© Journal of the Indian Academy of Applied Psychology
July 2025, Vol.51, No.2, 372-379

Role of Psychological Well-Being in Predicting the Association between Mindfulness and Health-Promoting Behaviors among University Students

Gunjan and Sandeep Singh
Guru Jambheshwar University of Science & Technology, Hisar

Mindfulness can improve psychological well-being and reduce stress, which can further improve overall health. Effective health promotion strategies in educational settings can be determined by an understanding of the effects of mindfulness on students. The present study aims to explore the association between mindfulness, psychological well-being, and health-promoting lifestyle, and also seeks to investigate whether PWB mediates the effect of mindfulness on HPLB. 200 university students were recruited from various districts of Haryana. Self-report measures were used to collect data from the sample, which was statistically analyzed using PROCESS macro software on SPSS. The findings indicate a positive correlation of PWB with mindfulness (.444) and HPLB (.339), whereas the correlation between mindfulness and HPLB is not significant. Mindfulness was not found to be a significant predictor of HPLB, but through the path of PWB, it can predict HPLB. PWB partially mediates the relationship between mindfulness and HPLB of university students.

Keywords: Mindfulness, Psychological Well-Being (PWB), Health Promoting Lifestyle Behaviour (HPLB)

In the present era, it is a big challenge to take care of one's health and well-being, which are some of the most important aspects of life for every individual. We all know that from ancient times, health has always been considered a priority for every individual, but with modernization, the priority concern is now shifting towards other activities, which may include education, career, family, and friends, and mostly worrying about the future, which further lead to carelessness about health. The present research is concerned with university students. Youth at this age are more likely to engage in risky behaviors that may lead to dangerous outcomes, especially for people with chronic health conditions (Bryden et al., 2003). Moreover, this age is sensitive as destruction in food habits and adoption of bad habits, including smoking, drinking, substance abuse, etc., either due to peer influence or through media, is recorded by many researchers.

Being aware of oneself can improve one's health and well-being, and this awareness can be acquired via the practice of mindfulness techniques. Mindfulness is the awareness of one's internal states and surroundings. According to Brown and Ryan (2003), "mindfulness can be considered an enhanced attention to and awareness of current experience or present reality." Keng et al. (2011) stated that mindfulness may increase emotional reactivity, behavioral control, subjective well-being, and quality of life, and decrease psychological stress in young adults.

There are two types of health behaviors one is health health-promoting behaviors and the other is risky behaviors. Health-promoting behaviors are self-initiated actions to control, improve health, and prevent disease. Health Literacy and Health education are the necessary components for promoting health

behavior. When people have awareness about the necessity to improve their health, only then can they act in a positive direction to follow the same. Communication about health promotion with the target message is an easy and simple way of improving health and altering behavior (Green et al., 2015).

From the literature available, most of the researchers have found that mindfulness is a common factor that underlies health behaviors and promotes health outcomes. A study conducted on 357 college students in the US depicted a moderate relationship between mindfulness and nutrition behavior (Lentz & Brown, 2019). The study also suggested that interventions that target mindfulness and sleep quality may help promote healthy eating and increase exercise engagement. Mindfulness-Based Cognitive Therapy is an effective intervention technique for enhancing health-promoting behaviors in students with premenstrual syndrome (Dafie et al., 2021). A meta-analytic review was done to evaluate the relationship between mindfulness and health behaviors. The results of the review depicted that mindfulness was positively associated with 'physical activity', 'healthy eating', and 'sleep', whereas negatively associated with 'alcohol use' (Sala et al., 2020). The review also stated that the association was strong only under certain conditions.

According to Schultz and Ryan (2015), mindfulness is important in dissociating people from automatic thoughts, habits, and maladaptive behavior patterns and thus plays an important role in promoting informed, self-endorsed behavioral regulation, which is associated with improved well-being. To promote health behaviours, it is a must to understand the underlying mechanism behind it before moving to the training program for the same.

