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The role of emotion processing abnormalities in the emergence of Psychosis: A systematic review of the emotional processes impaired in schizophrenia.

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Introduction Individuals with schizophrenia significantly show impaired social cognition, which manifests as difficulties in identifying emotions, feeling connected to others, inferring others' thoughts, and reacting emotionally to others. Extrinsic and intrinsic processes for monitoring, evaluating, and modifying emotional reactions, their intensive and temporal features, to accomplish one's goals are Emotion regulation (ER). The process model in which the various strategies are allocated in terms of their direct impact on the emotion-generative process guided by distinct strategies, including reappraisal, suppression, and distraction.

Method This systematic review aimed to identify studies assessing the social processes impaired in schizophrenia. To identify articles with original data published after 2015 until 2021. A total of 125 publications were identified, of which 7 met the inclusion criteria.

Results Emotional abnormalities and Aberrant emotion processing are well-established components of schizophrenia. Also, there is consistent evidence for aversion to positive and neutral stimuli in schizophrenia which could be valence or task difficulty-dependent. Several functional magnetic resonance (fMRI) studies illustrated lower activation of emotional stimuli than neutral stimuli in schizophrenia patients. These findings mainly were reported for the bilateral amygdala about aversive stimuli and facial emotion expressions (e.g., explicit processing). Under-recruitment of other regions to emotion-related stimuli was also reported, such as the hippocampus, early visual processing regions, and frontal cortices. Amygdala hyperresponsivity has been demonstrated in the neurodevelopmental approach, in which a functional loss of parvalbumin interneurons in the hippocampus is associated with increased dopaminergic activity in the striatum. This systematic review of studies used emotion-processing task paradigms in individuals with schizophrenia. Image-based studies compared to controls showed decreased neural responses to emotion, particularly in the amygdala and anterior cingulate cortex. Mostly, there were no significant differences between participants and controls, but a high degree of heterogeneity was identified across the studies.

Conclusion However, the putative role of emotion processing in schizophrenia emergence and the underlying neurobiology remains unclear, particularly with results showing that deficits are predictive of functional outcomes and antipsychotic medication does not adequately treat emotion-related deficiencies in schizophrenia. Either of the three response patterns could be present in different individuals and collectively show amygdala hypoactivation. Future studies assessing activation to the neutral condition in healthy controls are needed.

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Exploring the cognitive developmental needs: A systematic literature review on hearing impairments and theory of mind

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Introduction

Theory of Mind (ToM) is the advanced ability in the development of social cognition to attribute mental states to oneself and/or others, which allows individuals to manipulate behaviors (Gernsbacher & Yergeau, 2019). Special education should explore cognitive development to assess deficits and improve ToM development in hearing loss from preschool age (Peterson, 2016). The current study conducted a systematic literature review on the theory of mind development in people with hearing loss from preschool-aged children to adulthood

Method

Theory of Mind (ToM) is the advanced ability in the development of social cognition to attribute mental states to oneself and/or others, which allows individuals to manipulate behaviors (Gernsbacher & Yergeau, 2019). Special education should explore cognitive development to assess deficits and improve ToM development in hearing loss from preschool age (Peterson, 2016). The current study conducted a systematic literature review on the theory of mind development in people with hearing loss from preschool-aged children to adulthood.

Results

The false belief test is one of the most popular methods for assessing children's ToM (Parola et al., 2018). Also, there are three dominant theories in the explanation of Its development.

- 1) children extend a dynamic approach to mental states during development (Theory theory) (Bosco et al., 2018; Peterson et al., 2016)
- 2) humans think and act similarly, so simulating one's situation can help you understand one's mental state (Simulation theory)
- 3) a portion of the brain's neural structure is devoted to ToM processes (Modularity theory) (van der Hulst et al., 2015) The progress of children's ToM requires detailed research.

Overall certainty in the effect estimation was “low” for auditory training and “very low” for cognitive training. There are several limitations to this review. Furthermore, in the literature of cognitive development theories, Executive functions (EFs), language, and the ability to pretend and comprehend visual attention are all related to the development of ToM and play a crucial role in its evolution. Studies focusing on the ToM in hearing-impaired children showed that the overall pooled effect of cognitive training improvement remained statistically significant (Gernsbacher & Yergeau, 2019; Sundqvist et al., 2014)

Conclusion

Studies should combine cognitive intervention with auditory training to enhance social cognition in children. Only studies published in English met inclusion criteria, and several domain pooled effects were supported only by two studies. There was no significant heterogeneity within the studies, providing initial confidence in the current estimate of special education improving ToM in childhood. Further research is needed to determine which training stimuli will provide optimal conditions to improve the Theory of mind in hearing loss children.

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