

The positive effects of mindfulness meditation



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Reference

Brief Mindfulness Meditation Improves Emotion Processing

Wu, R., Liu, L., Zhu, H., Su, W., Cao, Z., & Zhong, S. et al. (2019). Brief Mindfulness Meditation Improves Emotion Processing. *Frontiers In Neuroscience*, 13. doi: 10.3389/fnins.2019.01074

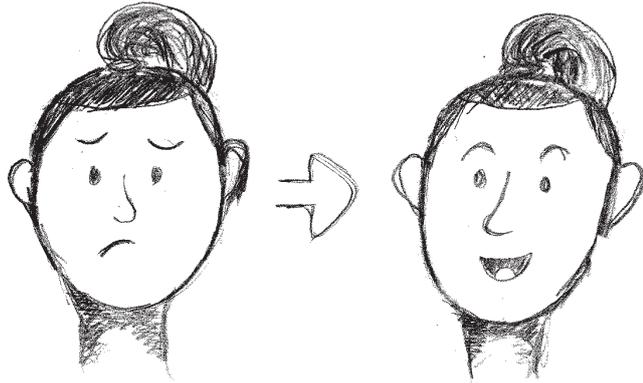
Link: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6795685/>

Introduction

"Mindfulness meditation has its roots in Vipassana (insight meditation, a Buddhist meditation technique) (Wu *et al.*, 2019)."



"Mindfulness meditation has been demonstrated to produce beneficial effects on mental and physical states, especially in terms of emotional improvement and recovery from affect-related psychopathology (Wu *et al.*, 2019)."



"Mindfulness meditation has been proven to promote well-being and emotional balance, to decrease stress reactivity, and to reduce negative feelings associated with anxiety and depression (Wu *et al.*, 2019)."



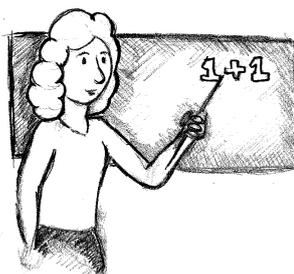
"Instead of attempting to change emotional experiences, meditation practice trains the individual to notice and observe emotions simply as they are and to accept emotional reactions as they arise (Wu *et al.*, 2019)."



"Although mindfulness meditation training has proven to have many positive effects, the beneficiary population is relatively small because of the associated time commitment..."



...teacher shortage...

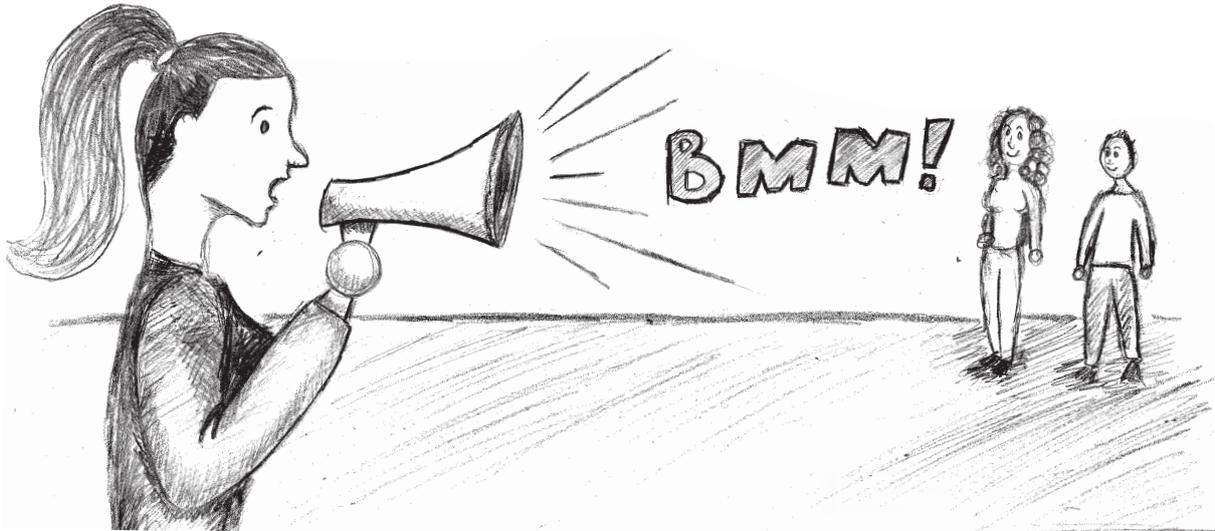


...and high cost (Wu *et al.*, 2019)."



