

INTRODUCTION

Individuals with affective-prosodic deficits have difficulty understanding or expressing emotions and attitudes through prosody. Despite the social and communication disability caused by these deficits, affective prosody is rarely addressed in clinical settings.¹

Affective prosody disorders can occur in multiple neurological conditions, but the limited knowledge about the clinical groups prone to deficits complicates their identification in clinical settings.

Distinct abilities underlying the comprehension and production of affective prosody can be selectively impaired by brain damage.² However, the abilities impaired in various neurological conditions remain relatively unexplored.

Performance across clinical groups with different locations of brain damage and clinical features are expected to differ depending on the type of task completed.³

RESEARCH QUESTIONS

1. What are the neurological conditions that can result in impaired comprehension or production of affective prosody?
2. What are the affective-prosodic deficits in these neurological conditions?

METHODS

Scoping review protocol following PRISMA guidelines⁴

Systematic search to identify studies reporting affective prosody disorders in adults with neurological conditions

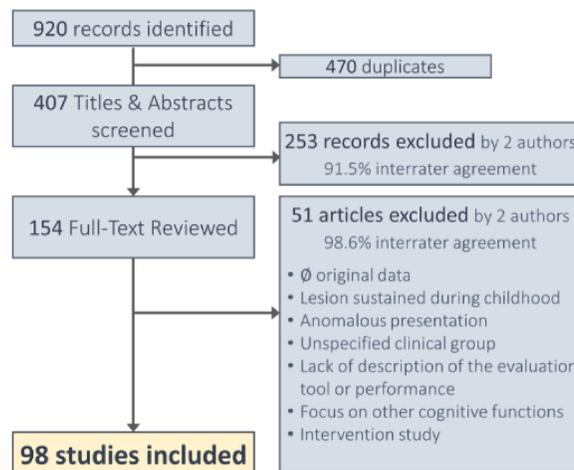


Figure 1. PRISMA Flow Diagram for the Scoping Review Process

Databases Searched: MEDLINE, PsycINFO, Embase, CINAHL, LLBA.
 Baseline search: July 8 2020; Update search: February 8 2022.

REFERENCES

[1] Hawthorne, K., & Fischer, S. (2020). Speech-language pathologists and prosody: Clinical practices and barriers. *Journal of communication disorders*, 87, 106024. [2] Wright, A., Saxena, S., Sheppard, S. M., & Hillis, A. E. (2018). Selective impairments in components of affective prosody in neurologically impaired individuals. *Brain and Cognition*, 124, 29-36. [3] Ross, E. D. (1981). The aprosodias. Functional-anatomic organization of the affective components of language in the right hemisphere. *Archives of neurology*, 38(9), 561-569. [4] Coulombe, V., Joyal, M., Martel-Sauvageau, V., & Monetta, L. (2020). Affective prosody impairments in adults with acquired brain damage: A scoping review protocol.

RESULTS

Neurological Conditions and Clinical Features Related to Affective Prosody Disorders

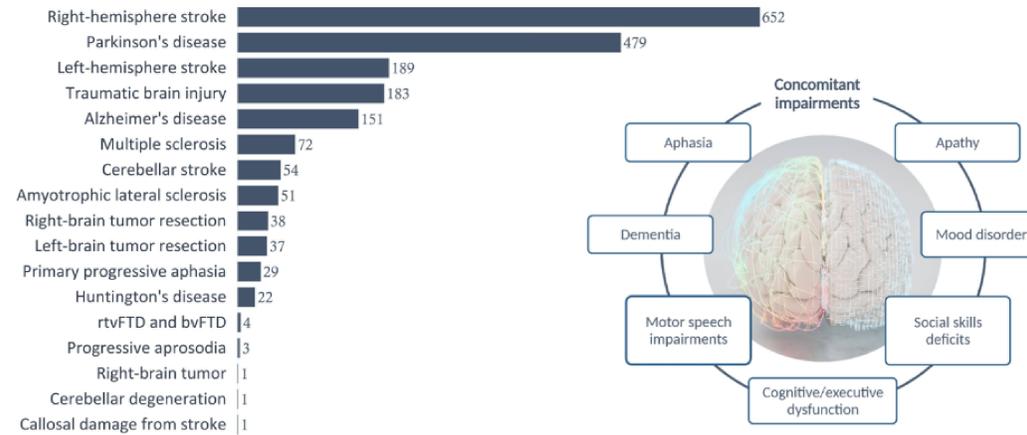


Figure 2. Number of Participants Identified with Affective-Prosodic Deficits by Neurological Condition.

