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A Narrative Review of Mindfulness-Based Interventions for Women's Mental Health

Yichen Lu

Department of Sociology, The University of Hong Kong (HKU), Hong Kong, China
u3661619@connect.hku.hk

Abstract. Social context, occupational demands, and life-stage transitions all shape women's mental health. This mechanism-driven narrative review primarily examines how mindfulness-based interventions (MBIs) work for women by focusing on the underlying mechanisms they activate rather than the program "brands," in other words, the type of the program. Specifically, this paper analyses evidence showing that training sustained attention and acceptance can enhance conflict monitoring and non-reactivity of stress-elicited thoughts and emotions, enabling the decentering/reperceiving of those thoughts and emotions—together with their associated bodily sensations and self-referential appraisals (e.g., self-criticism), and thus supporting better emotion regulation. This paper reveals how these connected processes are conditioned by context—including work/academic pressures and changing roles across the life stages—and identifies mechanisms that recur across settings and stages. This paper argues that care should be mechanism-led and context-based: practice needs to be paired with low-barrier supports that fit the individual's life stage, which allow these mechanisms to align with women's social identities and living conditions.

Keywords: Mindfulness-Based Interventions (MBIs), Women's Mental Health, Conflict Monitoring, Reperceiving

1. Introduction

In contemporary society, with people's raising awareness in gender related issues and the progress of society, the injustice caused by gender-based inequality is gradually being addressed. However, it is undeniable that women still face mental-health burdens driven by structural inequities. For example, the WHO estimates that nearly 30% of women have experienced physical and/or sexual violence by an intimate partner, or by a sexual non-partner over their lifetime worldwide; reviews further link intimate partner violence to depression, anxiety, Post-Traumatic Stress Disorder PTSD, and suicidal ideation [1-2]. In the workplace, harassment and discrimination are closely associated with poorer mental health and problematic alcohol use, and women are disproportionately affected [3]. Less visible risk factors include perinatal periods, the menstrual cycle, and the menopausal transition—reproductive changes that carry distinct mental-health vulnerabilities.

Raising awareness is only the first step; more importantly, mental-health resources must be timely and accessible to women across diverse environments and life stages. Over the past decade, mindfulness-based interventions (MBIs)—a low-risk, non-pharmacological approach—have

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emerged as a promising everyday tool to support women's mental health. This paper is a mechanism-driven review that searches and integrates peer-reviewed literature up to 2025. It maps the evidence to a common chain of mechanisms and further synthesizes the evidence by occupational and life stage context.

The purpose of this paper is to argue that, for women, the effectiveness of mindfulness-based interventions should be judged by the core mechanisms they activate—especially sustained attention and acceptance—rather than by program "brand," and to examine how mechanism-led, context-responsive implementation aligns with women's social identities, life stages, and living conditions.

The purpose of this paper, for women, the value of mindfulness-based interventions (MBIs) lies not in the program "brand" but in the mechanisms they activate. The mechanisms that make MBIs useful are chiefly training in sustained attention and acceptance, which enhance conflict monitoring, allow greater sensitivity to affect while remaining nonreactive, and ultimately enable reperceiving and a shift in perspective. For women's emotional distress, care should be mechanism-led and context-based: finding the "right" technique is not enough. MBIs help only when the surrounding environment is adjusted so these mechanisms can take root smoothly and be fitted to women's social identities, life stages, and living conditions.

2. Mindfulness-Based Interventions (MBIs)

To introduce the various types of mindfulness-based interventions, it is essential to define mindfulness first. Jon Kabat-Zinn introduces the concept of mindfulness, framing it in a western definition, but also traces the history of the concept as it exists in Buddhist practices. First, to give mindfulness an operational definition, we word it as to fully engage in the present moment purposefully with non-judgmental awareness [4]. In the Buddhist context, mindfulness corresponds to sati/smṛti: not only present-moment attention, but also the capacity to keep in mind—to recollect the aim of practice and the chosen object [5]

Today, mindfulness is no longer confined to Buddhist scriptures; this valuable concept has been adapted to mental health care through mindfulness-based interventions (MBIs), which encourage people to integrate mindfulness into everyday life—via programs like MBSR, MBCT, and others—to improve psychological well-being.

