

Enhancing Psychological Well-Being With Mindfulness Therapy: A Review of Meta-Analysis

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Abstract

Psychological well-being is a critical dimension of individual mental health. This study aims to assess the effectiveness of mindfulness therapy in enhancing psychological well-being through a meta-analysis conducted with Jamovi 2.3.62. The analysis included 11 experiment studies, with 304 participants in the experimental group and 302 in the control group. The meta-analysis yielded an effect size of 2.00 (95% CI = 1.015 to 2.987), indicating mindfulness's large and significant impact. The I^2 statistic of 96.02% also reveals high heterogeneity among the studies. These results confirm that mindfulness therapy is potent for improving psychological well-being.

Abstrak

Kesejahteraan psikologis adalah dimensi penting dari kesehatan mental individu. Penelitian ini bertujuan untuk mengetahui efektivitas terapi *mindfulness* dalam meningkatkan *psychological well-being* melalui meta-analisis yang dilakukan dengan Jamovi 2.3.62. Analisis ini mencakup 11 penelitian eksperimen, dengan 304 partisipan dalam kelompok eksperimen dan 302 dalam kelompok kontrol. Meta-analisis menghasilkan nilai *effect size* sebesar 2.00 (95% CI = 1,015 sampai 2,987), yang menunjukkan dampak *mindfulness* yang besar dan signifikan. Statistik I^2 sebesar 96,02% juga mengungkapkan heterogenitas yang tinggi di antara penelitian. Hasil ini menegaskan bahwa terapi *mindfulness* efektif dalam meningkatkan *psychological well-being*.



INTRODUCTION

Psychological well-being encompasses multiple dimensions of mental health and individual functioning, including positive affect, life satisfaction, and personal development. Ryff (2018) conceptualizes psychological well-being through six key dimensions: self-acceptance, the formation of meaningful interpersonal relationships, autonomy in decision-making, environmental mastery, the pursuit of purposeful life goals, and a commitment to personal growth. Individuals who maintain a positive outlook on life and exhibit a drive for self-improvement are considered to manifest psychological well-being, as elaborated by Grenville-Cleave et al. (2021). It can be concluded that psychological well-being is a person's ability to be in a positive state involving positive feelings, life satisfaction, and the ability to grow personally and sustainably. Psychological well-being as an individual's full achievement has six aspects: accepting all shortcomings and advantages of oneself, building good relationships with others, being independent, mastering the environment, having a purpose in life, and continuing to develop one's personality (Ryff, 2019). Furthermore, individuals with low psychological well-being will have a low level of self-acceptance, often feel dissatisfied with themselves, feel disappointed

about their experiences, and have hopes of not being who they are now; besides, there is the behavior of minimal relationships with others, difficulty being warm and reluctant to have ties with others, currently not having a goal to achieve in life, and not having beliefs that can make their current life more meaningful.

Efforts to enhance psychological well-being can be approached through various methods. Mindfulness therapy is one such approach. Kabat-Zinn (2023) defines mindfulness as the awareness that arises through intentional attention to the present moment without judgment. Engaging in mindfulness practices can facilitate an individual's process of acceptance. Mindfulness therapy can be used to enhance self-acceptance (Waney et al., 2020). Mellor et al. (2016) argue that mindfulness therapy can assist individuals in self-evaluation and fostering a more positive outlook, thereby helping them distance themselves from negative thoughts and better appreciate their current circumstances.

Langer argues that mindfulness therapy represents a cognitive style that centers on awareness and the quality of attention that we bring to everyday experiences (Compton & Hoffman, 2019). According to Hofmann and Gómez (2017), the principles of mindfulness involve focusing on cognitive processes and practicing meditation. Baer et al. (2019) identifies two fundamental aspects of mindfulness: "what" and "how" elements. In most exercises, participants maintain awareness of each event or experience without judgment and adopt an accepting attitude towards past and present occurrences while bringing a friendly curiosity and non-judgmental acceptance to whatever is observed. The goal of mindfulness therapy is to assist individuals in accepting current events without judgment (Hofmann & Gómez, 2017).

