

- **Name of the study:** The "What" and "How" of Communication, New Channels for Integrating Adults with Intellectual Disabilities: Processing of Emotions in lexical and Prosodic Channels in Spoken Language
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Abstract

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In recent years, efforts have been made to integrate young adults with intellectual disabilities (ID) into the community. A successful integration into the community requires effective social interactions. Studies have indicated that adults with ID have difficulty identifying emotions in speech, which may negatively affect their social interactions. A barrier to the perception of emotional speech can result from difficulties understanding the lexical content or the prosody (tone of voice). Our study adapted the Test for Rating of Emotions in Speech (T-RES), originally designed to measure the interaction between semantics and prosody in typical development populations, to test emotional speech perception in adults with ID. Previous studies found that different populations assigned different relative weights to each of the speech channels. However, research on perception of emotions in speech among adults with ID is lacking. In addition, there is no consensus as to the source of the difficulties experienced by people with ID in identifying emotions in speech. Is it a primary impairment in processing emotions, or secondary and stems from general cognitive disabilities associated with ID?

In *Study 1*, 24 adults with varying levels of ID (mild, mild-moderate, moderate) listened to sentences that expressed one of three emotions (anger, joy, sadness) conveyed via only one speech channel (prosody or semantics). They were asked to indicate whether

the sentence expressed a predefined emotion, or not. The results showed decreasing ability to discriminate between spoken emotions as the level of ID increased. This result provides support to the role of cognitive abilities in basic recognition of spoken emotions.

In *Study 2*, 25 adults with mild ID listened to sentences with emotional content on both speech channels. In some sentences, the emotion was congruent in both channels (easy task) and in others, incongruent (difficult task). Using an adapted rating scale, participants indicated the extent to which sentences expressed a predefined emotion. The findings showed a direct relationship between task difficulty and ability to recognize emotions. Adults with mild ID, unlike their typically developed counterparts, show no bias for any of the emotional channels (prosody and semantics).

In summary, the findings from both studies suggest that difficulty in recognizing emotions in speech among adults with ID stems primarily from limitations in general cognitive resources needed to perform complex processing of socio-emotional information, rather than a specific disability in understanding emotions. The findings can inform the development of diagnostic and intervention tools, communication guidelines, and future research on processing of emotional-social information in ID.

Keywords

Speech Perception, Emotion, Prosody, Semantics, research.

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