

A Systematic Literature Review of the Impact of Self-Regulation Intervention Strategies on Social Communication Outcomes of Individuals on the Autism Spectrum

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INTRODUCTION

Social Communication:

Individuals with Autism Spectrum Disorder (ASD) are characterized as having deficits in social communication and repetitive or restrictive behaviors that impact their functional abilities. These core deficits are often implicated in the high incidence of emotional and behavioral issues displayed by people on the spectrum.

Emotional Regulation

Emotional regulation and self management of social behaviors are key capacities underpinning social communication skills. These skills can be characterized by the intrinsic and extrinsic ability to modulate emotion and monitor behavior in various social environments.

Functional Impact

Individuals with ASD who experience emotional regulation difficulties may also experience negative impact on development of social communication skills. In addition to their link to behavioral challenges in individuals with ASD, difficulties with emotional and self regulation have been implicated in the incidence of anxiety, depression, and anger in this population.

Therefore, interventions that target emotional and self regulation may have a unique advantage in addressing social communication outcomes in individuals with ASD.

RESEARCH OBJECTIVE

The present systematic review aims to examine intervention strategies and programs targeting emotion and self regulation skills in individuals with ASD that lead to positive social communication outcomes in participants. The following research question was developed to review the existing evidence:

What are the effects on social communication outcomes of children with ASD who receive intervention targeting self regulation compared to those who do not?

MATERIALS

Electronic search of

- PubMed, PsychInfo, CINAHL, Cochrane Library, and ComDisDom

Search Terms

- ASD or autism or Autism Spectrum disorder or Pervasive developmental disorder or Aspergers
- self regulation or emotion regulation or attention regulation or sensory regulation or sensory processing
- therapy or treatment or program or management or intervention

METHODS

Inclusion criteria

- Social communication outcomes
- Intervention study
- Intervention targeting emotion/self regulation

- Each author independently reviewed identified articles at the title/abstract and full text levels
- Consensus was reached on all discrepancies
- Quality appraisal was performed by each author independently using the LEGEND appraisal forms made available by Cincinnati Children's Hospital
- Data from each article was identified based on relevant outcomes

RESULTS

The 5 studies appraised were found within the acceptable to high quality range of methodological rigor.

Features of consideration:

- Variety of study designs (single case experimental design, randomized control trial, and longitudinal)
- Small sample size (ranging from 4-19 participants)
- Variety of settings (clinic, school, home) and therapeutic agents (clinician, teacher, parent, peer)
- Range of efforts to assess generalizability

The results of each intervention study is summarized in the chart below.

Article	Study Type	Name of Intervention	Self/Emotion Regulation Strategy	Results
Bauminger, 2007	Longitudinal	Cognitive-Behavioral-Ecological	Instruction of social concepts; affective education; social interpersonal problem solving	<ul style="list-style-type: none"> ↑ positive social behavior ↓ low level social behavior ↑ cooperation, assertion, and self-control ↑ relevant and active solutions to problems ↑ ability to explain complex emotions, attribute them, and provide examples
Friedrich, 2015	RCT	Neurofeedback Training (NFT)	Neurological control of mu	<ul style="list-style-type: none"> ↑ adaptive behavior skills ↑ socialization and communication ↑ social responsiveness ↑ social motivation ↓ ASD symptoms
Fujii, 2013	RCT	Cognitive Behavioral Therapy (CBT)	Perspective taking; emotion regulation; social coaching	<ul style="list-style-type: none"> ↓ Anxiety disorders ↑ functional social behaviors
Goldingay, 2015	Longitudinal	Unnamed Social Intervention	Flexible thinking, emotion regulation, empathy	<ul style="list-style-type: none"> ↑ cooperation, empathy, and self-regulation ↓ inattention/hyperactivity ↑ flexible thinking
Koegel, 1992	Single Case Experimental Design	Unnamed Self-Management Intervention	Self-monitoring of appropriate verbal social responses	<ul style="list-style-type: none"> ↑ typical responses to peers ↓ disruptive behaviors

DISCUSSION AND CONCLUSIONS

Results from the reviewed studies show a favorable relationship between emotion and self regulation skill development and positive social communication outcomes in children with ASD.

All reported outcomes for these studies were positive preliminary indicators of the importance of addressing emotion and self regulation challenges of individuals on the autism spectrum.

However, the heterogeneity of study design, small sample size, lack of controls and general low level of evidence limits the strength and generalizability of the conclusions drawn.

Further research should focus on comparative experimental designs to increase the level of evidence supporting these preliminary conclusions.

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