An unhealthy lifestyle negatively influences humans' physical and mental well-being (Farhud, 2017). Kim et al. (2021) also depicted a significant positive correlation between PWB and health promotion behaviors. PWB has a satisfactory positive correlation with perceived health status, and perceived health status also has a satisfactory positive correlation with health-promoting behaviors, whereas the correlation is significantly positive between PWB and health-promoting behaviors (Choi & Sung, 2013).

For university students, it is required to promote positive health behaviors and well-being, including having a balanced and nutritious diet rather than junk food, doing exercise or physical activity regularly, making harmonious relations, learning coping skills for stress reduction, etc., for achieving a healthy and happy life. Thus, promoting mindfulness may lead to a healthier and happier life, which directly affects the health and well-being of individuals.

Objectives:

1. To study the intercorrelation between mindfulness, PWB, and health-promoting lifestyle behaviors among university students.
2. To study the effect of mindfulness on PWB.
3. To study the effect of PWB on health-promoting lifestyle behaviors.
4. To study the direct effect of mindfulness on health-promoting lifestyle behaviors.
5. To study whether PWB will serve as a mediator in the relationship between mindfulness and health-promoting lifestyle behaviors.

Hypotheses:

1. There shall be a significant intercorrelation between mindfulness, PWB, and HPLB among university students.

2. Mindfulness will significantly predict PWB.
3. PWB will significantly predict HPLB.
4. Mindfulness will significantly predict HPLB.
5. PWB will act as a mediator in the relationship between mindfulness and HPLB.

Method

Sample

The sample was selected from various universities in Haryana (India). 200 university students, who were between the ages of 18 to 25 years and were willing to participate, were selected for the study. The mean age of males (N=100) and females (N=100) is 20.35 years (SD=1.749) and 20.80 years (SD=1.608), respectively. The following inclusion and exclusion criteria were used to select the sample.

Measurements

Mindful Attention Awareness Scale' developed by Brown and Ryan (2003) consists of 15 items used to assess dispositional mindfulness. The internal consistency and test-retest reliability of the scale are .92 and .52, respectively. The '*Psychological Well-Being Scale*' (shorter version) given by Ryff and Keyes (1995) consists of 18 items used to assess the level of PWB of the participants. The scale has an internal consistency of .70 to .89 with 20-item parent scales. High scores indicate a greater level of PWB.

Health-Promoting Lifestyle Profile–II', developed by Walker et al. (1987), which consists of 52 items used to assess the level of health promotion of the participants. The value of Cronbach's alpha for the whole scale is .943, whereas for its subscales, its range is .793–.872, and the test-retest reliability for the whole scale is .892.

Results

The present study concerned the inter-relationship and mediational analysis of PWB in the relationship between mindfulness and HPLP in a sample of 200 university students in Haryana (India). The G*Power software was used to perform a priori power analysis and determine the effect size value for an appropriate sample size. With three predictors, an effect size (f2) of 0.15, a significant value of $p<0.05$, and these parameters, the minimum sufficient sample size was determined to be '119'. Since 200 is a larger sample size than the value, it is enough for the research (Cohen, 2013; Gatsonis & Sampson, 1989). The participants were aged 18-25 years, with a mean age of 21.79 years. The correlational analysis for all the variables is indicated in Table 1.

Table 1: Correlational Analyses

Variables	Mindfulness	PWB	HPLB
Mindfulness	1		
PWB	.444**	1	
HPLB	.078	.339**	1

Note: '**Correlation is significant at the 0.01 level (2-tailed)'.

'N-Total Sample, M-Mean, SD-Standard Deviation' 'PWB-Psychological Well-Being, HLPB-Health Promoting Lifestyle Behaviour'

Bivariate correlation was computed to calculate the 'Pearson product-moment correlation'. which was used to test the strength of correlation among the variables. The value of the correlation coefficient for mindfulness is .444 ($r_{M\text{-}PWB}$=.444), which is significant at the .01 level. This indicates that the correlation between mindfulness and PWB is statistically significant and positive at a moderate level. This indicates that a higher degree of the nonjudgmental aspect of mindfulness is found to predict a higher level of PWB.

