

Loneliness and Psychological Well-Being: Examining Mindfulness and Presence of Meaning in Life as Multiple Mediators

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Abstract.

Concerning the importance of psychological well-being (PWB) on physical and mental health, this study aimed at exploring the effective factor on PWB. A multiple mediation analysis was used to investigate whether mindfulness and the presence of meaning in life mediate the predictive relationship between loneliness and PWB. An eligible sample of 412 completed four questionnaires including the De Jong Gierveld Loneliness Scale, the short version of Ryff Scales of PWB, the Mindful Attention Awareness Scale(MAAS), and the Meaning in Life Questionnaire (MLQ). Results demonstrated that loneliness led to a lower level of PWB by reducing mindfulness and the presence of meaning. Results also illustrated that the search for meaning could contribute to the model via contribution to the presence of meaning. It can be asserted that improving mindfulness traits and meaning in life can mitigate the disruptive effect of loneliness on PWB.

Keywords:loneliness, psychological well-being, mindfulness, meaning in life

1. Introduction

Psychological well-being (PWB) is associated with greater life satisfaction, fewer symptoms of depression and anxiety, more self-reported autonomy, relatedness, vitality, competence, life expectancy, and mental health (Koydemir, Sökmez, & Schütz, 2021; Vázquez, Hervás, Rahona, & Gómez, 2009). Studies demonstrated the beneficial effect of PWB not only on mental health but also on physical health (Hernandez et al., 2018; Klainin-Yobas et al., 2016). PWB has been evidenced to be an effective factor in reducing cardiovascular risks, lowering salivary cortisol throughout the day, lowering inflammatory responses, and improving the quality of sleep in American elderlies (Ryff, Singer, & Dienberg Love, 2004). Regarding the beneficial effects of PWB on mental and physical health, exploring the factors impacting PWB should be investigated.

Loneliness is a subjective feeling that commonly occurs in our lives and is experienced by a large population(Cacioppo et al., 2006; Lauder, Sharkey, & Mummery, 2004). Loneliness is defined as a painful feeling, indicating that a person's social needs are not being quantitatively or qualitatively met (Hawkey & Cacioppo, 2010). Loneliness is considered a potentially hazardous factor to human health (Lauder, Mummery, & Sharkey, 2006), and is also proven to be associated with poor mental health and decreased level of psychological well-being (Doman & Le Roux, 2010). Studies also demonstrated that there is a close association between loneliness and mobile phone addiction, sleep problems, and suicidal ideation(Moeller & Seehuus, 2019). Considering the negative effects of loneliness on mental health, identifying the function of loneliness on psychological well-being can be effective in mitigating its disruptive effects.

The nature of well-being has been one of the interesting issues in psychology. From a psychological point of view, the nature of well-being can be conceptualized in two terms: hedonic (i.e., the experience of pleasure) and eudaimonic (i.e., the experience of meaning). According to McMahan and Estes (2011), conceptualizing well-being in eudaimonic terms may be relatively more important for positive psychological functioning (McMahan & Estes, 2011). An eudaimonic view of well-being conceptualizes well-being in terms of realization of one's true potential (Ryff & Keyes, 1995), and the experience of purpose or meaning in life (Ryff, 1989). Social relations and interpersonal relationships were indicated as the key sources of meaning in life (King, Heintzelman, & Ward, 2016). While meaning in life corresponds to perceived support from family and friends (Stillman, Lambert, Fincham, & Baumeister, 2011), loneliness is considered as a reduction of perceptions of life as meaningful (N. M. Lambert et al., 2013). A cause-and-effect association has been proven between the perceived quality of social relationships and meaning in life (L. Lambert et al., 2020). However, no study investigated the mediating role of meaning in life in the relationship between loneliness and PWB.

Mindfulness is a psychological process of being aware and attentive to present-moment thoughts and sensations. In other words, mindfulness cultivates awareness and consciousness by paying attention to the present moment, and by adopting an accepting, non-judgmental stance towards those experiences (Germer, Siegel, & Fulton, 2013). According to White 2013, five major attributes of mindfulness consist of experience of being present, awareness, acceptance, attention, and transformative process (White, 2014). Mindfulness enables individuals to be aware of their automatic reactions, and thus to remain non-reactive when faced with distressing thoughts, emotions, or somatic sensations (Brown, Ryan, & Creswell, 2007). Studies demonstrated that mindfulness negatively correlated with depression, distress, anxiety, and stress (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006; Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007; Sarma, 2014), and mediated the predictive association between neuroticism and subjective well-being (Wenzel, von Versen, Hirschmüller, & Kubiak, 2015). The improving role of mindfulness on depression and well-being has been proven by some systematic reviews (Gu, Strauss, Bond, & Cavanagh, 2016). Mindfulness training or mindfulness meditation training has been evidenced to reduce the sense of loneliness (Tu & Zhang, 2015), therefore, it can be asserted that there is a presumed association between mindfulness and loneliness. Even though mindfulness can be cultivated through practice, there are widely varying levels of mindfulness among untrained individuals (Lim, Teng, Patanaik, Tandi, & Massar, 2018). However, studies did not consider mindfulness as a mediator between loneliness and PWB.