3. Mechanisms underlying MBIs

During the past decade, mindfulness-based psychological interventions gained increased popularity and entered the public eye. Researchers show growing interest in measuring its effects on mental health. Nevertheless, critics argue that current meditation research lacks a theoretical framework to examine how mindfulness meditation works [6-7]. When discussing mindfulness-based meditation, we are not merely talking about its effect on mental health and physical health improvement, but also how it has such effects and what about mindfulness meditation leads to better health outcomes. Although there are different interpretations in academia regarding the key factors of mindfulness meditation, increasing research indicates that its effectiveness depends on a series of interacting psychological and physiological mechanisms. Hölzel et al. proposed that mindfulness practice mainly functions through attention regulation, body awareness, emotion regulation, and changes in perspective on the self [8]. These processes are accompanied by neuroplastic changes in the anterior cingulate cortex, insula, and default mode network, which build stronger self-regulation [8]. Based on these findings, this paper divides the mechanisms of mindfulness interventions into two main

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pathways: psychological and physiological mechanisms. This paper further elaborates on how the mainstream frameworks of mindfulness meditation influence health outcomes positively.

3.1. Psychological mechanisms

From the perspective of psychological mechanisms, one of the most intuitive changes brought about by mindfulness meditation is improving the ability to regulate emotions. When discussing the topic of emotion regulation, people often think that good emotional management means being able to "digest" negative emotions by oneself, or to suppress or ignore them fundamentally, treating emotions with a numb attitude. At first glance, this may seem to align with meditation, since meditation is often misunderstood as emptying the mind or not thinking. However, mindfulness meditation increases sensitivity to affective cues, especially more subtle ones [9]. Teper, Segal, and Inzlicht point out that mindfulness meditation is not a process that makes people dull; rather, sensitivity to emotional signals helps change people's relationship with emotions before rushing to react to them, instead of struggling to change the emotions themselves [10]. This represents a change in the automatic response when people deal with emotions. In the definition of mindfulness meditation, apart from the current emphasis on attention management and present-moment focus, the second part is curiosity, openness, and acceptance toward present experiences, regardless of whether the emotional experience is good or bad [8]. This is the opposite of the numbness and closed-off attitude mentioned above.

This counterintuitive mechanism involves the concept of executive control, which is the ability to regulate thoughts, emotions, and behaviors to achieve goals [9]. Such a process is divided into monitoring current information in working memory, switching between tasks, and inhibiting things that are not supposed to be done. Mindfulness meditation training helps people detect their present emotions faster, and the conflict monitoring is activated when divergence between the current state and the ideal state is detected. Through meditation, people continuously strengthen the process of "awareness–monitoring–correction." When individuals experience mind wandering, they notice the conflict (conflict-monitoring) and suppress the maladaptive impulses to react to the emotion.

The importance of monitoring, in other words, attention, seems obvious in this context. The Intention–Attention–Attitude model (IAA) underscore the importance of attention, positioning it as the gateway mechanism through which intention and acceptance can emerge and stabilize [10]. However, attention itself is not enough, without simultaneous training in acceptance, this heightened awareness may lead to greater focus on distressing stimuli, which can amplify negative emotions [11]. Therefore, developing acceptance, which is characterized by openness and nonjudgmentalness, is necessary to eliminate such reactivity toward negative feelings. The key is that the automatic reaction to negative emotion is neither unwanted, avoidance, nor overreaction; acceptance encourages individuals to welcome emotions as they are, regardless of the valence. This also facilitates "reperceiving", the ability of shifting role from the actor of the life drama to the audience who witnesses things happening on stage [11]. Such a shift in automatic emotional responses might help explain why individuals with higher trait mindfulness—or those who undergo mindfulness training—consistently show better emotion regulation and reduced affective reactivity in laboratory tasks and daily life situations [11].

3.2. Physiological perspective

Besides the psychological mechanism, the physiological aspect of mindful meditation's mechanism is also crucial to understand. One key region that accounts for mindfulness meditation's effects on

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executive control and cognitive control is the anterior cingulate cortex. It helps to detect conflict when there is a discrepancy between the ideal state and the reality [8]. Such a condition frequently occurs during mindfulness meditation when the individual's mind wanders. The executive control helps detect such unwanted states and redirect the attention back to the intended focused state. Additionally, the ACC works with the frontal-insular cortex to fluently achieve the shifting from the mind-wandering to the focused state [12]. Nevertheless, ACC, like other brain regions, does not serve a single function, and so, how it co-works with other regions should also be investigated to gain a fuller understanding[12]. For example, evidence suggests that greater self-reported acceptance is associated with reduced anterior insula activity in response to negative stimuli and decreased activation in subgenual ACC and medial prefrontal cortex during recall of distressing autobiographical memories. These findings imply that acceptance may enhance emotion regulation by dampening automatic reactivity and enabling cognitive reappraisal and self-distancing [11].

