

**Critical Review:
Do Mindfulness Practices Decrease Stress and Increase Self-Compassion among Communication Sciences
and Disorders (CSD) Graduate Students?**

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The mental health of students in clinical programs and working health professionals is becoming a central focus of mindfulness research today. Mindfulness practices continue to be proven to decrease stress and anxiety and improve professional skills and performance among medical, nursing, and clinical psychology students. However, little similar research has been done on communication and sciences disorders students. This critical review examines the effectiveness of mindfulness practices on improving the well-being of speech-language pathology and audiology students. A literature search using computerized databases was completed resulting in four articles meeting the inclusion criteria. Study designs were all mixed and included: within-group design, between-group design and qualitative design. The articles were evaluated using a critical appraisal template evaluating the level of evidence, validity and importance of the information included in the article. Overall, the research indicates that mindfulness practices improve the well-being of communication sciences and disorders students.

Introduction

Graduate students studying any discipline experience stress but those in clinically oriented programs such as speech-language pathology and audiology are said to have above average stress levels as they must engage in both academic work and clinical placements (Beck et. al., 2015). It is important to discover ways to reduce communication sciences and disorders (CSD) student's stress levels because heightened stress could cause psychological distress, burnout, decreased perceptions of professional competence and poor patient care (Beck et. al., 2015). One way to promote mental health among CSD students is for the programs themselves to teach different mindfulness practices.

The literature investigating the effects of mindfulness practices on CSD student's health and wellness is an emerging body of work. While the research that does exist suggests that mindfulness practices do improve the well-being of the subjects, it is limited in quantity. More research needs to be done to ensure stronger and consistent validity and reliability among a larger number of studies across an increased variety of CSD programs.

Wellness in this review refers to decreased stress and perfectionism levels and increased self-compassion. Mindfulness practices in this review refers to yoga, breathing exercises, journaling and reflections, and meditation.

Objectives

The primary objective of this paper is to critically evaluate existing literature regarding the effectiveness of mindfulness practices on improving the well-being of communication sciences and disorders students.

Methods

Search Strategy

A variety of computerized databases including PubMed, Psych Info, EBSCOHOST and Jstor, were searched using the following terms:

(mindfulness) OR (meditation) AND
(treatment) OR (practices) AND (speech-
pathology students) OR (audiology students)

The search was limited to articles written in English between 1990 and 2018.

Selection Criteria

Studies selected for inclusion in this review paper was required to investigate any type of mindfulness practice on communication sciences and disorders student's well-being. There were no further limits set on the demographics of the research participants or outcome measures.

Data Collection

The results of the literature search yielded the following types of articles harmonious with the selection criteria mentioned above: mixed design – between-groups and qualitative design (2), mixed design – within-groups and qualitative design (1), and mixed design – within-groups, between-groups and qualitative design (1).

Results

Mixed Design

Each study used a combination of designs to best suit their research needs. Mixed design was appropriate for testing the effects of mindfulness practices on CSD student's wellness because it allowed the researchers to measure both quantitative and qualitative outcomes of the treatment.

Beck and Verticchio (2014) completed a mixed methods study to examine the effects of mindfulness practices on the development of counselling skills and overall wellness in audiology (n=9) and speech-language pathology (n=11) students enrolled in a counselling course. The first author was the instructor of the course and all students were invited to and participated in the study. Participants completed 5-minutes of stretching and breathing exercises and 2-minutes of reflective writing at the beginning of each biweekly class for three weeks. Measures were created for the study for perceived stress levels and a questionnaire about student's knowledge of counselling and mindfulness were administered as pre- and post-measures. Results of the study indicated that across all participants, stress levels decreased, counseling confidence increased, and awareness of the importance of mindfulness and well-being increased. Audiology and SLP student results were not compared.

Strengths of this study include a plausible rationale and well-formulated question, and several appropriate participant eligibility criteria. Weaknesses include potential differences in participant motivation given that the audiology and SLP students differed in prior counselling coursework and the requirement to complete the course. Also, baseline equivalence of the student groups was not demonstrated. Although the study measures were appropriate, adequate reliability and validity for the questionnaire measure has previously been demonstrated for interventions considerably longer than in this study. Data analysis included appropriate statistical tests to examine group and treatment effects, as well as appropriate thematic analyses of qualitative data. Adequate reliability on thematic coding was reported. Nevertheless, the effect of course work and mindfulness training could not be disentangled in the analyses. The lack of a control group also limits interpretability.

The level of evidence offered by this study is somewhat suggestive of positive benefits of mindfulness training on reducing stress and increasing well-being in CSD graduates students.

Beck et al. (2015) completed a mixed methods study to examine the effects of 6 weekly yoga sessions on the stress level of 29 female first year CSD graduate

students. Participants were recruited from a single CSD program in which the first three authors are instructors. Outcomes measures included biological and perceptual measures of stress and focus group discussions completed before and after the 6-week yoga block. Results of the study indicated that perceived and biological stress levels decreased in all participants.

Strengths of this study include a plausible rationale and well-formulated question, clearly described participant eligibility criteria and recruitment, a well specified treatment protocol, and appropriate outcome measures. Appropriate statistical analysis of quantitative data and thematic analysis of qualitative data were reported. With regard to study weaknesses, pre-treatment exposure and implementation of stress management practices were not reported to have been inquired about among participants.