Previous studies have suggested a positive effect of mindfulness therapy on psychological well-being. According to Haji-Seyed-Sadeghi et al. (2020), mindfulness training had a positive impact on psychological well-being in cancer patients. Mindfulness-based stress reduction (MBSR) has been shown to improve psychological well-being, thereby reducing stress and anxiety, increasing hope, and supporting functional recovery in schizophrenia patients (Norouzi et al., 2020; Omidi et al., 2017; Özdemir & Kavak Budak, 2022). Zemestani and Fazeli Nikoo (2020) found that anxiety levels decreased and psychological well-being improved following the implementation of mindfulness-based cognitive therapy (MBCT) for pregnant women experiencing anxiety and depression.

There are many studies on improving psychological well-being using mindfulness with various participants. Additionally, there are various types of mindfulness therapies other than MBSR and MBCT, such as mindfulness-based breathing and music therapy, mindfulness-based therapy, and mindfulness training, which may have different effects. Moreover, research on the relationship between mindfulness and psychological well-being needs to be conducted to provide a deeper understanding of the effectiveness of the mindfulness therapy approach in improving psychological well-being. Although many studies have discussed the positive effects of mindfulness on psychological well-being, the results are varied, and sometimes, they show significant differences in their effects on various aspects of well-being. This meta-analysis is needed to identify the magnitude of the effect size of mindfulness in the context of psychological well-being, which can help to more accurately conclude mindfulness' effectiveness and relevance as a comprehensive therapy. In addition, combining and making statistical conclusions using meta-analysis is considered necessary to obtain comprehensive results from studies linking mindfulness therapy and psychological well-being. Therefore, this study is expected to significantly contribute to the development of clinical therapy and provide insight for practitioners and researchers on the use of mindfulness in efforts to improve psychological well-being.

METHODS

This study employs the PICO framework as a systematic approach to formulating research questions. The PICO framework is used to search for articles and is an acronym for population, intervention, comparison, and outcome. The research questions designed for this study are as follows: (1) *population*: variables related to psychological well-being in a general age group; (2) *intervention*: the treatment or action involves mindfulness; (3) *comparison*: the comparison factor includes control and experimental groups; and (4) *outcome*: improvement in psychological well-being following mindfulness therapy. Journal and article searches utilize keywords and Boolean operators such as “and,” “or not,” and “and not” to broaden and specify searches, facilitating the selection of relevant journals and articles.

In this study, the analysis will proceed using the meta-analysis method. Meta-analysis is a statistical technique for combining and analyzing data from various independent studies that address similar research questions. Dachi (2017) states that meta-analysis is a method that involves summarizing, reviewing, and analyzing previous studies.

This study utilizes scientific articles focusing on using mindfulness to improve psychological well-being. Various articles were obtained by searching for relevant topics through ScienceDirect, Springer, NCBI, Elsevier, Iranian Journal, and PubMed. The search for articles was concentrated on international publications using keywords like “mindfulness and psychological well-being,” “mindfulness and psychological well-being scale,” and “therapy mindfulness for psychological well-being.”

Articles were filtered based on the title, the type of measurement tools used for psychological well-being, and the presence of both experimental and control groups. A comprehensive collection of articles was gathered and then filtered using inclusion and exclusion criteria. The inclusion criteria specified were: (1) experimental studies with both experimental and control groups; (2) reports displaying mean scores, standard deviations, and sample sizes for both control and experimental groups; and (3) the psychological well-being scale (PWBS) is used to measure psychological well-being. Exclusion criteria included publications from the last 10 years and avoidance of literature reviews. The study design follows the PRISMA 2020 guidelines.

