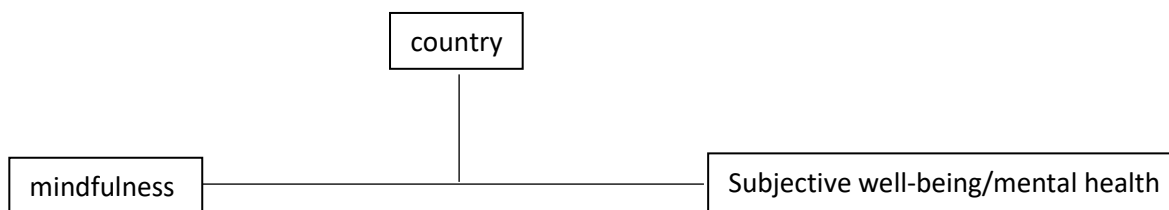
1. To examine the differences between college student's mindfulness levels, self-esteem, subjective well-being, and mental health in three countries (China, Indonesia, and Yemen).
2. To investigate the relationship between these variables and the mediation role of self-esteem in the relationship between dispositional mindfulness, subjective well-being, and mental health.
3. To investigate whether the country moderates the relationship between dispositional mindfulness, subjective well-being, and mental health.

**RESEARCH HYPOTHESES**

1. Chinese, Indonesian, and Yemeni students’ mindfulness levels, self-esteem, subjective well-being, and mental health will differ.
2. In the three cultures, self-esteem mediates the relationship between dispositional mindfulness and subjective well-being and mental health.
3. We predict a change in the associations between each culture's dispositional mindfulness, subjective well-being, and mental health.



**Fig 1. Conceptual model of the mediated effect**



**Fig 2. Conceptual model of the moderated effect**

**RESEARCH METHODOLOGY**

**Participants**

764 undergraduate or postgraduate students ( $N_{male} = 348$ ,  $M_{age} = 22.17$ ,  $SD_{age} = 4.02$ ) from Asia participated in the study. 54.1% were from China, 30.8% were from Indonesia, and others were from Yemen. 45.9% of the participants were atheists, and 45.8% were Muslims. Voluntary participants were recruited through the online platform. Moreover, they were paid to complete a series of online measurements. The academic committee approved the study at Shandong Normal University.

**Measurements**

**Mindfulness.** The 15-item Mindful Attention Awareness Scale (MAAS) has been used to assess mindfulness characteristics (Brown & Ryan, 2003). Each item was rated using a 6-pointed Likert-type scale, ranging from 1 (almost always) to 6 (almost never). Negatively phrased items were inverted, with higher scores indicating greater

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awareness. Cronbach's alpha was 0.77 in this study.

- Self-esteem. The ten-item Rosenberg Self-esteem Scale (RSES) has been used to assess mindfulness attributes (Rosenberg, 1965). Each item was rated using a 4-pointed Likert-type scale, ranging from 1 (strongly agree) to 4 (strongly disagree). Cronbach's alpha was 0.83 in this study.

- Depression. The Beck Depression Inventory-II (BDI-II) is a 21-item questionnaire that has been used to evaluate depression (Beck, Steer & Brown, 1996). Each item was rated using a 4-pointed Likert-type scale, ranging from 1 (do not feel guilty) to 4 (I feel guilty at any time). Cronbach's alpha was 0.92 in this study.

- Anxiety. The twenty-item Trait Anxiety Scale (STAI) has been used to assess trait anxiety (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). Each item was rated using a 4-pointed Likert-type scale, ranging from 1 (No or little time) to 4 (Most or all of the time). Cronbach's alpha was 0.88 in this study.

- Subjective Well-being. There are two scales on the Subjective Well-Being Scale (SWB). The Pleasure with Life Measure (SWL; Diener et al., 1985) is the first scale, which uses five items to assess an individual's satisfaction with life. Each item was rated using a 7-pointed Likert-type scale, ranging from 1 (Strongly disagree) to 7 (Strongly agree). Cronbach's alpha was 0.86 in this study. The second scale, which has nine items, is the positive and negative emotions scale. Each item was rated using a 7-pointed Likert-type scale, ranging from 1 (Totally inconsistent) to 7 (Totally Suitable). Cronbach's alpha was 0.56 in this study.