The level of evidence offered by this study is highly suggestive that the mindfulness practice of yoga can reduce stress in CSD students.

Beck et. al. (2017) completed a mixed methods study to examine the effects of mindfulness practices on CSD students' self-compassion, perfectionism, attention and stress levels. The study included 37 female CSD undergraduate and graduate students who participated in 20-minute long mindfulness classes consisting of yoga, breath work and reflective writing each week over a 12-week academic semester. Three self-report scales measuring perceived stress, self-compassion and perfectionism were completed before, at midterm and after the mindfulness treatment block as well as electrophysiological measures were taken to determine changes in biological markers of stress and attention. Reflective journals were analyzed qualitatively. Results of the study indicated all participant's perceived and biological stress and perfectionism levels decreased and their self-compassion increased. No changes in attention were noted.

Strengths of this study include a plausible rationale, well-formulated question, and well-controlled participant eligibility criteria. Appropriate baseline measures were selected and research methods were described clearly and sufficiently for future replication. Randomization and an appropriate control condition were employed. The researchers selected highly appropriate qualitative and quantitative measurements to evaluate change across treatment and all students completed each measure. Also, the quantitative measures included a wide variety including biological and perceptual measurements of changes across variables. Weaknesses include possible participant bias, pre-treatment exposure to mindfulness practices, and several uncontrolled treatment protocols. Data analysis included appropriate statistical tests to examine group

and treatment effects, as well as appropriate thematic analyses of qualitative data.

The level of evidence offered by this study is highly suggestive that mindfulness practices can reduce stress and perfectionism levels as well as increase self-compassion among CSD students.

Beck and Verticchio (2018) completed a mixed methods study to examine the effects of mindfulness practices and journaling on CSD student's self-compassion levels and value of mindfulness practices. The study included 53 CSD graduate students enrolled in a counselling course who participated in 12-minutes of yoga postures and breathing exercises at the beginning of each class as well as either gratitude or counselling journals two to five times per week. A perceptual measure on self-compassion and a questionnaire about student's journaling and mindfulness practices were administered as pre- and post-measures. Results of the study indicated all participants' self-compassion levels increased.

Strengths of the study include a plausible rationale, well-formulated question, well-controlled participant eligibility criteria, and appropriate baseline measures. Also, research methods were described clearly and sufficiently for future replication and randomization was employed. Weaknesses include several uncontrolled baseline factors, varying pre-exposure to mindfulness practices, and lack of a control condition. Also, treatment protocol was not strictly controlled. Lastly, the effects of the counselling course content were not separated from the treatment effects of mindfulness and journaling intervention. The researchers selected moderately appropriate qualitative and quantitative measurements to evaluate change across treatment. Data analysis included appropriate statistical tests to examine group and treatment effects, as well as appropriate thematic analyses of qualitative data.

The level of evidence offered by this study is moderately suggestive that mindfulness practices can increase self-compassion among CSD students.

Discussion

Overall, the findings from the studies indicate that mindfulness practices including yoga, breathing exercises, journaling and meditation are effective treatments for improving the wellness of communication sciences and disorders students. However, inherent weaknesses of the research methods, subject selection and assignment, and study design reduce the strength of evidence and the ability to confidently apply the findings to more CSD program settings.

Future Research Considerations

It is recommended that further research be conducted to confirm that mindfulness practices are effective treatments for improving the wellness of CSD students including whether generalization occurs within more CSD programs and if there are maintenance of treatment gains. Additionally, in future studies, the following recommendations should be considered to strengthen the level of evidence:

- a) Future research studies should employ study designs that lend stronger levels of evidence and incorporate larger sample sizes.
- b) Studies should be conducted throughout various CSD programs across the world to assess any geographical or program effects on the generalization of treatment.
- c) Researchers should conduct follow up protocols to assess long term effects of treatment and/or incorporate treatment strategies into the study that encourage long term effects.
- d) Future research studies should employ more between-group studies where participants are randomly assigned to groups, consistency across participant baseline characteristics is ensured and treatment protocols are highly controlled.
- e) It would be interesting to discover the effects of mindfulness practices on working speech-language pathologist's wellness and career satisfaction.
- f) Future studies should determine if supervisors and clients notice a difference in student clinicians after they engage in mindfulness practice.

Conclusion and Clinical Implications

Despite the weaknesses of the articles reviewed, the overall evidence was highly suggestive to moderately compelling, indicating that mindfulness practices have an effect on the wellbeing of CSD students and is an area that deserves more research attention. Several important findings were made for which to direct future research. Based on the findings of this review, discoveries can be applied within CSD program's health and wellness protocols but administrators should be aware of the limitations of the studies and adjust the

treatment to suit the structure of their programs. CSD programs should accept that mindfulness practices improve the wellness of students but, there may be a need to trial different types of practices to determine the most effective method for each individual student. Perhaps, students could be provided with a variety of strategies within which they try each and choose their preferred one. Based on the strong relationship between mental health and CSD student's stress levels, academic performance, program satisfaction, and clinical competence, it is imperative that wellness practices are encouraged among all CSD programs and that there are continuous studies of their treatment effectiveness, generalization and maintenance.

References

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