

Effectiveness of Mindfulness-Based Interventions to Reduce Stress among Social Workers- A Meta-Analysis

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Abstract

Over the past few decades, mindfulness-based interventions have gained significant popularity in the therapeutic world for their positive impact on the mental health of various groups of individuals, and meta-analyses on their impact on several groups have been carried out. However, no previous meta-analysis examining the effectiveness of mindfulness-based interventions on the perceived stress levels among social workers has been carried out. This is an important research gap that this paper is aimed at filling. A total of six studies met the strict inclusion criteria. The random-effects model was used, and the presence of publication bias was also checked. The analysis indicated that, on the whole, the mindfulness-based interventions were effective in significantly reducing stress among the respondents. The article also highlights the implications for social work practice and how mindfulness-based interventions could be incorporated into the social work profession.

Keywords: Mindfulness, Social Workers, Perceived Stress, Meta-Analysis, Stress Reduction.

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Introduction

Although mindfulness, as a concept of awareness of the self, has ancient roots, the modern therapeutic version of mindfulness is relatively new. Currently, mindfulness in the therapeutic world is often described as non-judgmental awareness of the self and one's surroundings. Kabat-Zinn (2015, p. 1481), the founder of the Mindfulness-based stress reduction programme defines mindfulness as a "moment-to-moment, non-judgmental awareness, cultivated by paying attention in a specific way, that is, in the present moment, and as non-reactively, as non-judgmentally, and as openheartedly as possible" According to Germer et al. (2016, p. 12), "Mindfulness is simply about being aware of where your mind is from one moment to the next, with gentle acceptance." Today, the concept of mindfulness is often associated with certain forms of therapy that are ultimately aimed at improving the mental health of the individual (Ruiz-Fernández et al., 2020). In his book on mindfulness, Mace (2007) has listed four major types of mindfulness therapies to help individuals overcome or manage certain mental health issues. They are as follows: 1) Mindfulness-Based Cognitive Therapy (MBCT), which is a form of mindfulness therapy that is often used to prevent relapse among individuals who are recovering from depression. It involves meditation and encourages the individual to overcome negative thinking patterns. 2) Mindfulness-Based Stress Reduction (MBSR) is another therapy that uses a combination of yoga, meditation, and body scan to aid individuals in reducing stress through a reduction in emotional reactivity (Khoury et al., 2015). 3) Dialectical Behavioural Therapy (DBT), which is a therapy that is generally used to support individuals with a borderline personality disorder to overcome negative self-image and self-damaging beliefs, and is usually aimed at preventing or reducing the instances of self-harm and suicidal behaviour among such individuals (DeCou et al., 2019). 4) Acceptance and Commitment Therapy (ACT) is a form

of mindfulness therapy that is focused on helping individuals accept the difficult situation they are in instead of avoiding it or hiding from it. It encourages individuals to find and nurture meaningful relationships, and meaningful work, and discover other meaningful activities that become more important and valuable than the negative event.

Over the past two decades, these mindfulness therapies have been tested on a wide variety of individuals suffering from some common mental health conditions, such as anxiety (Borquist-Conlon et al., 2019), depression (Royuela-Colomer & Calvete, 2016), and stress (Russell-Williams et al., 2018), to name a few. In that sense, the mindfulness approach has been gaining popularity both in the therapeutic world and in popular culture, including movies (Harrison, 2024). Google trends statistics show a surge in the search for the keyword ‘mindfulness’ over the past decade, with the highest interest score of 100 being recorded in April, 2020 (Google Trends, 2024), during the initial waves of the pandemic when many were experiencing stress and anxiety around the globe (Priego-Parra et al., 2020; Reile et al., 2021; Couarraze et al., 2021).

Although there have been several studies conducted to examine the effectiveness of these mindfulness interventions on a wide range of individuals, including children and youth (Johnstone et al., 2016), the aged (Li & Bressington, 2019), apart from various professionals such as health care workers (Errazuriz et al., 2022), and teachers (Beshai et al., 2016), there is a notable paucity of studies examining the use of mindfulness-based interventions among social workers. Specifically, there is a paucity of randomised controlled trials conducted among social workers in general. However, there is an exception to this. There have been a few randomised controlled trials examining the use of mindfulness-based interventions to reduce stress among social workers, including social work students. The present study is aimed at identifying such studies and carrying out a meta-analysis to answer the big question: Are mindfulness-based therapies helpful in reducing the stress levels of social workers? The

need to answer this question is becoming very important with the growth of the social work profession across the globe, which includes developing countries such as India (Krishnan & Joseph, 2023). As social workers have been known to face stress (Travis et al., 2016), the need for such a meta-analysis is the need of the hour and is the main motivation behind the present article. A meta-analysis such as this would be of great use to organizations employing social workers, as it would provide them with concrete evidence on whether or not mindfulness-based stress reduction works for social workers and whether they can use it to help support their social workers.

