

POSTER

LATENT GROWTH CURVE MODELING OF HABITUATION IN RELATION TO ATTENTIONAL SUSCEPTIBILITY

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ABSTRACT

Habituation, defined as the decrease in response to repeated stimuli, is well-documented across species. However, its study in humans presents specific challenges due to high individual variability and limited experimental control, which increase error variance in statistical analyses. This study aimed to model such variability using latent growth curve modeling (LGCM), incorporating key variables that influence habituation patterns. These included attentional susceptibility, measured through the ASRS v.1.1. (Adult Self-Report Scale) for ADHD symptom screening, and variables such as intercept, slope, biological sex, and individual psychometric results.

Sixty-four participants were exposed to four auditory stimuli during a habituation session, with their pupillary responses recorded as the primary measure of habituation. After the session, participants completed a series of psychometric tests. Descriptive analyses confirmed the presence of habituation patterns, attentional difficulties, and a high likelihood of ADHD symptomatology.

The latent growth curve model included intercept (initial response), slope (rate of habituation), biological sex (as a moderating factor), and psychometric results (related to attention and ADHD traits). The model revealed significant effects of these variables on the habituation trajectory, suggesting that attentional susceptibility and other individual differences significantly modulate habituation responses. These findings underscore the importance of considering intraindividual variability in habituation studies, particularly in populations with attentional differences.

This study highlights the need for advanced statistical approaches, such as mixed-effects models, to more accurately capture the dynamics of habituation in individuals with diverse attentional profiles. It provides valuable insights between attention, habituation, and individual variability, which holds both theoretical and clinical implications.