The correlation coefficient for PWB and HPLB is 0.339 ($r_{PWB-HPLB}$=0.339), which is significant at the .01 level. The "$r_{PWB-HPLB}$" value of 0.339 indicates a statistically significant and positive correlation between PWB and HPLB. This indicates that a higher degree of the PWB may be able to predict a higher level of HPLB.

The correlation between mindfulness and HPLB is 0.078 (r_{M-HPLB}=.078), which is not found to be significant. This indicates that there is little to no correlation between mindfulness and HPLB. So, the third part of our first hypothesis, that *'there shall be a significant correlation between mindfulness and health-promoting lifestyle behaviors among university students'* is rejected. This indicates that mindfulness and a health-promoting lifestyle have little to no influence on each other. Overall, our first hypothesis stated that *'there shall be significant inter-correlation between mindfulness, PWB, and health-promoting lifestyle behaviors among university students'* is partially accepted. Table 2 represents the regression analysis with PWB as the outcome variable.

Table 2: Regression Analysis Predicting PWB

Predictor	*β*	*SE*	*t*	*p*	*LLCI*	*ULCI*
Constant	60.896	3.402	19.368	0.000	59.186	72.605
Mindfulness	0.416	0.060	6.967	0.000	0.299	0.534

Note: 'R=0.444, R^2=0.197, F (1,198) =48.48.540, p<.001'

The regression analysis depicted that mindfulness serves as a significant predictor for PWB. Regression analysis revealed that mindfulness is a significant and positive predictor of PWB, as it explains approximately 19.7% of the variation in PWB. Thus, the overall model was found to be statistically significant (F=48.540, p<.001). The baseline value of PWB (when mindfulness is zero) is 60.896 (SE=3.402, t=19.368) and is statistically significant at p<.001 (LLCI=59.186, ULCI=72.605). The â value for mindfulness is .416 (SE=0.06, t=6.9967), which is also found to be significant at p<.001 (LLCI= 0.299, ULCI= 0.534). This indicates that mindfulness positively predicts PWB, and for each unit increase in mindfulness, the level of PWB will increase by 0.416 units. So, our second hypothesis, which stated that *'mindfulness will significantly predict PWB',* is accepted.

Table 3 represents the regression analysis of mindfulness and PWB as predictors and HPLB as an outcome variable. The regression analysis shows that the overall model is found to be significant as it explains approximately 12.17% of the variance in HPLB (F=13.645, p<.001). The coefficient value for the intercept is 78.312 (SE=12.022, t=6.514), which is significant at p<.001 (LLCI=54.605, ULCI=102.020). Thus, the overall model is found to be significant.

Table 3: Regression Analysis Predicting HPLB

Predictor	*β*	*SE*	*t*	*p*	*LLCI*	*ULCI*
Constant	78.312	12.022	6.514	0.000	54.605	102.020
Mindfulness	-0.168	0.139	1.213	0.227	-0.441	0.105
PWB	0.752	0.148	5.091	0.000	0.460	1.043

Note: 'R=0.349, R^2=0.1217, F (2,197) =13.645, p<.001'

Further, the coefficient value for mindfulness is -0.168 (SE=0.139, t=1.213), which is not found to be significant. This indicates that mindfulness is not a predictor of HPLB. So, our fourth hypothesis, which stated that *'mindfulness will significantly predict health-promoting lifestyle behaviors,'* is rejected. Whereas, the coefficient value for PWB is 0.752 (SE=0.148, t=5.091), which is significant at p<.001 within a class interval of 0.460 and 1.043. This demonstrates that PWB is a significant predictor of HPLB. So, our third hypothesis, which stated that *'PWB will significantly predict health-promoting lifestyle behaviors,'* is accepted.

Table 4 represents the direct and indirect effects of mindfulness on HPLB. The analysis of the direct and indirect effects indicated that mindfulness has no direct effect on HPLB but has an indirect effect on HPLB through PWB.