The method used in processing data used Jamovi 2.3.62. The data entered were the author’s name, year of publication, correlation coefficient (r) between psychological well-being and mindfulness, and the number of samples involved. The effect size value of r is the foundation of this meta-analysis. A small effect size is defined as $r = .10$, a medium effect size as $r = .30$, and a large effect size as $r = .50$ (Cooper et al., 2019). Moreover, this study will examine the effect size of the correlation of psychological well-being to mindfulness. Effect size is seen from the correlation value (r) and sample size (N). The heterogeneity of the study is obtained from the I^2 value, in which the greater the value produced, the more diverse the results are.

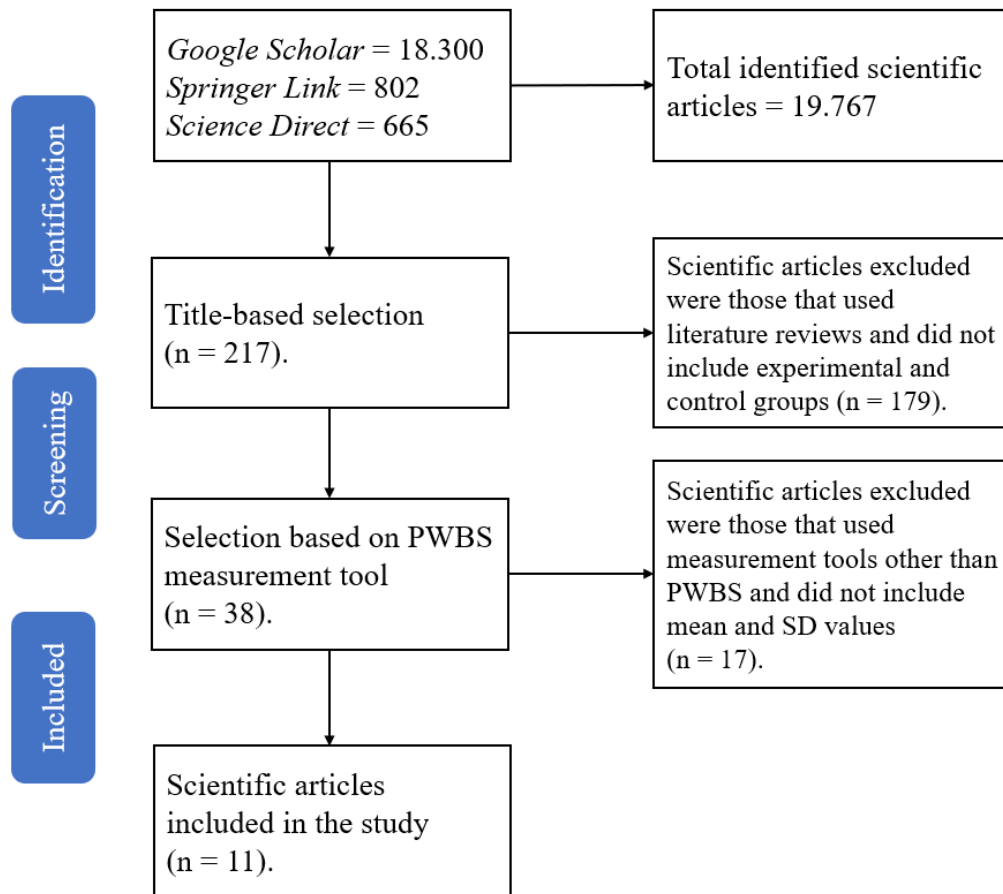


Figure 1.
Literature Selection Flowchart

In Figure 1, the literature selection process begins with a search using the following keywords: (1) mindfulness and psychological well-being, (2) mindfulness and psychological well-being scale, and (3) therapy mindfulness for psychological well-being, resulting in a total of 19,767 hits. Based on this initial search, 11 scientific articles met the criteria: they used the PWBS measure of psychological well-being, including both experimental and control groups, and provided mean scores, standard deviations, and sample sizes for each group.