In addition to enhancing emotional regulation, mindfulness meditation also strengthens one's awareness of the present moment by increasing sensitivity to internal bodily sensations and subtle emotional cues [8]. There is evidence showing that the insula cortex is activated during tasks involving bodily sensations. Furthermore, its gray matter volume has been linked to how accurately individuals perceive internal bodily signals and visceral states. There is an increase in insula activation when individuals complete a mindfulness-based stress reduction program compared to those who do not.

These findings altogether suggest that mindfulness does not reduce emotional reactivity through suppression or distraction; instead, it reshapes the underlying attentional and evaluative processes through which emotions are experienced and responded to.

4. Therapeutic effects of mindfulness-based interventions on women's stress and anxiety

Continuing with the mechanism review from the previous section, this section turns to the therapeutic effects of these mechanisms in women's life situations.

This section discusses how mechanisms translate into observable effects in real-life situations, specifically in occupational settings and different life stages. The chain of mechanisms follows attention (meta-awareness), allowing things to happen (acceptance/non-reactivity), taking a step back (receiving/decentering), and regulation, with an emphasis on sustained attention and conflict monitoring. These mechanisms are particularly critical for women, given their higher exposure to caregiving responsibilities, reproductive transitions, and workplace and gendered stressors.

In practice, programs such as Mindfulness-Based Stress Reduction (MBSR), Mindfulness-Based Cognitive Therapy (MBCT), Mindfulness-Based Childbirth and Parenting (MBCP), and Mindful Self-Compassion (MSC) serve as delivery tools that carry out the mechanisms. It is important to note that effects are the results of mechanisms, not the brand; therefore, this paper does not go into details about each program. Instead, this section traces where, why, and how these mechanisms are expressed among women at different life stages and occupations, focusing on both mechanisms and context: explaining "why it works" and asking, "under what institutional and resource conditions do the effects occur consistently".

4.1. Occupational perspective

Research shows that women in life are exposed to more risk factors which results in a higher percentage of mental illness and emotional disturbances compared to men. A U.S. study showed that the burnout rate for female physicians was 51% vs. 36% for men in 2020; it rose to 56% vs. 41%,

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respectively, in 2021 [13]. A Lancet Public Health systematic review reports that among adults in paid employment, time and burden of unpaid labour are significantly associated with poorer mental health in women, while the effect is weaker for men [14]. In addition to generic occupational stressors, gendered stressors, including gender harassment, illegitimate tasks, emotional labour, etc., were associated with depression/burnout, and women were more likely to report emotional exhaustion [15-17].

4.1.1. Health care professionals

Across studies of health care providers who women overrepresent, Kriakous et al. found that MBSR significantly reduces anxiety, depression, and stress and enhances self-compassion; however, the effects on burnout/resilience tend to be smaller or slower to emerge [18]. Altogether, these results suggest that mindfulness allows the shift in perspective from subjective to objective, from viewing the emotional event as fact to viewing it as an ever-changing experience. Such a shift in perspective is the reperceiving discussed in the previous section. As a reminder, it is the shift from the "self in role" to the "observing self." It means relating to ongoing thoughts, emotions, and bodily sensations not as "I am this or I must act on it," but as "I notice this and can keep a small distance from it." This is not about denying or suppressing experience but changing one's relationship with experience. In other words, it is a process of shifting from actor to audience. Mindfulness meditation not only allows the individual to make that perspective change, but it also trains the "muscle" to step back from automatic responses to emotion, observe it, and accept it. This also aligns with the IAA model: starting with intention, moving to attention, and then to acceptance—a linked sequence through which continued mindfulness practice gradually gives rise to reperceiving[10-11].