Social Workers and Stress

The profession of Social Work is one of the widely recognised and respected human service-based professions around the globe (United Nations Research Institute for Social Development, 2025). Moreover, the profession is growing in popularity in developing countries such as India, where many universities are offering bachelor's as well as master's degrees in social work (Krishnan & Joseph, 2024). As a human service-based profession involved in empowering individuals and communities in difficult circumstances, social workers are exposed to stressful situations almost on a regular basis (Beer et al., 2021). Stress can be simply defined as a state of homeostasis being challenged (Lu et al., 2021). Although there are different types of stress (Lu et al., 2021), the term stress in common parlance is used to refer to bad stress or distress (Lu et al., 2021), which can hamper a professional's performance as well as negatively impact their life in multiple ways. Although there is some evidence to suggest that improving the workplace environment and support might help reduce stress among social workers (Tang & Li, 2021), there is a need to identify an effective and inexpensive approach to help reduce the stress experienced by social workers. This is because many social workers, especially those in the developing world, are placed in non-governmental organisations with limited funding. This is why mindfulness-based

interventions, which have shown some success in reducing burnout among healthcare professionals (Klein et al., 2020), are of significant interest.

What Mindfulness Training Consists of

As discussed in the introduction section of this article, mindfulness is the act of being aware of oneself and one's surroundings in a non-judgmental manner. Although it might sound simple, the act requires a significant amount of training and focus. To improve one's ability to be mindful, soothing sounds, guided breathing techniques, and mindfulness prompts might be used (Montanari et al., 2019). Individuals may be required to engage in mindful eating as well as mindful listening to music, apart from engaging in mindful dyadic conversations with others (Chin et al., 2019). The mindfulness-based stress reduction technique (MBSR) that has become very popular over the years largely involves mindful meditation with simple stretches and postures (Niazi & Niazi, 2011). It essentially encourages individuals to be aware of the present, let go of their worries about the past and the future, and to learn to observe their thoughts. MBSR is an eight-week programme that can be held online as well (Medical News Today, 2023). Traditionally speaking, mindfulness has roots in religion as well. In the Indian Epic- Mahabharata, Arjuna is forced to wage a war against his cousins. However, Arjuna is confused and mentally affected by the possibility of killing his cousins. At this moment, the Hindu God- Krishna reminds him to focus on the present and be mindful of his actions rather than to allow his mind to be carried away by the stress associated with the task at hand (Nirban, 2018). This connection between mindfulness and religion could be further explored in future studies.

Literature Review

As mentioned previously, over the past few years, there have been a few randomised controlled trials as well as systematic reviews (Bryce et al., 2024; Jian et al., 2024) that have examined the effectiveness of mindfulness-based therapies on reducing the level of stress

experienced by social workers, including social work students. Maddock et al. (2022) carried out a mixed-methods study that examined the impact of a six-week online mindfulness-based social work and self-care programme on the wellbeing, including stress levels, of thirty social workers from two universities in the United Kingdom. Among other findings, the researchers discovered that the program led to a statistically significant decrease in stress levels among the respondents. Trammel et al. (2021), through their study on the impact of religiously oriented mindfulness intervention on burnout among social workers, found a decrease in burnout among the 22 social workers. The researchers used the Copenhagen Burnout Scale to measure burnout among the respondents. Kinman et al. (2020), in their mixed-method research, found that an eight-week mindfulness training course resulted in a decrease in the level of perceived stress among 26 social workers. The researchers used the Perceived Stress Scale to measure the stress level of the respondents. Viverette et al. (2023), in their study, wanted to explore the impact of an adapted mindfulness course on the level of perceived stress among 15 social work students. The researchers discovered that although the course did lead to an improvement in self-care among the students, it did not result in a significant decrease in stress levels among the students. Lo et al. (2021) conducted a study that involved 124 social work, counselling, and family therapy students. The researchers wanted to understand the effectiveness of a mindfulness-based stress reduction program that was conducted for eight weeks. The researchers noted that there was a significant reduction in physical distress, emotional exhaustion, and job burnout among the respondents as a result of the program. Crowder & Sears (2017) carried out a non-randomized study that involved the impact of a mindfulness-based intervention on the levels of stress, resilience, and burnout. The study, which involved an intervention group and a waitlist/control group, found that the level of stress decreased significantly when compared to the waitlist group. Moreover, the stress levels continued to decline 26 weeks after the intervention for the intervention group.