RESULTS

The table below presents the characteristics and meta-analysis scores from the analysis of 11 articles. The total number of participants across these studies is 606, with 304 participants in the experimental group and 302 participants in the control group. The table provides a detailed overview of the articles utilized in the meta-analysis and the corresponding results.

Table 1.
Data Characteristics and Meta-Analysis Score

Effect Size							
Researchers	Country	PWB Measurement Tool	Intervention Method	Participant Age	g	95% CI Lower	95% CI Upper
Omidi et al., 2017	Iran	PWBS	Mindfulness-Based Stress Reduction (MBSR)	30–40	.03	-.47	.53
Fard et al., 2018	Iran	PWBS	Mindfulness-Based Cognitive Infertility Stress Therapy (MBCIST)	20–30	1.67	.82	2.47
Norouzi et al., 2020	Iran	PWBS	Mindfulness-Based Stress Reduction (MBSR)	12.29	2.80	1.93	3.87
Zemestani & Fazeli Nikoo, 2020	Austria	PWBS	Mindfulness-Based Cognitive Therapy (MBCT)	> 34	3.11	2.17	.90
Haji-Seyed-Sadeghi et al., 2020	Iran	PWBS	Mindfulness Training on Psychological Well-Being	35–55	4.24	2.93	5.55
Yüksel et al., 2020	Turki	PWBS	Mindfulness-Based Therapy (MBT)	> 51	3.14	2.41	4.97
Yıldırım & Çiriş Yıldız, 2022	Turki	PWBS	Mindfulness-Based Breathing and Music Therapy	> 18	.52	.12	4.05
Zarchi et al., 2020	Iran	PWBS	Mindfulness-Based Training	48–64	3.74	2.51	1.52

Effect Size							
Researchers	Country	PWB Measurement Tool	Intervention Method	Participant Age	g	95% CI Lower	95% CI Upper
Sadooghiasl et al., 2022	Iran	PWBS	Mindfulness-Based Stress Reduction Program (MBSR)	18–60	3.28	2.50	-.33
Ajilchi et al., 2022	Australia	PWBS	Mindfulness Programme Training	n.a	.90	.29	-.15
Özdemir & Kavak Budak, 2022	China	PWBS	Mindfulness-Based Stress Reduction Training (MBSR)	n.a	-.73	-1.12	.94

