

Data analysis of improvement in mindfulness of students of the Mindfulness Center of the Capital Region MBSR course

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Introduction

Mindfulness Based Stress Reduction (MBSR), created by Jon Kabat-Zinn, is a group course intended to alleviate various forms of suffering (physical, psychiatric, and psychosomatic) through the use of mindfulness meditation (Grossman et al. 2004). It has been shown to help students cope with various clinical and non-clinical issues (Grossman et al. 2004).

We hypothesized that students of the Mindfulness Center of the Capital Region MBSR course would have an increase in overall mindfulness when compared to people that had not taken the course. Additionally, we hypothesized that the Mindfulness Center of the Capital Region MBSR course is equivalently effective whether taken over a virtual format or when taken in-person.

Methods

Our study included two eight-week MBSR courses at the Mindfulness Center of the Capital Region, which started in August 2021 (which was fully virtual) and in November 2023 (which was fully in person). To determine dispositional mindfulness of students at the start of class, students were instructed to take the Day-to-Day Experiences survey from the Positive Psychology Center of the University of Pennsylvania (Brown & Ryan 2003). A control group took the same survey at the start of the November 2023 course. Controls lived in the same geographical location as students and were of a similar age group, but were not enrolled in any MBSR course. Eight weeks after the initial survey, both the August and November cohorts as well as the controls retook the survey.

Percentage improvement over the eight weeks was calculated using survey results; $[(final\ value - original\ value) / original\ value] * 100$. We classified an individual as having “greatly improved” if their percentage of mindfulness improvement was >20% to account for test-retest variability (i.e. variations in measurement due to extraneous factors, Aldridge et al. 2017). We used a chi square test to test for a significant difference between students and controls. We then tested significance among virtual students and in-person students.

Results

We found statistical significance that MBSR students greatly improved in mindfulness more than the control group. Students in the course improved by an average of 41.6%, while controls increased by an average of 6.2% (Fig. 1). We found that there was no significant difference in mindfulness improvement among students who attended the class virtually or in-person (Fig. 2).

Discussion

Results support our hypothesis that students in the Mindfulness Center of the Capital Region MBSR class had significantly improved in mindfulness (Fig. 1), and that virtual and in-person classes were both effective.

Results showed that the virtual class was much more consistent in improvements in mindfulness than the in-person class, which ranged from 1% to 103% improvement (Fig. 2). The

variation in results may be a factor of how much homework each individual completed. Class homework consisted of a daily 45 minute meditation. However, during the in-person class a 10 - 20 minute guided meditation option was made available to accommodate students who could not complete the encouraged 45 minutes. The virtual class had no accommodated homework option. Based on in-class discussions with the in-person cohort, we predict that approximately half of the students were consistently completing their full 45 minutes, while half were more often doing the shorter 10 - 20 minute option. We hypothesize that this may account for the large differences in mindfulness improvement among in-person class members. Benefits of these differing homework assignments should be studied in future research.

A limitation of this study was that there was not a control group at the time of the August 2021 course. The control was added at the start of the November 2023 course. This oversight could have excluded important variations in results, as August 2021 was during the COVID-19 pandemic. The pandemic accelerated public interest in mindfulness practices (Kwon 2023), and therefore could have been a confounding variable.