Table 4: Direct and Indirect Effect

Effect Type	*Effect*	*SE*	*t*	*P*	*LLCI*	*ULCI*
Direct	-0.168	0.139	-1.213	0.227	-0.441	0.105
Indirect	0.313	0.092			0.164	0.519

The direct effect of mindfulness on HPLB is -0.168 (SE=0.139, t=-1.312), which is not found to be significant, indicating that mindfulness alone is not sufficient to predict HPLB. Whereas, the indirect effect of mindfulness on HPLB through PWB is 0.313 (SE=0.092), which falls within the class interval of 0.164 and 0.519. This implies that mindfulness predicts HPLB through the path of PWB. These results suggest that PWB partially mediates the relationship between mindfulness and HPLB. So, our final hypothesis, stating that *'PWB will act as a mediator in the relationship between mindfulness and health-promoting lifestyle behaviors'* is also accepted.

Discussion

In the present study, we analyzed our results in two steps. At first, correlational analysis was computed to investigate the interrelationship between mindfulness, PWB, and HPLB. Later, mediational analysis was carried out to examine the role of mindfulness as a predictor of HPLB, with PWB as a mediating variable. The data partially confirmed our first hypothesis and demonstrated that the correlation of PWB with mindfulness, as well as HPLB, is statistically significant in a positive direction. The findings of the study are in support of the present literature. For instance, Singh et al. (2016) found a positive relationship between mindfulness and PWB. Hanley et al. (2015) also stated that mindfulness has a strong association with PWB. Chuang et al. (2017) also found a strong association between PWB and HPLB.

Further, the correlation between mindfulness and HPLB is not statistically significant. A possible explanation for the lack of correlation between mindfulness and HPLB variables could be that the relationship may be mediated by other factors, such as lifestyle approaches, which are not included in the study, or PWB, as discussed in the later section. From the available literature, almost all the studies have shown a significant correlation between the variables. Most of the literature has disclosed that mindfulness-based interventions help promote health behaviors and reduce self-destructive behaviors (Bowen et al., 2007; Mahdavi et al., 2022). However, one more study also stated that brief mindfulness-based exercise, including a body scan only, cannot indicate significant scores or intent to engage in health-promoting behaviors (Wright, 2020).

One interesting finding was also revealed by the study that mindfulness positively predicts PWB, which proves our second hypothesis, but does not predict HPLB directly, which disproves our fourth hypothesis. Further, the results of the study also stated that PWB significantly predicts HPLB, which in turn proves our third hypothesis. Finally, the results of the study concluded that mindfulness alone is not sufficient to predict PWB, but with the mediation of PWB, it can help in promoting healthy behavior. It can be said that PWB plays an important role in mediating the link between mindfulness and HPLB, yet it was found that it partially mediates the relationship. So, our last hypothesis has also been proved.

The findings of our research are supported by the present literature. For instance, Lailatul Widha et al. (2021) also stated that mindfulness as therapy helps enhance the level of PWB (Baer et al., 2008),

which in turn helps in promoting healthy behaviors. Klainin-Yobas et al. (2016) also stated that mindfulness is one of the strongest predictors of PWB. Literature has shown that being engaged in various health-promoting behaviors can be helpful not only in enhancing physical health but also in reducing the risk of various non-communicable diseases (Rosato et al., 2019). Thus, the overall model is significant, which states that mindfulness practice leads to a healthy and happy existence, which directly benefits each individual's mental health and well-being while indirectly influencing health behaviors. This study will be of interest to intervention developers, mental health practitioners, health care workers, and policymakers in promoting well-being and health behaviors among this population.

Limitations and Recommendations for Future Research

This study adds to the body of knowledge on psychological well-being, mindfulness, and health-promoting lifestyle behavior among individuals from different social strata. Few studies have explored the association or effect of mindfulness on health promotion, this study provides a new direction to fill in the gap in research. The findings provide more understanding of the correlation among the variables, but it is also important to look at the limitations of the study. First, there was a lack of prior research on mindfulness and health promotion lifestyle behaviors. The second limitation could be the small size of the sample used in the study, which restricts the research for generalization. There could be one more limitation of the study: the sub-variables are not taken into consideration. Future research could include a larger sample size to increase the effectiveness of the study. Similar research could be done by considering sub-variables and using different social strata. Further research could be done by using mindfulness-based interventions in universities to make the students aware of skills and techniques that could help enhance their health and well-being.