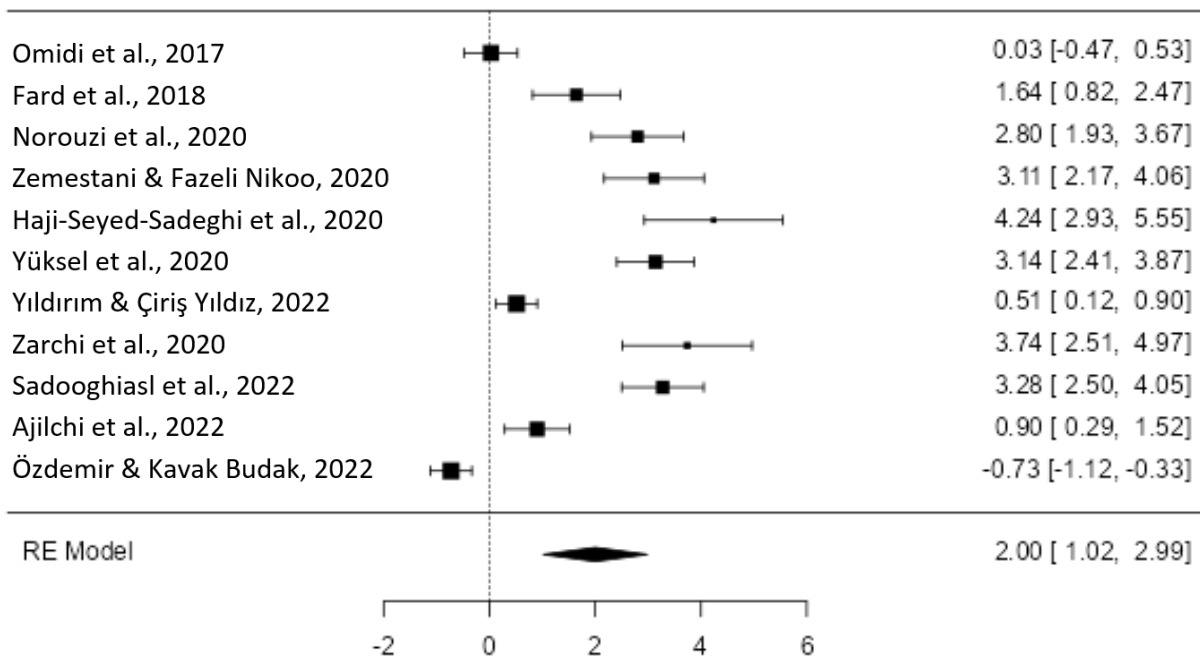


Figure 2.
Forest Plot of Mindfulness on Psychological Well-Being

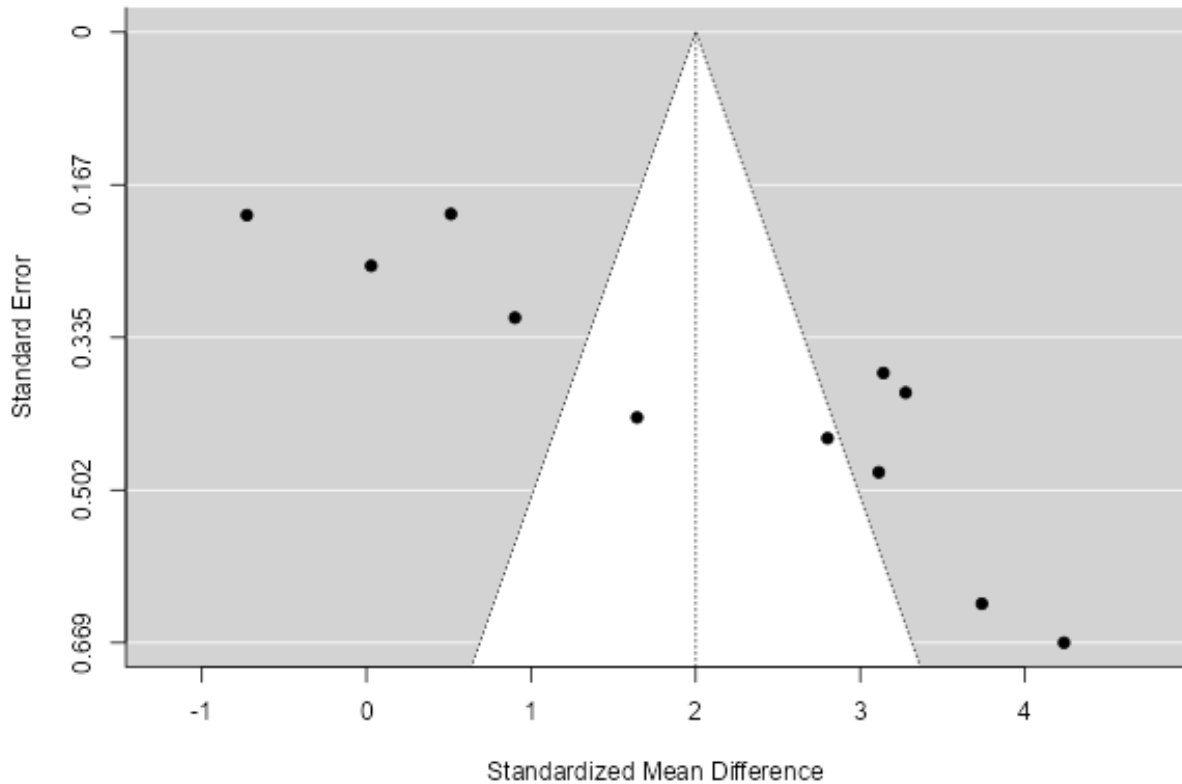


Figure 3.

