

## Flexible and Adaptive Anxiety Management Therapeutic Strategies for Children with Autism Spectrum Disorder: A Systematic Review

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### Abstract

Autism Spectrum Disorder (ASD) often involves challenges in emotional regulation, heightened stress responses, and sensory processing difficulties, particularly in children ages 10- 12. While mindfulness exercises, music therapy, and sensory integration are useful therapeutic modalities, they are not personalized to meet the unique needs of each patient on an individual basis. The shortcomings of existing techniques for managing anxiety are spotlighted in this review to make an earnest appeal for flexible individualized approaches to fill the gaps. In the analysis of the interviews with parents and medical specialists, an overwhelming percentage (100%) of the children diagnosed with ASD exhibited aggression towards others. Other behavioral traits included temper outbursts (87.5%), repetitive behaviors (37.5%), and social withdrawal (37.5%). Therapeutic strategies like breathing exercises, music therapy, sensory activities, and mandala coloring have been proven to work well in lowering stress and anxiety of autistic children. Also, parents have shown a reasonable degree of interest in technology-aided, home-based applications that would enhance the convenience of use. To address the gaps opened, a novel solution was introduced: a portable wearable device incorporating behavioral approaches, such as guided deep breathing exercises and mandala coloring; to provide real-time, adaptive support based on the individual child's sensory profile and stress levels. This methodology is intended to have immediate feedback and personalization to improve mental health and overall wellness for children with ASD. Further, the potential of the solution is described as complementing the existing therapeutic footprint of making it accessible, feasible, and effective for diverse needs in the ASD population.

**Keywords:** *Autism spectrum disorder, Anxiety management, Adaptive therapies, Mindfulness, Sensory processing.*