Conclusion

The present study concluded that mindfulness alone is not sufficient, but with the mediation of PWB, it can help in promoting health-promotive behaviors. It is a big challenge to take care of one's health and well-being. Health promotion is the need of the hour, and to promote the overall health and well-being of any individual, it is necessary to adopt health-promoting behaviours. Mindfulness is a good exercise as it can enhance coping skills for stress, promote employee self-care, promote clear and constructive communication, and can also help in the promotion of health and well-being. Every individual wants to have a healthy and happy life. It is required to promote well-being and positive health behaviors, including having a balanced and nutritious diet rather than junk food, doing exercise or physical activity daily, making harmonious relations, learning coping skills for stress reduction, etc., for achieving a healthy and happy life. This study will help the intervention developers, mental health practitioners, health care workers, and policymakers in promoting well-being and health behaviors among this population. Moreover, the present research also suggests the use of interventions or training programs in universities to make the students aware of skills and techniques that could help enhance their health and well-being of the students.

References

Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., ... & Williams, J. M. G. (2008). Construct validity of the five facet mindfulness questionnaire in meditating and nonmeditating samples. *Assessment*, *15*(3), 329-342.

Bowen, S., Witkiewitz, K., Dillworth, T. M., & Marlatt, G. A. (2007). The role of thought suppression in the relationship between mindfulness meditation and alcohol use. *Addictive behaviours*, *32*(10), 2324-2328. https://doi.org/10.1016/j.addbeh.2007.01.025

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: mindfulness and its role in psychological well-being. *Journal of personality and social psychology*, *84*(4), 822. https://psycnet.apa.org/buy/2003-02410-012

Bryden, K. S., Dunger, D. B., Mayou, R. A., Peveler, R. C., & Neil, H. A. W. (2003). Poor prognosis of young adults with type 1 diabetes: a longitudinal study. *Diabetes care*, *26*(4), 1052-1057. https://doi.org/10.2337/diacare.26.4.1052

Choi, Y. J., & Sung, Y. H. (2013). Psychological well-being, perceived health status, and health promoting behavior of clinical nurses. *Journal of Korean Academy of Nursing Administration*, *19*(5), 589-598. https://doi.org/10.11111/jkana.2013.19.5.589

Chuang, S. P., Wu, J. Y. W., Wang, C. S., & Pan, L. H. (2017). Health-promoting lifestyles and psychological distress associated with well-being in community adults. *American Journal of Health Behavior*, *41*(4), 446-453. https://doi.org/10.5993/AJHB.41.4.9

Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*. routledge. https://doi.org/10.4324/9780203771587

D FARHUD, D. (2017). Life style and sustainable development. *Iranian Journal of Public Health*, *46*(1), 1. PMID: 28451523; PMCID: PMC5401917.

Dafei, M., Zareei Mahmoodabadi, H., & Dehghani, A. (2021). Effect of Mindfulness-based Cognitive Therapy on Health Promoting Behaviors in Students with Premenstrual Syndrome: A Randomized Clinical Trial. *Journal of Mazandaran University of Medical Sciences*, *31*(197), 65-80. http://jmums.mazums.ac.ir/article-1-15788-en.html

Gatsonis, C., & Sampson, A. R. (1989). Multiple correlation: exact power and sample size calculations. *Psychological bulletin*, *106*(3), 516-524. https://psycnet.apa.org/doi/10.1037/0033-2909.106.3.516

Green, A. C., Hayman, L. L., & Cooley, M. E. (2015). Multiple health behavior change in adults with or at risk for cancer: a systematic review. *American journal of health behavior*, *39*(3), 380-394. https://doi.org/10.5993/AJHB.39.3.11

Hanley, A., Warner, A., & Garland, E. L. (2015). Associations between mindfulness, psychological well-being, and subjective well-being with respect to contemplative practice. *Journal of Happiness Studies*, *16*, 1423-1436. https://doi.org/10.1007/s10902-014-9569-5

Hayes, A. F. (2013). Mediation, moderation, and conditional process analysis. *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*, *1*(6), 12-20.

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.