Funnel Plot of Mindfulness on Psychological Well-Being

This study utilized Jamovi version 2.3.26 to assess the effectiveness of mindfulness therapy in enhancing psychological well-being. The analysis focused on comparing post-treatment measurements between the experimental and control groups. Effect size was determined based on mean (M), standard deviation (SD), and sample size (N). According to Ellis (2010), effect size values are categorized into three levels: small if they are .20, medium if they are .50, and large if they exceed .80.

The heterogeneity of the studies can be assessed using the I^2 statistic. A higher I^2 value indicates more significant variability among the study results, while a lower I^2 value indicates less variability. Heterogeneity, according to Card (2012), is categorized as follows: low ($\leq 25\%$), moderate ($26\% < I^2 \leq 50\%$), high ($51\% < I^2 \leq 100\%$), and homogeneous ($I^2 = 0\%$). This study also assesses publication bias; Egger’s bias value at or above 0.5 suggests that the study does not demonstrate publication bias, indicating that the articles included in the analysis provide a variety of results. In contrast, Egger’s bias value at or below 0.5 suggests that the articles included in the study exhibit publication bias, which indicates that the experimental results are similar.

Table 2.

Random Effects of Mindfulness on Psychological Well-Being

	Estimate	SE	Z	p	CI Lower Bound	CI Upper Bound
Intercept	2.00	.503	3.98	< .001	1.015	2.987

Note. Tau² Estimator using Restricted Maximum-Likelihood (REML).

Table 3.

Heterogeneity of Mindfulness on Psychological Well-Being

Tau	Tau²	I²	H²	p
1.615	2.6084 (SE = 1.244)	96.02%	25.138	< .001

Table 4.

Publication of Bias Mindfulness on Psychological Well-Being

Test Name	Value	p
Fail-Safe N	826.000	< .001
Begg and Mazumdar Rank Correlation	.527	.026
Egger's Regression	5.657	< .001

Note. Fail-safe N calculation using Rosenthal's approach.

Based on the statistical calculations using meta-analysis methods from the 11 articles in Figure 2, the random effects model yielded an effect size of 2.00 (95% CI = 1.015 to 2.987, $P = .00$). This effect size falls into the large category, indicating that mindfulness significantly enhances psychological well-being. Table 3 shows the heterogeneity, with an I^2 value of 96.02%, signifying considerable variability among the 11 articles included in the analysis. This high level of heterogeneity reflects diverse data characteristics across the studies, such as variations in the types of mindfulness therapy used, differing mental health statuses of the participants, and varying sample sizes.

In addition to effect size and heterogeneity, Table 4 presents publication bias assessed via Egger's test, which yielded a bias value of 5.567 ($\geq .50$). This result suggests no significant publication bias, indicating that the articles included in this study offer diverse findings.

DISCUSSION

The results of this study show that mindfulness therapy has the most significant impact on enhancing psychological well-being. Furthermore, the meta-analysis of 11 previous studies revealed a large effect size, with a calculated value of 2.00. This large effect size indicates that mindfulness is highly effective in enhancing psychological well-being. Furthermore, the analysis assessed heterogeneity using the I^2 statistic, which showed high inconsistency among the studies. This high heterogeneity suggests substantial variability in the data across the included studies. The diversity in the data is attributed to several factors, including variations in the types of mindfulness therapy employed—such as mindfulness cognitive behavior therapy, mindfulness-based stress reduction, mindfulness training, and mindfulness breathing and music therapy—as well as differences in the mental health status of the participants and the number of participants in each study.