Hosseinzadeh Asl (2022) carried out a study, which was essentially a randomised controlled trial that involved a total of 49 social workers divided into two groups. There were 28 social workers in the experimental group and 21 respondents in the control group. The intervention group underwent a four-week mindfulness training programme, and although the experimental group displayed a decrease in stress after the intervention and also during the follow-up which took place one month after the intervention, the differences were not statistically significant. However, a meta-analysis examining multiple randomised controlled trials conducted on social workers and social work students has yet to be conducted. This is necessary to gain a more objective and conclusive understanding of the effectiveness of such interventions on social workers and social work students. Since social work as a profession has its own unique demands and challenges, such an analysis is certainly warranted.

Objectives

The present article has two major objectives: 1) To identify and review empirical studies that have been conducted to test the effectiveness of mindfulness-based therapies on the reduction of stress levels among social workers, including social work students. 2) To carry out a meta-analysis of only randomised controlled trials on the topic, to determine whether such therapies are indeed impactful for social workers and social work students.

Search Efforts and Inclusion Criteria

Since the present paper is a meta-analysis (Borenstein et al., 2021), the researchers have opted to search and include randomised controlled trials (except for one study that was found to be non-randomised but rigorous enough to be included in the meta-analysis), that is, studies with an experimental group and a control group (Hariton & Locascio, 2018). The objective was to discover randomised controlled trials aimed at examining the effectiveness of mindfulness-based therapies in reducing stress levels among social workers and social work students. Only studies that involved measuring stress using standardized scales such as

the Perceived Stress Scale (PSS) developed by Cohen et al. (1983) or the DASS-21 scale were included. This was done to ensure uniformity and comparability of the studies included in the meta-analysis. We chose these scales as they are both widely used. Furthermore, only studies that included social workers or social work students were included in the analysis. The researchers used Google Scholar, PubMed, and Research Rabbit to search for randomised controlled trials examining the effectiveness of mindfulness-based therapies on stress reduction among social workers and social work students. This search led the researchers to identify five studies that met the inclusion criteria and were similar to one another to a significant extent. The selected studies have been laid out in Table 1. Initially, the search efforts using Google Scholar led to the identification of 24 studies. This was followed by the use of PubMed to search for more articles. This led to the discovery of 7 studies. The search on Research Rabbit led to the discovery of another 10 studies. Hence, the initial search efforts, which took one month, led to the identification of 41 studies that were carried out to measure the reduction in stress levels among human services.

Studies Included in the Meta-Analysis

A total of six studies that met the inclusion criteria were included in the meta-analysis. Chronologically, the first study to be included was the study by Brinkborg et al. (2011), which is the largest and oldest among the six studies included in the final analysis. The researchers used a randomised controlled trial to examine the effectiveness of Acceptance and Commitment Therapy, a type of mindfulness intervention, on reducing stress levels among social workers. A total of 106 respondents took part in the study, and the researchers discovered that the intervention led to a significant reduction in the stress levels of the respondents, with about 42 per cent of the respondents with initially high levels of stress, showing a clinically positive improvement in the study. The second study to be included in the final analysis was by Bonifas & Napoli (2014). Through their study, the

researchers wanted to examine the effectiveness of a course/module based on mindfulness, deployed to students pursuing their Master of Social Work degree at an American University. The ultimate goal was to note whether the course could have a positive impact on the quality of life, as measured using Ferrans and Powers 'Quality of Life Index (Ferrans & Powers, 1985) and a significant reduction in the perceived stress among the respondents, measured using the Perceived Stress Scale (Cohen et al.,1983). Although the mindfulness-based intervention did lead to an improvement in the quality of life of the respondents, no significant changes were noted in terms of perceived stress. The third study to be included was by Crowder & Sears (2017), which involved the impact of a mindfulness-based intervention on the levels of stress, resilience, and burnout. The study, which involved an intervention group and a waitlist/control group, found that the level of stress decreased significantly when compared to the waitlist group. Moreover, the stress levels continued to decline 26 weeks after the intervention for the intervention group. The fourth study to be included in the analysis was by Roulston et al. (2018). The study carried out in Northern Ireland mainly included the implementation of a six-week mindfulness-based course developed by Kabat-Zinn (1982). The impact of the intervention, which involved a weekly two-hour session, was measured using the Warwick-Edinburgh Mental Wellbeing Scale, validated to be used in the United Kingdom (Tennant et al., 2007), the Wanglid Resilience Scale (Wagnild, 2009), and the Perceived Stress Scale (Cohen et al., 1983). Among other findings, the researchers found a significant decrease in the mean score of stress among the intervention group. The fifth study to be included was by Hosseinzadeh Asl (2022), which was essentially a randomised controlled trial that involved a total of 49 social workers divided into two groups. There were 28 social workers in the experimental group and 21 respondents in the control group. The intervention group underwent a four-week mindfulness training programme, and although the experimental group displayed a decrease in stress after

