Mindfulness Meditation to Improve Body Awareness

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DOI: 10.5014/ajot.2020.74S1-PO2901

Date presented: March 26, 2020

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PURPOSE: Previous research has indicated that over 95% of college students use a laptop for school-related tasks daily, with 1/3 of these students using their laptop for 4-6 hours per day. Almost 50% of college-age students may experience musculoskeletal symptoms, in addition to difficulty maintaining proper body positioning during prolonged device use (Szucs et al., 2018; Woo et al., 2016). Recent studies have demonstrated positive impacts of mind and body awareness in regard to proprioception training, ergonomics, and decreased pain (Butwin et al., 2017). The purpose of this research study is to explore the effect of mindfulness on proprioception and posture in college students after a two-week mindfulness meditation practice. The research questions are as follows: (1) does a two-week mindfulness meditation training improve body awareness? (2) does upper limb joint sense improve following mindfulness meditation training? (3) does posture during functional activity improve following mindfulness meditation training?

DESIGN: This study utilizes a pre/post experimental design, collecting quantitative data. Participants are purposively sampled from the student population at Duquesne University via word of mouth. Participants include individuals currently enrolled at the university, age 18-25, who have no history of musculoskeletal or neurological disorders that affect movement. Currently, 16 subjects have participated in the study with a recruitment goal of 20-25 participants.

METHODS: 10 female and 6 male participants (average age 20.9 years) have completed data collection. Over two weeks, participants attend 3 in-lab sessions (Days 1, 8, 15) and complete daily guided mindfulness meditations. Pre-/post- data using the following measures are collected at the first and third lab session. The Freiburg Mindfulness Inventory (FMI) assesses a person's self-perceived level of mindfulness and general awareness, with specific questions focused on body awareness. The PostureScreen App is used to assess alignment and posture of subjects while performing seated laptop and tablet tasks. In addition, the Angles App is used to measure accuracy of participant upper limb angles during a proprioception activity.

RESULTS: Data collection is ongoing. Currently, 14/16 participants report an increase or sustained perception of mindfulness and body awareness based on scores from the FMI. A paired t-test was used to compare FMI pre-/post- responses of the full FMI, which found a statistically significant increase in participants' report of mindfulness ($p=0.0024$). A sub-analysis compared questions specifically focused on body awareness, with a statistically significant increase post-intervention ($p=0.001$). Upper limb angles during the proprioceptive task were compared with a paired t-test for 6 subjects with no statistically significant differences.

CONCLUSION: According to Cavanagh et al. (2013), a brief mindfulness meditation intervention can increase mindfulness and improve symptoms of stress, anxiety and depression in a student population. Our study supports the increase in mindfulness with a short course of mindfulness meditation practice and also demonstrates an improvement in self-reported body awareness. The effect of mindfulness on posture will be further analyzed. These current findings align with the occupational therapy profession's movement toward maximizing health, well-being, and quality of life for all people. The benefits of mindfulness meditation can directly impact an individual's ability to fully participate in daily occupations, whether it be at home, at work, or at school.

References

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