Keng, S. L., Smoski, M. J., & Robins, C. J. (2011). Effects of mindfulness on psychological health: A review of empirical studies. Clinical psychology review, 31(6), 1041-1056. https://doi.org/10.1016/j.cpr.2011.04.006

Kim, E. J., Nho, J. H., Kim, H. Y., & Park, S. K. (2021). The effects of lifestyle interventions on the health-promoting behavior, type D personality, cognitive function and body composition of low-income middle-aged Korean women. *International Journal of Environmental Research and Public Health*, *18*(11), 5637. https://doi.org/10.3390/ijerph18115637

Klainin-Yobas, P., Ramirez, D., Fernandez, Z., Sarmiento, J., Thanoi, W., Ignacio, J., & Lau, Y. (2016). Examining the predicting

effect of mindfulness on psychological well-being among undergraduate students: A structural equation modelling approach. *Personality and individual differences*, *91*, 63-68. https://doi.org/10.1016/j.paid.2015.11.034

Lailatul Widha, W., Hayatul Khairul Rahmat, R., & A Said Hasan Basri, B. (2021). A review of mindfulness therapy to improve psychological well-being during the COVID-19 pandemic. *A Review of Mindfulness Therapy to Improve Psychological Well-being During the Covid-19 Pandemic*, *4*(1), 383-390. https://digilib.uin-suka.ac.id/id/eprint/57806/

Lentz, T. A., & Brown, C. (2019). Mindfulness and health behaviors in college students: The moderating role of sleep. *Journal of American College Health*, *67*(6), 505-514. https://doi.org/10.1080/07448481.2018.1497638

Mahdavi, M., Emadian, S. O., & Hassanzade, R. (2022). Comparison of the Effectiveness Of Mindfulness-Based Cognitive Therapy And Acceptance And Commitment Therapy On Health-Promoting Behaviours In Patients With Ulcerative Colits

. *Journal of Positive School Psychology*, *6*(7), 3464-3473. https://mail.journalppw.com/index.php/jpsp/article/view/11957

Rosato, V., Temple, N. J., La Vecchia, C., Castellan, G., Tavani, A., & Guercio, V. (2019). Mediterranean diet and cardiovascular disease: A systematic review and meta-analysis of observational studies. European Journal of Nutrition, 58(1), 173–191. https:// doi.org/10.1007/s00394-017-1582-0

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of personality and social psychology*, *69*(4), 719-727. https://psycnet.apa.org/doi/10.1037/0022-3514.69.4.719

Sala, M., Rochefort, C., Lui, P. P., & Baldwin, A. S. (2020). Trait mindfulness and health behaviours: a meta-analysis. *Health psychology review*, *14*(3), 345-393. https://doi.org/10.1080/17437199.2019.1650290

Schultz, P.P., Ryan, R.M. (2015). The "Why," "What," and "How" of Healthy Self-Regulation: Mindfulness and Well-Being from a Self-Determination Theory Perspective. In: Ostafin, B., Robinson, M., Meier, B. (eds) Handbook of Mindfulness and Self-Regulation. Springer, New York, NY. https://doi.org/10.1007/978-1-4939-2263-5_7

Singh, A. K., Choubey, A. K., & Singh, S. (2016). Does mindfulness enhance psychological well-being of the students. *Journal of psychosocial Research*, *11*(2).

Walker, S. N., Sechrist, K. R., & Pender, N. J. (1987). The health-promoting lifestyle profile: development and psychometric characteristics. *Nursing research*, *36*(2), 76-81. https://journals.lww.com/nursingresearchonline/abstract/1987/03000/the_health_promoting_lifestyle_profile_.2.aspx

Wright, R. N. (2020). Effects Of A Brief Mindfulness Induction On Cognitive And Affective Attitudes Towards Intent For Engaging In Health-Promoting Behaviours.

Gunjan, Corresponding author, Research Scholar, Department of Applied Psychology, Guru Jambheshwar University of Science & Technology, Hisar. Email - gunjan04gju@gmail.com

Sandeep Singh, Professor, Department of Applied Psychology, Guru Jambheshwar University of Science & Technology, Hisar. Email - sandeephisar@gmail.com