4.1.2. Students and young women

Using Anastasiades et al. 's study of female college students as an anchor (N=928), this paper first demonstrates that depression mediates the stress–suicidal ideation link, and that mindfulness moderates this indirect pathway, and then examines the mechanisms through which mindfulness operates[19]. The indirect effect, specifically, points to that the effect is weaker at higher mindful awareness and stronger at lower mindful awareness—suggesting a buffering role of mindfulness[19]. Data show that about 10% of students seriously considered suicide in the past year, and 3% reported persistent suicidal thoughts [19]. Women report higher stress and depression, but are less likely to seek help, thus creating a high exposure but low treatment gap [19]. Based on this, this section examines the impact of mindfulness meditation on undergraduate women's mental health from two angles: mechanism and context. Following Section 3, we treat the study's mindful awareness as an operational doorway to meta-awareness, emphasizing noticing present-moment experience and adopting nonjudgmental acceptance, thereby strengthening metacognitive awareness [19-20]. Equally important, using the data as a prompt, we argue that the discussion should not stop at mechanism: we must ask what social conditions lie behind these patterns, why they arise, and whether campuses and society should provide structural supports—for example, low-barrier courses, proactive outreach, and referral pathways.

4.2. Life-stage perspective

Pregnancy/postpartum and reproduction-related transitions such as infertility, premenstrual dysphoric disorder, and perimenopause are all times when women are more likely to develop mental

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illness. Studies indicate that the global prevalence of postpartum depression is ~17.2%, and the pooled prevalence of antenatal depression is ~20.7% [21-22]. Maternal suicide is among the leading causes of perinatal death in high-income countries (accounting for ~5–20% of maternal deaths), and several reviews estimate that suicide may comprise up to ~20% of postpartum deaths [23-24]. Women experiencing infertility show even higher rates of depression, with pooled estimates up to ~40% [25]. This subsection examines how mindfulness meditation operates mechanistically to provide support for women at different life stages who face distinct risk factors.

Veringa-Skiba et al. experimented to study the comparison of Mindfulness-Based Childbirth and Parenting (MBCP) ----a structured program that teaches mindfulness skills to expectant parents to support coping with pregnancy, labor/birth, and early parenting---with enhanced care as usual (ECAU) with a framework composed of three components: emotion(fear of labor), cognition, (catastrophizing labor pain), and attention (awareness of mindfulness) to examine the pathways behind a more natural way of birth [26]. The study's results revealed that an increase in mindful awareness (not reacting to internal experiences) is the only factor that carried the intervention effect, whereas fear and catastrophizing did not emerge as mediators [26].

The message of this study is straightforward: among pregnant women with high fear of childbirth (FOC), what moves the individual toward a natural childbirth is not a fear reduction or "thinking less about pain", but rather a change in the way of paying attention [26]. Specifically, it is the increase in the pregnant woman's mindfulness and non-reactivity to the inner experience. This fits section 3's model, which starts with metacognitive awareness (seeing what is happening in the mind), adding acceptance (not judging or fighting it), and then reaching reperceiving (shifting from "I am the fear/pain" to "I notice it").

This leaves a small window between emotion-impulse-behavior for reappraisal, delayed/alternative reactions, and shifting from avoidance to facing and adapting to the birth process (thus reducing unnecessary interventions and moving closer to physiological birth). Overall, within the perinatal context, the focus of mindfulness is not about fear suppression or thought correction; instead, it is about changing the relationship between the person and the experience.

5. Conclusion

This paper takes a mechanism-driven view of MBIs for women, arguing that the value of MBIs lies not in the program name but in the mechanisms. They activate training sustained attention, and acceptance enhances conflict monitoring and non-reactivity, enabling decentering/reperceiving and, ultimately, better regulation. Nevertheless, as a narrative review spanning heterogeneous designs and regions, the paper did not conduct head-to-head or meta-analytic comparisons. Also, in most included studies, mechanisms are inferred rather than directly measured.

For future studies, it is important for researchers to realize that women's distress is context-based; stripping away background conditions to evaluate women's stress is unreasonable. Likewise, when studying mindfulness interventions, we should not focus only on the efficacy of a single therapy, but also on the broader forces shaping women's mental health—and on how to provide better resources by helping women find practices that best fit them. For women's emotional difficulties, care should be mechanism-led and context-based: choosing the "right" technique is not enough. Only by adjusting the surrounding environment so that mechanisms can take root smoothly—and by tailoring delivery to a woman's social identities, life stage, and living conditions—can MBIs truly help.

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