Base on research background, loneliness is assumed to negatively predict PWB. And it is presumed that mindfulness and meaning in life can moderate the predictive association between loneliness and PWB. In other words, loneliness reduces PWB by decreasing mindfulness and the presence of meaning in life. The covariate of searching for mean was investigated to the model. See the figure 1 for hypotheses in the study.

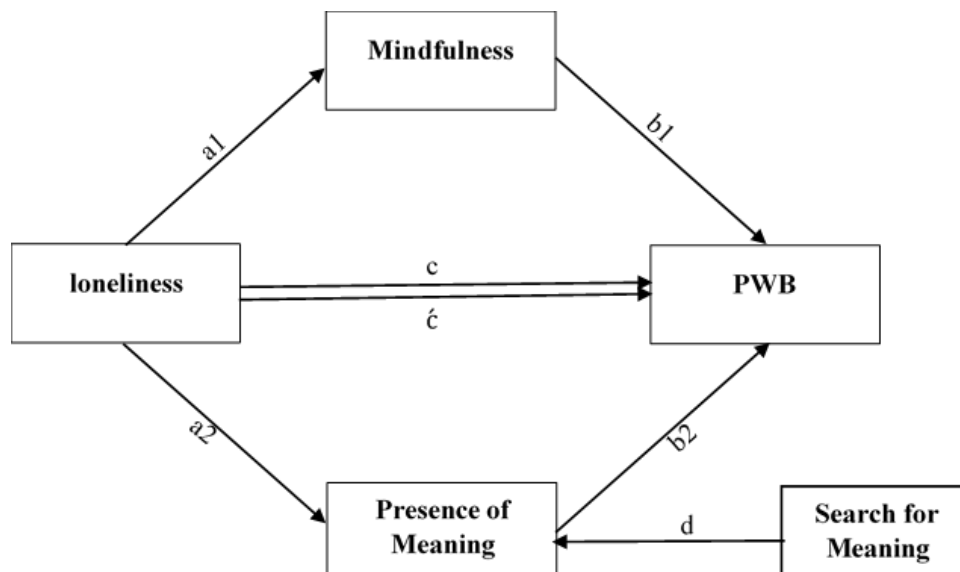


Figure 1. Multiple mediation model illustrating the association between loneliness and psychological well-being. The arrow marked with c denotes the total effect and the arrow marked with c' denotes the direct effect.

Hypotheses:

Hypothesis 1: The presence of meaning in life was hypothesized to mediate the predictive association between loneliness and PWB.

Hypothesis 2: It is hypothesized that mindfulness mediates the relationship between Loneliness and PWB.

Hypothesis 3: The search for meaning in life covariates to the model through the presence of meaning.

2. Materials and Methods

2.1. Participants and procedure

Google Forms platform was utilized to conduct the online survey. Participants were drawn from community-dwelling adults with access to the internet. The link to the survey was distributed through social networking sites, including WhatsApp™, Telegram™, and Instagram™. Participation was voluntary—the participants were informed that they could withdraw from the study at any time, and all the required ethical standards were maintained. Totally, 425 individuals participated in the survey. 13 questionnaires (0.03%) were not properly completed, thus, they were put aside. The sample consisted of 412 participants (77.4% were Female) aged 19 to 54 ($M = 27.8895$, $SD = 8.54$).

2.2. measures

Loneliness

De Jong Gierveld Loneliness Scale (De Jong-Gierveld & Kamphuls, 1985) was utilized to measure loneliness. The measure consists of 11 items with a 5-point Likert scale, from 1 = strongly agree to 5 = strongly disagree. Six items described a negative sense of lack of satisfaction with social contacts, whereas five items consist of positive statements, describing satisfaction with interpersonal relations. In this study, Cronbach's alpha for the whole scale was 0.89.