Introduction

"Recently, brief mindfulness meditation (BMM) training has attracted increasing attention (Wu *et al.*, 2019)."



"Previous studies found that 5 days of meditation (20 min daily) improved coordination of the body and mind in practitioners (Wu *et al.*, 2019)."



"BMM is not restricted by time or place and has the advantages of convenience and low cost. These characteristics suggest that the technique could benefit individuals who do not have enough time, money, or motivation to pursue other types of meditation training (Wu *et al.*, 2019)."

"In the study of Wu *et al.*, they developed a 15-min BMM based on the core concepts of mindfulness and Anapanasati (breath meditation related to Buddhist Vipassana) (Wu *et al.*, 2019)."



Research and measurements

Materials and Methods
 Two groups participated in the research: "a BMM group (treatment group) and an emotional regulation education (ERE) group (comparison group) (Wu *et al.*, 2019)."

The diagram illustrates two experimental groups. On the left, a box labeled "BMM group" is positioned above two stylized human figures, one male and one female. On the right, a box labeled "ERE group" is positioned above two more stylized human figures, one female and one male.

"The entire experiment lasted for 3 weeks and consisted of three sessions: pre-test, intervention, and post-test" (Wu *et al.*, 2019).

A hand-drawn illustration of a calendar grid, showing a 3x3 arrangement of squares representing days, with two tabs at the top.

"The following inclusion criteria were used: (1) 18–25 years of age; (2) undergraduate or graduate student; (3) in good health, with no mental illness according to established diagnostic criteria; (4) ability to understand Cantonese; (5) willing to attend the BMM or ERE program" (Wu *et al.*, 2019).

A central illustration of a person is surrounded by five callout boxes, each containing an inclusion criterion: "18-25 years of age", "undergraduate or graduate student", "In good health, with no mental illness", "Ability to understand Cantonese", and "Willing to attend the BMM program." and "Willing to attend the ERE program."

Measurements
 Several things were measured: "the participants' demographic information (age, sex, and education status), mood state (depression, anxiety) and emotion processing (emotion intensity, emotional memory, and emotional attention bias). Mood state and emotion processing were assessed before and after the program. Emotion processing was assessed using before and after testing, using different visual information each time (Wu *et al.*, 2019)."

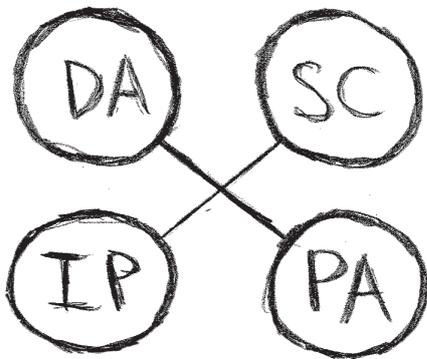
A hand-drawn illustration of a person sitting on the floor with their head in their hands, appearing distressed. A thought bubble above their head is connected to three callout boxes: "Mood state: depression and anxiety", "Emotion processing: Emotion intensity, emotional memory, emotional attention bias", and "Intervention and control".