the intervention and also during the follow-up which took place one month after the intervention, the differences were not statistically significant. The final study to be included in the final analysis was the one by Maddock et al. (2023). Since the search period was until 2023, the one by the same author in 2024 was not included (Maddock et al., 2024). This recent study involved a total of 62 social workers who were randomly allocated into two groups. The experimental group consisted of 33 respondents, while the active control group consisted of 29 respondents. The experimental group underwent a six-week online mindfulness-based programme called the mindfulness-based social work and self-care (MBSWSC) programme, aimed at reducing stress, burnout, anxiety, and depression, and improving the wellbeing of social workers. The researchers noted that the programme was successful at reducing stress, among other mental health issues such as depression and anxiety, among the social workers.

As observed from the included studies, while some studies indicate that mindfulness-based interventions could indeed significantly lower the level of stress faced by social workers, some suggest that such interventions may not be very effective. In order to gain a clearer picture of this, the present meta-analysis is being undertaken. The flowchart indicating the search efforts and selection procedure is presented in Figure 1, and the list of studies included in the final analysis can be viewed in Table 1.

Forest Plot and Effect Size Estimates

The forest plot, which is a graphic representation of the results of a meta-analysis (Sedgwick, 2015), as seen in Figure 2, indicates all six studies included in the final analysis. The forest plot is the main plot that helps researchers identify whether a particular approach is helpful or not across various RCTs. It may be noted that the researchers adopted the random-effects model, which assumes that the true effect is most likely different from one study to another due to small differences in the nature of the studies and the variables used

(Dettori et al., 2022). The forest plot also shows the weight of each study. The effect size was estimated using Cohen's d (Sullivan & Feinn, 2012) and the results indicate that the effect-size was greater than what is categorised as small ($d = 0.2$) yet smaller than what is categorised as medium ($d = 0.5$) (Cohen's d in the present study = -0.372 , $p = 0.045$ or $p < 0.05$) (Gignac & Szodorai, 2016). The analysis indicates that, on the whole, mindfulness-based intervention can lead to a significant reduction in the level of stress experienced by social workers.

Checking for Publication Bias

Now that the results of the random-effects model have indicated that mindfulness-based interventions are effective in reducing stress among social workers, the next step to take is to check for publication bias, which is a common problem in meta-analyses (Lin & Chu, 2018). Publication bias essentially refers to the problem of only those studies that show a positive result or a statistically significant result being published. This means that editors may generally be more likely to publish such studies over those that offer contrary results. Such a scenario could affect the results of the meta-analysis as well. Hence, Egger's regression-based test was employed to examine the prevalence of asymmetry and publication bias that could affect the meta-analysis and its overall conclusion (Lin et al., 2018). The results of this test indicated that there is a very low probability of publication bias (Intercept = 0.083 ; $p = 0.887$ or $p > 0.05$).

Discussion and Implications for Social Workers

The present study offers a detailed insight into the effectiveness of mindfulness-based intervention for reducing stress amongst social workers and social work students. Although the existing literature on this issue, specifically for social workers, is limited to a few randomised controlled trials, the results of the present meta-analysis offer unique insight and statistical proof for advocating mindfulness-based interventions for social workers. The