Figures

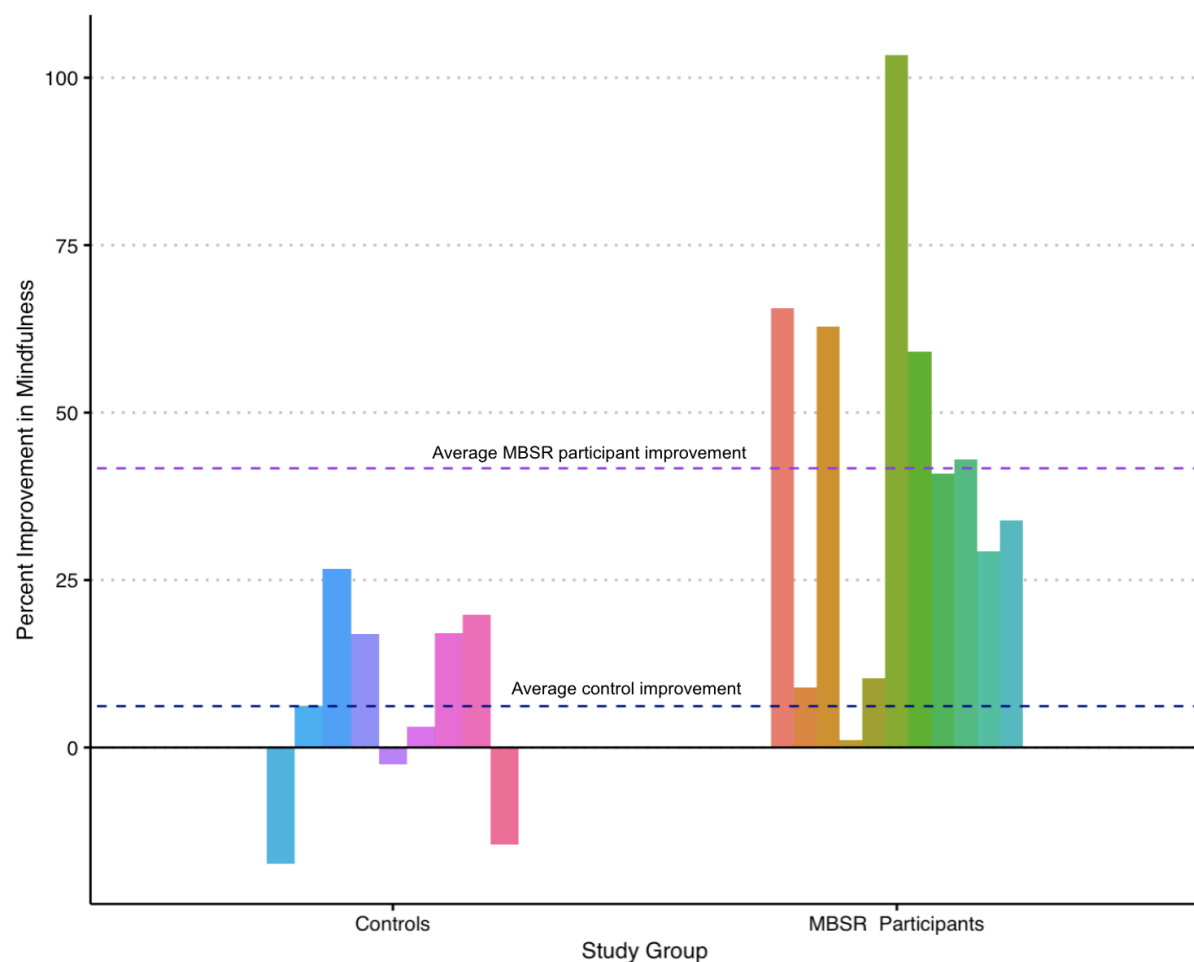


Figure 1. Comparing relative improvement in overall mindfulness among controls and MBSR students of the Mindfulness Center of the Capital Region eight-week MBSR course.

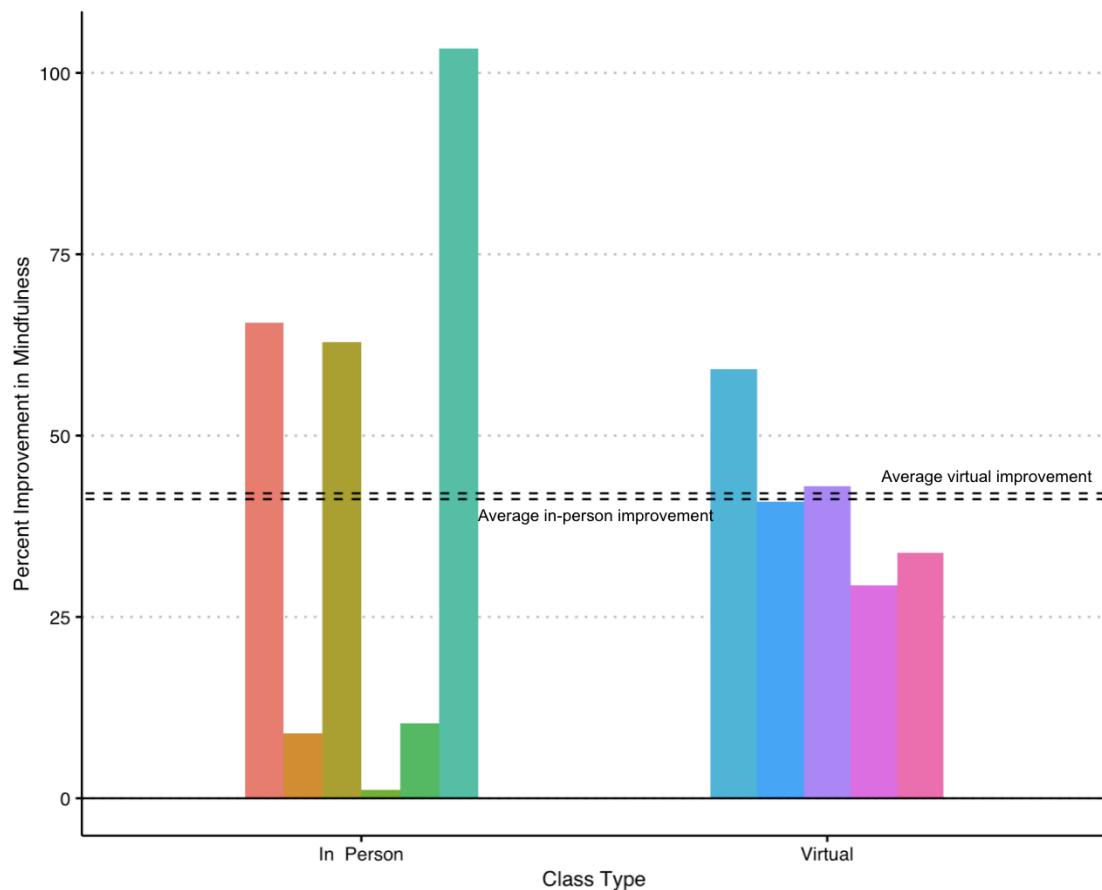


Figure 2. Comparing relative improvement in overall mindfulness among in-person participants and virtual participants of the Mindfulness Center of the Capital Region eight-week MBSR course.

Citations

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- Kwon, C.Y. (2023). Research and Public Interest in Mindfulness in the COVID-19 and Post-COVID-19 Era: A Bibliometric and Google Trends Analysis. *International Journal of Environmental Research and Public Health*, 20, 5, 3807.