

Targeting the rSTS with tDCS to Modulate Attentional Bias in Bullied University Students with Low PTG

Wednesday 23 July 2025 17:15 (15 minutes)

Poster

Enhancing Resilience and Attentional Bias in Previously Bullied University Students with Low Post-Traumatic Growth: A Study on Transcranial Direct Current Stimulation

Author

Ravelo, Y.

Affiliation

Departamento de Psicología Cognitiva, Social y Organizacional

Keywords

Post-traumatic growth, attentional bias, tDCS

Abstract

Background & Objectives:

Post-traumatic growth (PTG) refers to positive psychological changes that occur as a result of struggling with adversity. Research suggests that individuals with high PTG exhibit an attentional bias towards positive resilience-related words, which may facilitate coping with trauma. However, those with low PTG may not exhibit this bias. This study explores whether transcranial direct current stimulation (tDCS) can enhance attentional bias towards resilience-related words in previously bullied university students with low PTG.

Methods:

A total of 36 university students who had experienced bullying before entering university participated in the study. Participants completed an emotional Stroop task, where they identified the color of resilience-related and neutral words. The task was administered before and after tDCS stimulation targeting the right Superior Temporal Sulcus (rSTS), an area associated with intentionality processing. Participants were randomly assigned to either an anodal stimulation or a sham (placebo) condition. The study also examined the moderating role of approach motivation in the relationship between PTG and attentional bias.

Results:

The results revealed that anodal tDCS significantly increased attentional bias towards positive resilience-related words in students with low PTG. A moderation analysis showed that this effect was dependent on approach motivation—only participants with medium or high approach motivation benefited from stimulation, demonstrating a stronger attentional bias towards positive resilience-related words after tDCS. No such effects were observed in the sham condition.

Conclusions:

These findings suggest that tDCS targeting the rSTS can enhance attentional bias towards resilience-related stimuli, potentially aiding individuals with low PTG in developing more adaptive cognitive processing patterns. However, approach motivation appears to be a crucial factor in determining the effectiveness of this intervention. Future research should explore the long-term effects of tDCS, potential applications in psychological interventions, and whether combining brain stimulation with cognitive training could further enhance

PTG and resilience in trauma-exposed individuals.

Primary author: RAVELO GONZÁLEZ, Yennifer (Departamento de Psicología Cognitiva, Social y Organizacional)

Co-authors: Prof. GONZALEZ-MENDEZ, Rosaura (Departamento de Psicología Cognitiva, Social y Organizacional); Prof. ALEGRE DE LA ROSA, Olga M. (Departamento de Didáctica e Investigación Educativa); MARRERO, Hipólito (Departamento de Psicología Cognitiva, Social y Organizacional)

Presenter: RAVELO GONZÁLEZ, Yennifer (Departamento de Psicología Cognitiva, Social y Organizacional)

Session Classification: Poster Session 2

Track Classification: Design/Research methods: Design/Research methods