article, including the search efforts for identifying studies focused on social workers, indicates the urgent need for more empirical studies on this issue. Nevertheless, based on the findings of this analysis, it can be stated that organisations that employ a significant number of social workers could consider conducting workshops on mindfulness-based stress reduction techniques on a regular basis, which might encourage social workers to incorporate certain mindfulness exercises that can help protect them from burnout caused by excessive stress. This would also benefit the organisations as it would mean better performance from their staff. Currently, there are several mobile applications that offer instructions and online training for mindfulness-based stress reduction. However, there is a paucity of studies examining their effectiveness, especially among human service-based professionals such as social workers. This is another research gap that could be filled by researchers in the future. Another reason why it is worth further exploring mindfulness-based therapies for social workers is that it can be practised anywhere, anytime, and are free of cost. Moreover, there are different techniques that can be employed in different scenarios, based on the work environment of the individual social worker. Although the present articles are limited by the number of randomised control trials, the analysis does offer a very useful insight into the effectiveness of mindfulness-based therapies in helping reduce stress among social workers. Universities and colleges offering social work programmes could consider incorporating a paper titled - ‘Stress Management for Social Workers’, where they are taught different therapies, such as the mindfulness-based therapies, that can be learnt and practised by them. It is not only important for the students of social work to learn about the problems of society and their role in helping address them but is also important for them to be aware of the possible challenges they are likely to come across while practising social work, including stress and most likely burnout, which is a common problem faced by social workers (Gómez-García et al., 2020). Considering the seriousness of the issue, organisations

employing social workers could consider establishing a buddy system wherein everyone at the workplace has a buddy who can check in on one another and identify individuals who display signs of burnout and require psychological support. Mindfulness-based intervention could also help address other underlying psychological problems, such as depression and anxiety (Hofmann & Gómez, 2017). However, there is a paucity of randomised controlled trials on the effectiveness of such interventions in reducing depression and anxiety among social workers in particular. Finally, the paucity of randomised controlled trials also indicates that there is a need to focus more on stress and stress-related burnout experienced by social workers and how it can be effectively managed using approaches such as the ones discussed in the present article.

Conclusion

The present meta-analysis is primarily aimed at filling a research gap on the effectiveness of mindfulness-based interventions in reducing the stress levels of social workers and social work students. The analysis provides statistical evidence of the positive impact of the interventions across six different studies involving several respondents. With the ever-increasing stressors for social work professionals and social work students who are often exposed to difficult and emotionally draining scenarios, there is a need for identifying strategies for incorporating interventions such as mindfulness-based interventions in order to reduce stress and prevent burnout. It is hoped that the findings of this meta-analysis will motivate schools of social work and organisations employing social workers around the globe to work towards protecting the mental wellbeing of social workers and social work students.

Limitations

One of the limitations of the present analysis is the limited number of studies included in the final analysis and the lack of a standardized technique used to review the existing literature (Aveyard, 2018). Although a meta-analysis with even two studies is technically

possible, a larger number of studies would add greater strength to the findings. However, this limitation is merely an indication of the paucity of randomised controlled trials on this topic. Another limitation of the present study is the lack of subgroup analysis that is carried out in larger meta-analyses. However, owing to the relatively small number of respondents in the majority of the studies, the researchers opted to skip this analysis.

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Data Availability

The dataset associated with the present article can be publicly accessed at <https://doi.org/10.6084/m9.figshare.25378696>

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Table 1- Studies included in the final analysis