Psychological well-being is regarded as an essential component of individual health. According to Huppert, low levels of psychological well-being can lead to negative emotions affecting various aspects of life, such as self-acceptance, dissatisfaction, past disappointments, limited social interactions, and a lack of enduring life goals (Grenville-Cleave et al., 2021). Persistent or extreme negative emotions can disrupt an individual's psychological well-being, impacting their daily functioning and overall quality of life (Grenville-Cleave et al., 2021). Compton and Hoffman (2019) elucidate that mindfulness-based therapy can address various issues individuals encounter, mitigating the negative effects of stress-inducing stimuli. This approach helps prevent adverse outcomes by improving cognitive and emotional regulation, which can adversely affect behavior and emotions. Strauss et al. (2021) carried out a study that found that mindfulness therapy can enhance well-being, mindfulness, and self-compassion, as well as alleviate stress, anxiety, and depression. Through mindfulness therapy, it can help to achieve a more positive psychological condition. Mindfulness therapy enables individuals

to self-evaluate, adopt a more positive outlook, and distance themselves from negative thought patterns, fostering a greater appreciation of their current state (Mellor et al., 2016). Mindfulness can help reduce psychological problems with full awareness and can help more clearly understand the purpose of life so that it can improve mental health (Zhang et al., 2019).

Mindfulness has a long-term effect on enhancing psychological well-being in individuals (de Vibe et al., 2018). Parsons et al. (2022) showed that mindfulness therapy can improve psychological well-being of COVID-19 survivors. Haji-Seyed-Sadeghi et al. (2020) have found that mindfulness therapy that focuses directly on psychological well-being—rather than cancer recovery—has shown notable effectiveness. Their study specifically targeted breast cancer patients undergoing chemotherapy, aiming to reduce stress and improve their ability to manage the chemotherapy process rather than addressing cancer remission. Mindfulness therapy can help to overcome stress and increase positive affect, thereby improving self-regulation and facilitating self-exploration (Cheung et al., 2020). In addition, it can overcome anxiety in individuals (Sun et al., 2022).

Compared to studies utilizing MBSR for enhancing psychological well-being, the study conducted by Omid et al. (2017) demonstrated that MBSR had the slightest effect. This reduced impact is likely attributed to the participants' experience of PTSD, which results in elevated levels of stress and trauma. Participants in this study showed that they experienced high levels of stress and trauma, so with a more severe level of psychological condition, it is possible to provide additional supportive therapy in order to produce more significant changes. Participants' health conditions significantly influence the effectiveness of mindfulness therapy. It appears that for individuals with severe health issues, mindfulness therapy alone may be insufficient; such cases may require concurrent medical treatment to achieve substantial improvements in psychological well-being.

Mindfulness can have a positive impact on psychological well-being because it targets cognitive processes and involves meditation. Typically, mindfulness therapy comprises multiple sessions with extended durations. The practice of mindfulness aims to cultivate awareness of negative feelings and thoughts. By engaging in mindfulness, individuals can increasingly detach from negative thoughts and foster positive thinking. This practice enables individuals to experience their feelings without judgment or reaction, demonstrating openness, a desire for personal growth, and an attitude of acceptance (Hofmann & Gómez, 2017). Mindfulness has the potential to increase self-awareness and help recognize negative moods and thought patterns. Mindfulness can also increase the ability to release oneself positively, correlating with acceptance, not overreacting, self-compassion, and subjective well-being (Sapthiang et al., 2019).

CONCLUSION

Based on the statistical analysis using meta-analysis methods, mindfulness therapy effectively enhances psychological well-being. The effect size in this study falls into the large category, and there is no evidence of publication bias. However, the analysis indicates a high level of heterogeneity, which may be attributed to the variability in the data, including different types of mindfulness therapy, diverse mental health statuses, and varying numbers of participants. Future studies should focus on a single type of mindfulness therapy and consider additional factors such as age, mental health status ranging from mild to severe, gender, and studies from a broader range of countries. This approach could provide more precise insights into the effectiveness of specific mindfulness therapy techniques and their impact on various demographic and health-related variables.

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