Measurements

Mood State

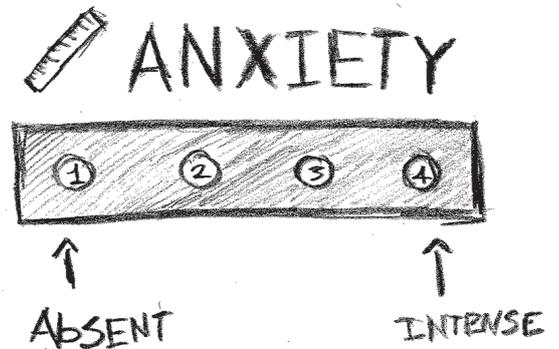
Depression

"Depression was assessed using the CES-D, which investigated how often the participants had experienced specific depressive symptoms during the last week. Originally proposed that the 20 items were categorized into four symptom groups: depressed affect (DA), somatic complaints (SC), interpersonal problems (IP), and positive affect (PA). Items were rated on a scale ranging from 1 (rarely or none of the time) to 4 (most or all of the time) (Wu *et al.*, 2019)."



State anxiety

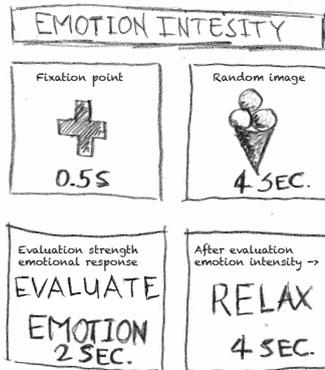
"State anxiety (feelings of anxiety at a given moment) were assessed with a 20-item subscale of the State-Trait Anxiety Inventory (STAI-Form Y; Spielberger, 1983). Each item evaluated by the SAI is scored on a scale ranging from 1 (absent) to 4 (intense) (Wu *et al.*, 2019)."



Emotion Processing

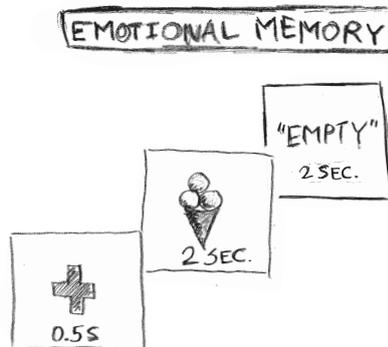
Emotion intensity

"An emotion intensity task was used to assess emotional intensity when participants were exposed to emotional stimuli. Pictures were selected to produce three distinct picture sets: positive, neutral, and negative (Wu *et al.*, 2019)."



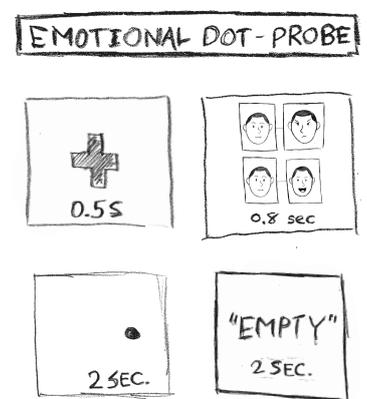
Emotional memory

"After completing the emotion intensity task, participants were immediately asked to finish the emotional memory task (Groch *et al.*, 2011). Recognition memory was assessed by asking participants to assign the term "familiar" or "novel" to each of 66 previously presented targets and 66 matched distractors (6 for practice, 60 for evaluation) (Wu *et al.*, 2019)."

