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Effect of Diaphragmatic Breathing vs Mindful Breathing Practice on Attention Span, Reaction Time and Short-Term Memory in University Students: A Study Protocol

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ABSTRACT

Introduction: It is well acknowledged that breathing exercises are simple ways to improve cognitive abilities. The mindful breathing enhances executive functioning and attention control and diaphragmatic breathing promotes parasympathetic activation and stress reduction.

Need for this Study: There is, however, no data that explicitly compares how well they perform on important cognitive domains among college students.

Aim: The purpose of this study is to evaluate the effects of mindful breathing versus diaphragmatic breathing in university students short-term memory, attention span, and reaction time.

Material and Methods: At SGT University, a comparative experimental design will be carried out among healthy students between the ages of 15 and 25 years. Participants will be randomly allocated into two groups: Diaphragmatic breathing and mindful breathing. Each group will undergo a 10-minute guided session of their assigned breathing technique. Cognitive performance will be assessed pre- and post-intervention using standardised tools: Digit Span Test (for attention and short-term memory), Ruler Drop Test (for reaction time), and the Mindful Attention Awareness Scale. Data will be analysed to compare within-group and between-group changes.

Results: The result will be declared on the day of the paper presentation, and the work is still in progress.

Keywords: Breathing exercises, Digit span test, Parasympathetic activation

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