Psychological Well-Being (PWB)

The short version of Ryff Scales of Psychological Well-Being (PWB-18-items) with six sub-scales, including “self-acceptance,” “environmental mastery,” “positive relationships with others,” “purposefulness-in-life,” “personal growth,” and “autonomy.” This questionnaire was designed on a 6-point Likert scale (from 1=completely disagree to 6=completely agree). It has been validated for the Iranian community; Cronbach’s alpha was 0.83 for the whole scale and 0.65 to 0.75 for its six sub-scales(Sefidi & Farzad, 2012). In this study, the internal consistency using Cronbach's alpha was 0.89. for the whole scale, and were between 0.61 and 0.73 for its six sub-scales.

Mindfulness

The Mindful Attention Awareness Scale(MAAS)was used to measure mindfulness(Brown & Ryan, 2003). This 15-item scale measures trait mindfulness as a tendency to maintain receptive attention and a non-judgmental focus on the present moment on an everyday basis. It measures the structure of mindfulness on a 5-point Likert scale (from 1 for "almost always" to 6 for "seldom"). Internal consistency of this questionnaire based on Cronbach's alpha coefficient has been reported from 0.80 to 0.87. In this study, Cronbach’s alpha for the whole scale was 0.86.

Meaning in Life

Meaning in Life Questionnaire (MLQ) with 10 items was utilized for measuring meaning in life. This questionnaire consisted of two discrete subscales including the presence of meaning and the search for meaning. Each component contains 5 items. The first subscale_the Presence of Meaning_ relates to the already identified meaning in an individual’s life (e.g., “My life has a clear sense of purpose”). The second one—the Search for meaning_ subscale (e.g., “I am searching for meaning in my life”)—measures the motivation to seek meaning in life. In both subscales, the respondents give their answers using a 7-point Likert scale(From 1 = absolutely untrue to 7 absolutely true). In the current study, Cronbach’s alpha coefficients for the Presence and Search subscales were 0.89 and 0.83, respectively.

Data analysis

Descriptive statistics and correlations between the variables were calculated using SPSS26. For multiple mediation analyses, the PROCESS macro developed by Hayes (2017) Model 4 was used to test whether mindfulness and the presence of meaning were the mediators of loneliness and PWB(Hayes, 2017). In each of the mediation analyses, the search for meaning was included as covariates. And, 10,000 bootstraps resample were used to estimate the confidence intervals.

3. Result**3.1. Preliminary analyses**

Descriptive statistics (mean and standard deviation) and zero-order correlations for PWB, loneliness, mindfulness, presence of meaning, and search for meaning were illustrated in Table 1. The correlations between loneliness and all of the other variables were negative and significant. PWB was most correlated with mindfulness (0.66) and less correlated with the search for meaning (0.05)_not statistically significant. Whereas the search for meaning was significantly correlated with the presence of meaning, its correlation with other variables was not statistically significant.

Table 1: Mean, standard deviation, and zero-order correlations among the study variables.

	Mean	SD	1	2	3	4	5
1. PWB	4.64	0.59	1				

2. Loneliness	2.49	0.9	-	1			
		1	0.43**				
3. Mindfulness	4.23	0.8	0.66*	-0.45**	1		
		1	*				
4. Presence of meaning	4.60	1.4	0.29*	-0.43**	-0.38**	1	
		7	*				
5. Search for meaning	5.14	1.2	0.05	-0.07	0.06	-0.28**	1
		1					

