

## Emotion Regulation and Executive Functioning Scale for Children and Adolescents (REMEX): Scale Development

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**Abstract :** Executive functions (EF) and emotion regulation strategies are processes that allow individuals to function in an adaptive way and to be goal-oriented, which is essential for success in daily living activities, at school, or in social contexts. The Emotion Regulation and Executive Functioning Scale for Children and Adolescents (REMEX) represents an empirically based tool (based on the model of EF developed by Diamond) for evaluating significant dimensions of child and adolescent EFs and emotion regulation strategies, mainly in school contexts. The instrument measures the following dimensions: working memory, inhibition, cognitive flexibility, executive attention, planning, emotional control, and emotion regulation strategies. Building the instrument involved not only a top-down process, as we selected the content in accordance with prominent models of EF, but also a bottom-up one, as we were able to identify valid contexts in which EF and ER are put to use. For the construction of the instrument, we implemented three focus groups with teachers and other professionals since the aim was to develop an accurate, objective, and ecological instrument. We used the focus group method in order to address each dimension and to yield a bank of items to be further tested. Each dimension is addressed through a task that the examiner will apply and through several items derived from the main task. For the validation of the instrument, we plan to use item response theory (IRT), also known as the latent response theory, that attempts to explain the relationship between latent traits (unobservable cognitive processes) and their manifestations (i.e., observed outcomes, responses, or performance). REMEX represents an ecological scale that integrates a current scientific understanding of emotion regulation and EF and is directly applicable to school contexts, and it can be very useful for developing intervention protocols. We plan to test its convergent validity with the Childhood Executive Functioning Inventory (CHEXI) and Emotion Dysregulation Inventory (EDI) and divergent validity between a group of typically developing children and children with neurodevelopmental disorders, aged between 6 and 9 years old. In a previous pilot study, we enrolled a sample of 40 children with autism spectrum disorders and attention-deficit/hyperactivity disorder aged 6 to 12 years old, and we applied the above-mentioned scales (CHEXI and EDI). Our results showed that deficits in planning, behavior regulation, inhibition, and working memory predict high levels of emotional reactivity, leading to emotional and behavioural problems. Considering previous results, we expect our findings to provide support for the validity and reliability of the REMEX version as an ecological instrument for assessing emotion regulation and EF in children and for key features of its uses in intervention protocols.

**Keywords :** executive functions, emotion regulation, children, item response theory, focus group

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