- General health. The GHQ (General Health Questionnaire) is a 12-item questionnaire that has been used to assess general health. Each item was rated using a 4-pointed Likert-type scale, ranging from 1 (Better than usual) to 4 (Much less than usual). Cronbach's alpha was 0.84 in this study.

## **DATA ANALYSIS AND RESULTS**

Before the statistical test, we combined anxiety, depression, and general health scores to indicate mental health. Peterson's correlation test was used to find correlations between variables. The PROCESS macro (version 3.5; Hayes, 2013) on SPSS was used to conduct the mediation and moderation analyses. In the models of this study, the mediated and moderated effects were examined using 5000 bootstraps re-samples to produce 95% confidence intervals (Hayes, 2013).

### **Descriptive Statistics and Correlation Analysis**

Table 1 shows descriptive statistics and correlations. For the main study variables,

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dispositional mindfulness positively relates to self-esteem and subjective well-being and negatively relates to mental health.

**Table 1:** Descriptive statistical results and correlations among study variables (N = 764).

	Country	M	SD	1	2	3	4
<b>1. mindfulness</b>	China	58	8.76	1			
	Indonesia	47	9.80	-			
	Yemen	52	12.61	764			
<b>2. self-esteem</b>	China	28	5.16	.432**	1		
	Indonesia	22	3.06	.000	-		
	Yemen	23	3.17	764	764		
<b>3. subjective well-being</b>	China	26	13.88	.441	.629	1	
	Indonesia	19	11.13	.000	.000	-	
	Yemen	16	9.28	764	764	764	
<b>4. mental health</b>	China	86	18.08	-.325**	-.429**	-.564	1
	Indonesia	91	22.54	.000	.000	.000	-
	Yemen	100	18.01	764	764	764	764

**M: mean; SD: standard deviation; N = 764.**

**\*\*:** p < 0.01.

**Differences Analysis**

ANOVA One-way analysis showed differences in distortional mindfulness, self-esteem, subjective well-being, and mental health according to country. Mindfulness showed statistically significant differences (F = 99.14, p = 0.000) between the three countries. Also, self-esteem (F = 143.71, p = 0.000), subjective well-being (F = 208.70, p = 0.000), and mental health (F = 24.44, p = 0.000) showed statistically significant differences between the three countries. However, Post -Hoc showed no differences between Indonesian and Yemeni in self-esteem (p = 0.263). Chinese students endorsed higher dispositional mindfulness (M = 58, SD = 8.76), self-esteem (M = 28, SD = 5.16), and subjective well-being (M = 26, SD = 13.88), than Indonesian and Yemeni students; in contrast, Yemeni students endorsed higher mental health (M = 100, SD =

18.01) than Chinese and Indonesian students.

### Mediation Analysis

To see if self-esteem functions as a mediator between mindfulness, subjective well-being, and mental health, two mediation studies were done. Self-esteem was employed as a mediator of the connection between dispositional mindfulness and subjective well-being in the first study. The total effect of dispositional mindfulness on subjective well-being was significant, according to the findings ( $\beta = .66$ ,  $SE = .04$ ,  $p < .05$ , 95% CI = [.568, .671]). There was a significant direct effect of dispositional mindfulness on subjective well-being ( $\beta = .31$ ,  $SE = .04$ ,  $p < .05$ , 95% CI = [.223, .403]). Overall, dispositional mindfulness had a significant indirect effect on subjective well-being ( $\beta = .35$ ,  $SE = .03$ ,  $p < .05$ , 95% CI = [.284, .422]). The mediating effect of self-esteem was significant ( $\beta = 14.94$ ,  $SE = .08$ ,  $p < .05$ , 95% CI = [13.297, 16.590]).