* $p < 0.5$, ** $p < 0.01$

3.2. Multiple mediation analyses

To examine whether mindfulness and the presence of meaning can moderate the predictive association between loneliness and PWB, a parallel mediation model was conducted. The omnibus effect of variables on PWB was detected [$R=0.7368$, $R^2 =0.46$, $F(4,407) =86.61$, $p<0.000$]. Results indicated that the total effect ($b= -4.95-0.28$, $se=0.02$, $p<0.000$) and the direct effect ($b=-0.11$, $se=0.03$, $p=0.0001$) of loneliness on PWB were significant and negative. The direct effects of loneliness on mindfulness ($b=-0.41$, $se=0.04$, $\beta_{\text{standardized}} = -0.45$, $p<0.000$) and on the presence of meaning ($b=-0.67$, $se=0.07$, $\beta_{\text{standardized}} = -0.42$, $p<0.000$) were significant and negative. Both direct effects of mindfulness ($b=0.43$, $\beta_{\text{standardized}} =0.59$, $se=0.03$, $p<0.000$) and the presence of meaning ($b=0.06$, $\beta_{\text{standardized}} =0.13$, $se=0.01$, $p=0.008$) were significantly and positively associated with PWB. Totally, the indirect effect of loneliness on PWB through both mindfulness and the presence of mean was significant and negative [$b=-0.17$, $\beta_{\text{standardized}} =-0.26$, 95%CI (-0.22, -0.13)]. Indirect effect of loneliness on PWB through mindfulness [$b=-0.18$, $\beta_{\text{standardized}} =-0.27$, 95%CI (-0.22, -0.14)] and through the presence of meaning [$b=-0.04$, $\beta_{\text{standardized}} =-0.06$, 95%CI (-0.07, -0.007)] was also significant and negative. Covariate of the search for meaning contributed to the model through the presence of meaning ($b=0.31$, $se=0.05$, $\beta_{\text{standardized}} =0.25$, $p<0.000$). Its contribution to other variables was not statistically significant. Table 2 presents the main results of the analyses. Table 2 presents the main results of the analyses.

Table 2. Path coefficients of the multiple mediation analyses, standard errors, and 95% percentile confidence intervals

Path	Coe(b)	β	SE	p	LL CI	ULC I
Total effect (c)	-0.28	-	0.03	<0.000	-	-0.22
Direct effect (c')	-0.11	0.26	0.03	<0.000	0.34	-0.06
a1	-0.41	-	0.04	<0.000	-	-0.33
a2	-0.67	0.45	0.07	<0.000	0.58	-0.54
b1	0.43	0.42	0.03	<0.000	0.81	0.49
b2	0.06	-	0.06	=0.008	0.37	0.11
Total indirect effect	-0.17	0.13			0.02	-0.13
Indirect effect a1 b1	-0.04	-			0.22	-0.14
		0.27			0.22	

Indirect effect a2 b2	-0.04	-	-	-	-	-
d	0.31	0.25	0.05	<0.008	0.21	0.41

Coefficient(b): unstandardized regression weights; β : standardized regression weights; SE: standard error; LLCI: lower bound of 95% confidence interval; ULCI: upper bound of 95% confidence interval. For all indirect effects bootstrapped standard errors, upper and lower bounds of 95% percentile confidence intervals are reported.

4. Discussion

Considering the importance of PWB for the physical and mental health of society, it is essential to explore the factors impacting PWB. In this study, we investigated whether mindfulness and the presence of meaning in life were multiple mediators of the relationship between loneliness and PWB. Results demonstrated that loneliness leads to less PWB by decreasing mindfulness (hypothesis1) and also decreasing the presence of meaning in life (hypothesis 2). Results also illustrated that the search for meaning in life covariate to the model through the presence of meaning in life.

Although there is not any study considering mindfulness as a mediator between loneliness and PWB, the findings are consistent with previous studies evidencing the negative relation between mindfulness and loneliness and its positive relation with PWB(e.g.(Klainin-Yobas et al., 2016; Lindsay, Young, Brown, Smyth, & Creswell, 2019; MacDonald & Baxter, 2017)).It can be asserted from the finding that improving the mindfulness trait via some training like meditation can mitigate the destructive effects of loneliness on PWB, being in line with experimental studies that indicated training mindfulness reduce loneliness and improve the quality of life(Samhkaniyan, Mahdavi, Mohamadpour, & Rahmani, 2015).

Participants with higher levels of mindfulness were more likely to report higher PWB and lesser loneliness. Mindfulness is confirmed to be a protective factor against undesirable effects of challenging life events. Weinstein, Brown, and Ryan (2009) asserted two main mechanisms by which mindfulness positively affects PWB. Firstly, mindfulness has an influence on an individual's cognitive appraisal by enhancing objective evaluation of life events, promoting desensitization, decreasing emotional reactions to threatening events, and turning down negative appraisal. Secondly, mindfulness authorizes individuals to use more adaptive coping strategies such as approach coping and to use less avoidant coping. Finally, it helps people obtain optimal levels of PWB(Weinstein, Brown, & Ryan, 2009).

In conclusion, for mitigating the disturbing effects of loneliness on PWB, a good way is to improving mindfulness and meaning in life by some training like meditation.

Limitation

The present study has limitations that may influence the interpretations of the results. Considering the study was based on a cross-sectional sample, causality cannot be inferred. Furthermore, regarding the way that data was collected through convenience sampling online, it might have unintentionally targeted specific groups. Therefore, the limited generalizability of the sample should be called to attention.

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