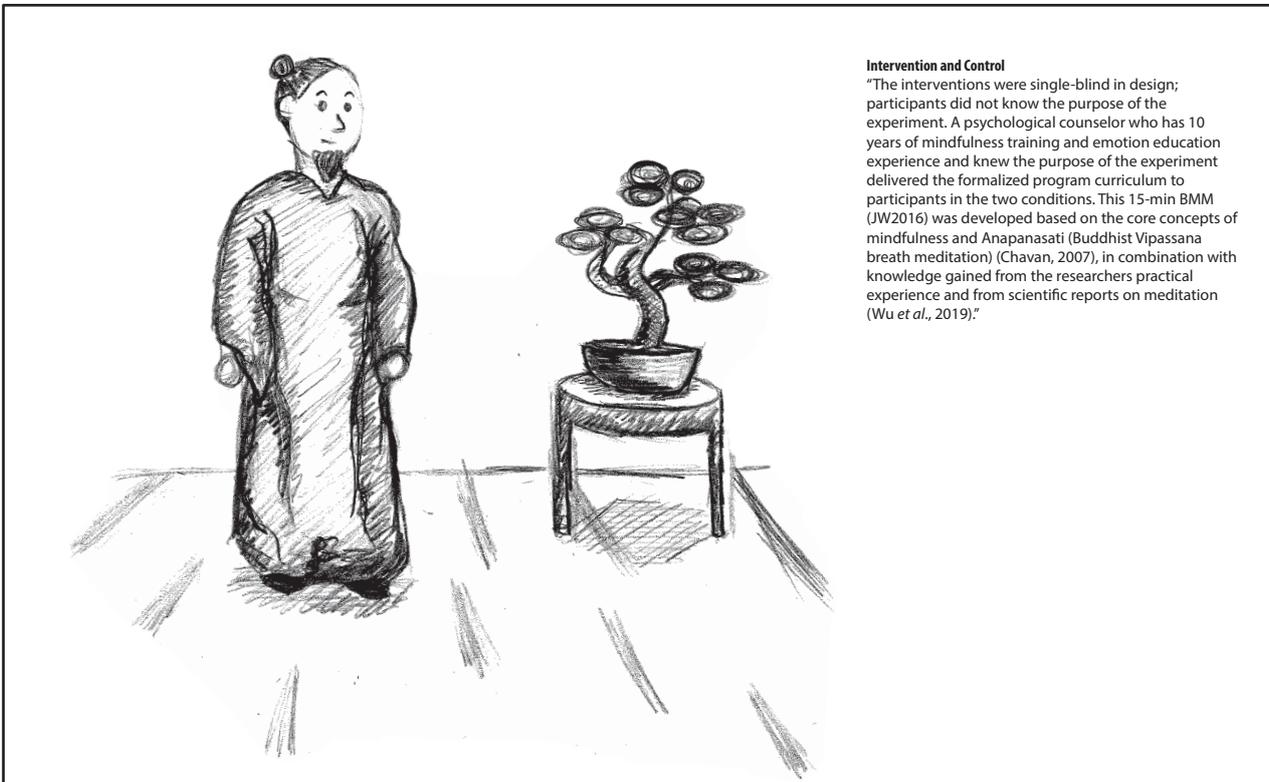


Emotional attention bias

"The attentional dot-probe task was used to assess emotional attention bias (Tsotsos *et al.*, 1995). A given face pair (neutral face with a positive or negative face) was presented, followed immediately by presentation of a probe in one of the two locations previously occupied by faces. Participants were required to indicate the orientation of the dot by pressing a labeled key on the keyboard. Attentional bias reaction time scores were calculated for each participant by subtracting the mean reaction time for congruent conditions from the mean reaction time for incongruent conditions (correct responses only) (Wu *et al.*, 2019)."