Self-esteem was employed as a mediator of the association between dispositional mindfulness and mental health in the second study. According to the findings, dispositional mindfulness has a significant impact on mental health ( $\beta = -.59$ ,  $SE = .06$ ,  $p < .05$ , 95% CI = [-.721, -.473]). The direct effect of dispositional mindfulness on mental health was significant ( $\beta = -.31$ ,  $SE = .06$ ,  $p < .05$ , 95% CI = [-.445, -.186]). Overall, dispositional mindfulness had a significant indirect effect on mental health ( $\beta = -.28$ ,  $SE = .03$ ,  $p < .05$ , 95% CI = [-.349, -.219]). The mediating effect of self-esteem was significant ( $\beta = 12.20$ ,  $SE = 3.47$ ,  $p < .05$ , 95% CI = [115.376, 129.035]).

### Moderation Analysis

Two moderation analyses were conducted to determine whether land acts as a moderator between mindfulness, subjective well-being, and mental health. The first analysis used country as a moderator for the association of dispositional mindfulness on subjective well-being; the overall model was significant,  $F(1, 760) = 39.317$ ,  $p = .000$ ,  $R^2 = 0.02$ . The interaction between mindfulness and country,  $b = -.36$ ,  $t(760) = -6.27$ ,  $p = .000$  was significant. Mindfulness was a significant predictor of subjective well-being,  $b = 0.49$ ,  $t(760) = 10.99$ ,  $p = .000$ ; indicating that the presence of mindfulness predicts a student's subjective well-being. The main effect of country was significant,  $b = -10.21$ ,  $t(760) = -15.53$ ,  $p = .000$ .

The second moderation looked at mental health as an outcome to see if nation influenced the link between mindfulness and mindfulness. The model as a whole was significant,  $F(1, 760) = 6.07$ ,  $p = .013$ ,  $R^2 = 0.006$ . The interaction between country and dispositional mindfulness,  $b = .21$ ,  $t(760) = 2.46$ ,  $p = .013$  was significant. Mindfulness was a significant predictor of mental health,  $b = -0.54$ ,  $t(760) = -8.03$ ,  $p = .000$ . Indicating that the presence of mindfulness predicted students' mental health. The main effect of country was significant,  $b = 4.01$ ,  $t(760) = 4.09$ ,  $p = .000$ .

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**DISCUSSION**

The results showed that Chinese students reported higher dispositional mindfulness, self-esteem, and subjective well-being than Indonesian and Yemeni students; this is consistent with studies (Cai, Wu & Brown, 2010; Schmitt & Allik, 2005) showed that Chinese reported high levels of self-esteem. In contrast, Yemeni students reported higher levels of mental health than Chinese and Indonesian students; this is partly consistent with the studies of Al-Dbyani (2021a) and Al-Dbyani (2021b), which showed that Yemeni students in China showed low levels of mindfulness and had many psychological problems such as loneliness, anxiety, depression, and stress.

The results also showed that dispositional mindfulness was positively related to self-esteem and subjective well-being and negatively related to mental health. This is consistent with the study Alabyadh; Abdel Azim (2020) which is more related dispositional mindfulness related to subjective well-being.

The results of the mediation analysis showed that self-esteem mediates the relation between mindfulness and subjective well-being and mental health; these results are consistent with the studies of Bajaj, Robins, & Pande (2016) and Bajaj, Gupta, & Pande (2016), which showed that self-esteem mediates the relationship between mindfulness and anxiety and depression, and positive affect and mental well-being. However, the results of moderation analysis also showed that the country moderates the relationship of dispositional mindfulness on subjective well-being and mental health.

The limitations of our study are: First, it is a cross-sectional design and the use of self-report to collect data. Second, the participants were college students in three countries; the research findings can be generalized to other countries. Third, only three indicators of mental health were selected in this study: Anxiety, Depression, and General Health. The representativeness of these three indicators is debatable, and whether there will be more representative indicators. Despite these limitations, this study has highlighted the importance of self-esteem in moderating the impact of mindfulness on mental health and subjective well-being. Furthermore, the study proves that mindfulness, self-esteem, subjective well-being, and mental health vary among college students from country to country, and country moderates the relationship between dispositional mindfulness, subjective well-being, and mental health.

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