Affective prosody disorders were identified in 17 neurological conditions. The number of studies per clinical group varied from 1 to 38. Individuals with neurological impairments present additional deficits known to negatively impact affective prosody processing.

Several studies included more than one clinical group. rtvFTD = right temporal variant of frontotemporal dementia; bvFTD = behavioral variant of frontotemporal dementia.

Affective-Prosodic Deficits in 17 Neurological Conditions

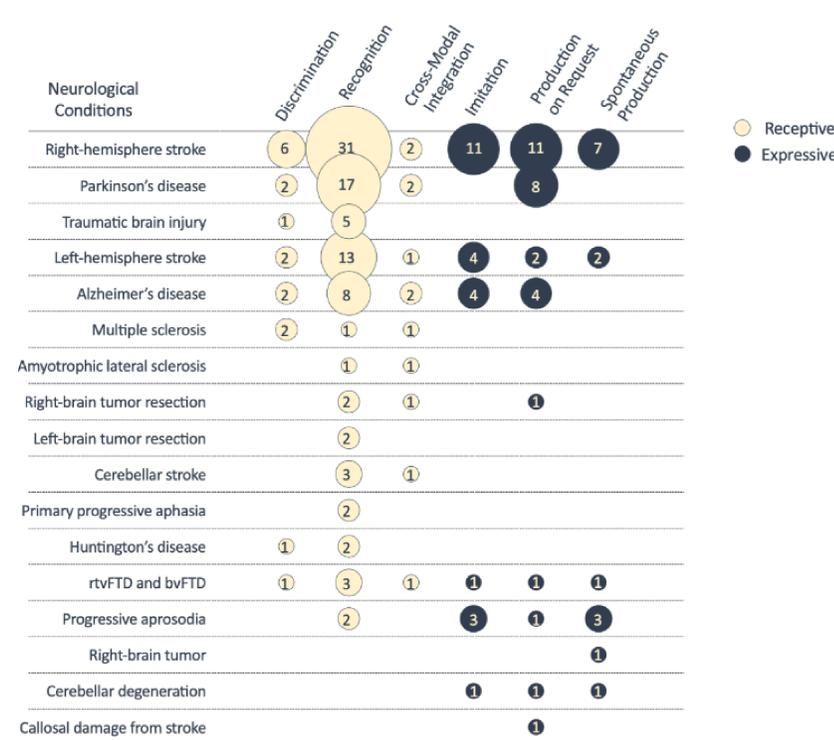


Figure 3. Number of Studies Reporting Affective-Prosodic Deficits by Neurological Condition

Receptive deficits were identified in 14 clinical groups and expressive deficits in 10 clinical groups. Overall, the recognition of the affective meaning of prosody and the production of affective prosody (on request or spontaneously) were generally impaired across the clinical groups.

The bubble surface is proportional to the number of studies. rtvFTD = right temporal variant of frontotemporal dementia; bvFTD = behavioral variant of frontotemporal dementia.

Conclusion

Findings from 98 studies on affective prosody disorders in adults with neurological conditions were combined with a scoping review approach to:

1. Summarize the neurological conditions that may lead to affective-prosodic deficits
2. Characterize these deficits in the comprehension and production of affective prosody

Findings suggest that:

Affective-prosodic deficits can occur in 17 neurological conditions, despite being recognized as a core feature of the clinical profile in only a few of them, such as right hemisphere stroke and progressive aprosodia.

- Deficits are not systematically present in these conditions

Co-occurring cognitive and affective impairments influence affective prosody skills.

Receptive deficits would be more common than expressive deficits. However, methodological heterogeneity across studies may partly explain this result.

The assessment tasks typically used in affective prosody research do not provide accurate information about the specific neurocognitive processes that are impaired. Future studies should use tools based on a cognitive approach to identify underlying deficits.

IMPLICATIONS FOR CLINICAL PRACTICE

The evidence reviewed in this study depicts affective-prosodic deficits as a transdiagnostic disorder. Raising awareness about the possible presence of affective-prosodic disorders in numerous clinical groups could improve their recognition in clinical settings.

The assessment of co-occurring impairments might be important for distinguishing cases of primary affective-prosodic deficits from those that are secondarily impacting affective prosody.

A comprehensive assessment covering multiple affective-prosodic skills could highlight specific aspects of affective prosody that warrant clinical intervention.

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