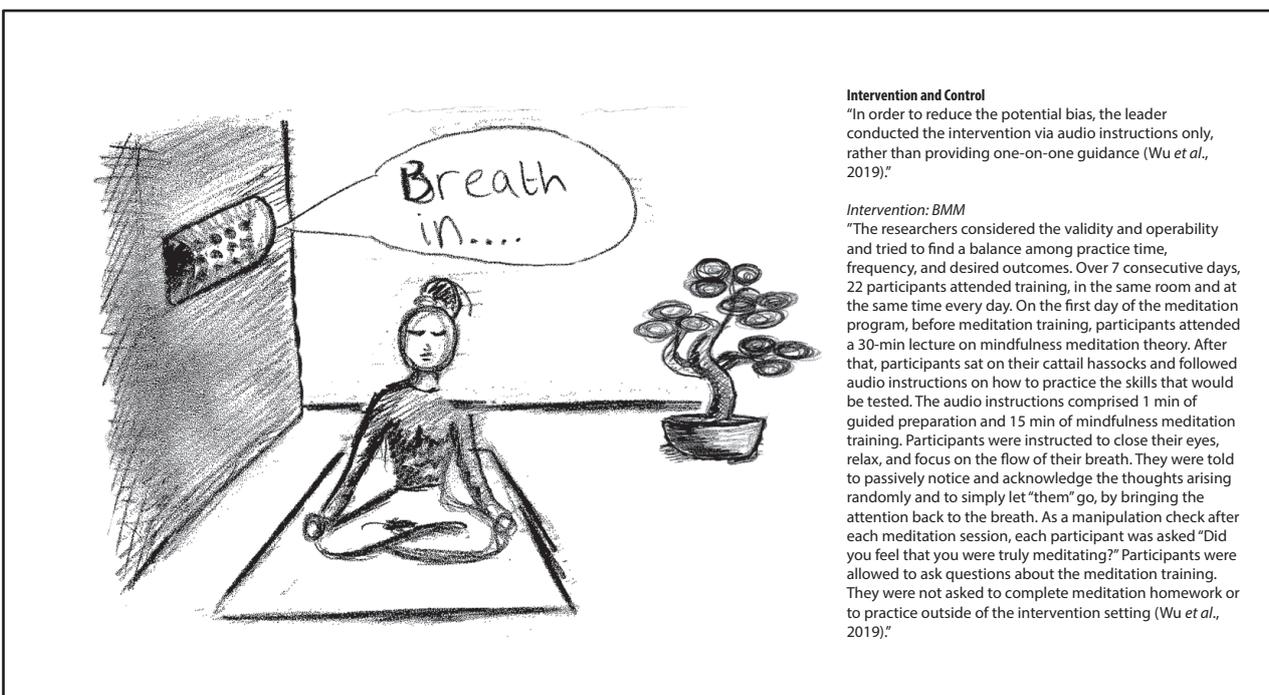


Measurements



Intervention and Control

"The interventions were single-blind in design; participants did not know the purpose of the experiment. A psychological counselor who has 10 years of mindfulness training and emotion education experience and knew the purpose of the experiment delivered the formalized program curriculum to participants in the two conditions. This 15-min BMM (JW2016) was developed based on the core concepts of mindfulness and Anapanasati (Buddhist Vipassana breath meditation) (Chavan, 2007), in combination with knowledge gained from the researchers practical experience and from scientific reports on meditation (Wu *et al.*, 2019)."



Intervention and Control

"In order to reduce the potential bias, the leader conducted the intervention via audio instructions only, rather than providing one-on-one guidance (Wu *et al.*, 2019)."

Intervention: BMM

"The researchers considered the validity and operability and tried to find a balance among practice time, frequency, and desired outcomes. Over 7 consecutive days, 22 participants attended training, in the same room and at the same time every day. On the first day of the meditation program, before meditation training, participants attended a 30-min lecture on mindfulness meditation theory. After that, participants sat on their cattail hassocks and followed audio instructions on how to practice the skills that would be tested. The audio instructions comprised 1 min of guided preparation and 15 min of mindfulness meditation training. Participants were instructed to close their eyes, relax, and focus on the flow of their breath. They were told to passively notice and acknowledge the thoughts arising randomly and to simply let "them" go, by bringing the attention back to the breath. As a manipulation check after each meditation session, each participant was asked "Did you feel that you were truly meditating?" Participants were allowed to ask questions about the meditation training. They were not asked to complete meditation homework or to practice outside of the intervention setting (Wu *et al.*, 2019)."

Conclusion

"This study demonstrated that JW2016 BMM (15 min a day for 7 consecutive days) was able to improve emotion processing including emotion intensity, emotional memory, and emotional attention bias, without any negative effect on the emotions of healthy practitioners. This BMM method may be applied to the emotional self-care of healthy people and/or the emotional rehabilitation of patients with affective disorders. It could be an effective, convenient, safe, and standardized way to improve emotion processing and to remain focused and peaceful (Wu *et al.*, 2019)."



"More empirical studies will be needed to verify the effects of BMM. We will also work on popularizing BMM to benefit more people (Wu *et al.*, 2019)."

