

### **Abstract**

The present study aimed to investigate the effectiveness of regular smartphone-based 3-minute breathing space practice on mental health enhancement, with the instruction recordings delivered via existing instant messaging application, Whatsapp. Effects of the exercise on mental wellbeing, mindful awareness, psychological distress, peace of mind and stillness after practicing for a week were examined using General Linear Model. The second analysis examined the exercise's immediate effect on levels of mindful awareness, peace of mind and stress using Linear Mixed Model. A total of 141 participants participated in this study and they were randomly assigned to one of the three groups, namely experimental group, daily measure control group and waitlist control group. The experimental group were invited to listen to instructional recordings delivered through Whatsapp and to practice accordingly twice a day for 7 consecutive days. Before and after each three-minute breathing space practice, i.e. four times in total every day, participants were asked to complete a daily measure assessment, consisting 6 multiple choices questions. The daily measure control group were not required to participate in the breathing exercise but only the daily measure twice a day as control. The waitlist control group were only required to complete the pre and post experiment questionnaires.

Mental well-being, mindful awareness, psychological distress, peace of mind and stillness were measured at baseline and post-intervention, whereas the exercise's immediate effect on levels of mindful awareness, peace of mind and stress were measured twice a day in the daily measure assessment. Among the 141 participants who had completed the pre-experimental questionnaire, 108 completed the post-experiment questionnaire. Missing data in the post-experiment questionnaire were imputed using "last value carried forward" method in the General Linear Model analysis, while missing data in the daily measures were imputed based on maximum likelihood estimation in Linear Mixed Model. Results failed to support

the hypotheses that Whatsapp-based three-minute breathing space practice could enhance mental wellbeing, mindful awareness, peace of mind, stillness and reduce stress immediately after exercise or after a seven-consecutive-day intervention in both analyses. Limitations which would affect the effectiveness of the intervention and the data interpretation were also discussed in the paper.