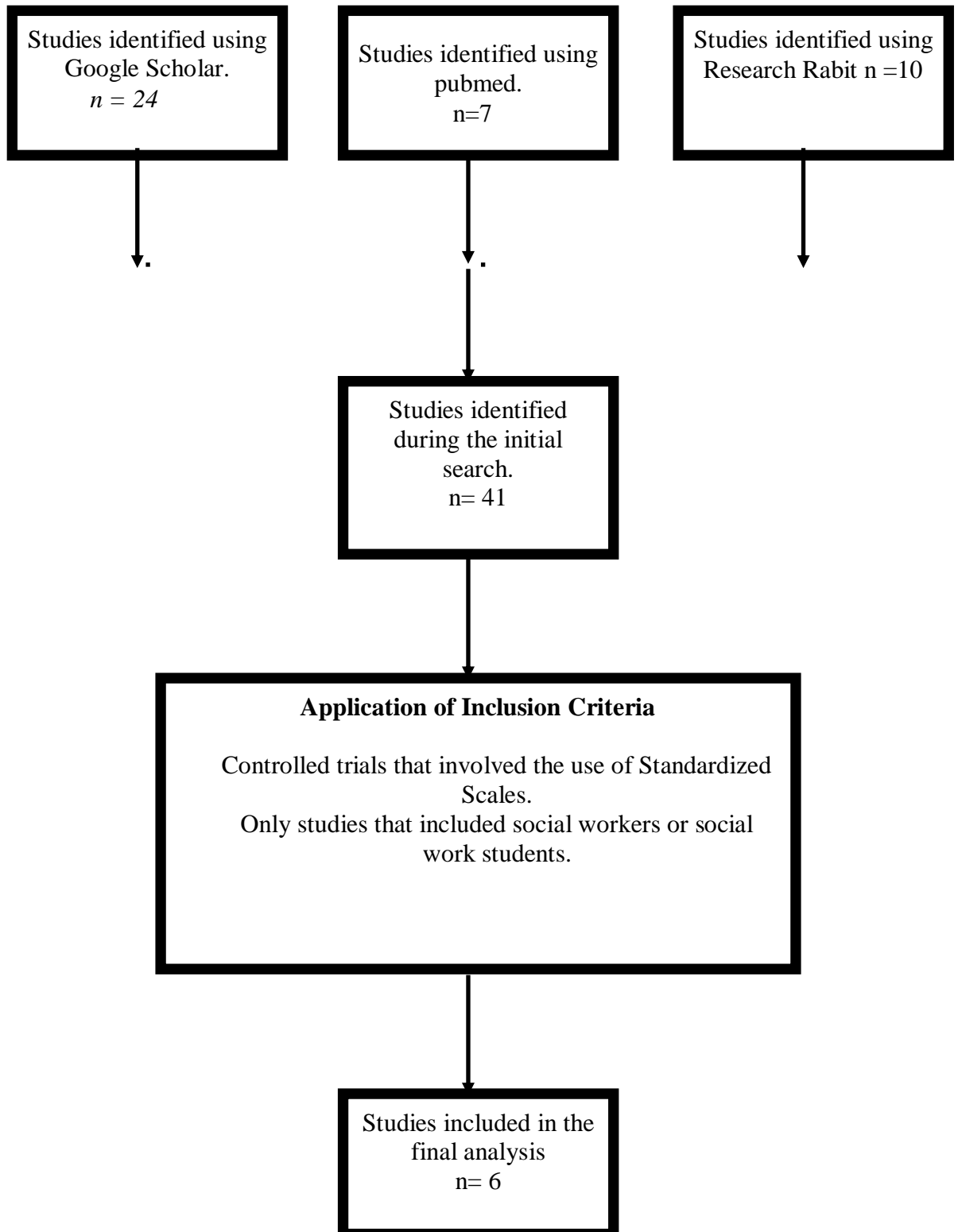
Title of the study	Authors	Year	Experimental group (N)	Control group (n)	Scale used	Country
Acceptance and commitment therapy for the treatment of stress among social workers: A randomized controlled trial	Brinkborg et al.	2011	70	36	PSS	Sweden
Mindfully Increasing Quality of Life: A Promising Curriculum for MSW Students	Bonifas & Napoli	2014	37	40	PSS	United States
Building Resilience in Social Workers: An Exploratory Study on the Impacts of a Mindfulness-based Intervention	Crowder & Sears	2017	7	7	PSS	Canada
Exploring the impact of mindfulness on mental wellbeing, stress and resilience of undergraduate social work students	Roulston et al.	2018	13	12	PSS	Ireland

A randomized controlled trial of a mindfulness-based intervention in social workers working during the COVID-19 crisis	Hosseinzadeh Asl	2022	28	21	DASS-21	Turkey
A randomised trial of Mindfulness-based Social Work and Self-Care with social workers	Maddock et al.	2023	33	29	PSS	Ireland

***PSS- Perceived Stress Scale developed by Cohen et al. (1983)**

**** DASS-21- Depression, Anxiety, Stress Scale developed by Lovibond and Lovibond (1995)**

Figure 1- Flowchart Indicating the Search Efforts and Selection Procedure



■ Effect size of each study
◆ Estimated overall effect size
 Confidence interval of effect size
 No-effect value

Forest Plot

ID	Cohen's d	Lower	Upper	Weight	Weight (%)
maqddock_2023	-0.45	-0.96	0.05	5.58	19.25
crowder_2017	-0.92	-2.03	0.18	2.33	8.04
roulston_2018	-0.47	-1.26	0.33	3.60	12.44
bonifas_2014	0.31	-0.14	0.76	6.04	20.85
brinkborg_2011	-0.72	-1.13	-0.31	6.35	21.93
Hossainzadeh_2022	-0.33	-0.90	0.24	5.07	17.49
Overall	-0.37	-0.74	-0.01		

