



OPEN ACCESS

EDITED AND REVIEWED BY
Xiaolin Zhou,
Peking University, China

*CORRESPONDENCE
Sergio Melogno
sergio.melogno@uniroma1.it

SPECIALTY SECTION
This article was submitted to
Language Sciences,
a section of the journal
Frontiers in Communication

RECEIVED 17 June 2022
ACCEPTED 15 July 2022
PUBLISHED 26 July 2022

CITATION
Melogno S, Pinto MA and Mashal N
(2022) Editorial: Rethinking figurative
language in neurodevelopmental
disorders: Theoretical challenges
stemming from intervention.
Front. Commun. 7:971995.
doi: 10.3389/fcomm.2022.971995

COPYRIGHT
© 2022 Melogno, Pinto and Mashal.
This is an open-access article
distributed under the terms of the
Creative Commons Attribution License
(CC BY). The use, distribution or
reproduction in other forums is
permitted, provided the original
author(s) and the copyright owner(s)
are credited and that the original
publication in this journal is cited, in
accordance with accepted academic
practice. No use, distribution or
reproduction is permitted which does
not comply with these terms.

Editorial: Rethinking figurative language in neurodevelopmental disorders: Theoretical challenges stemming from intervention

Sergio Melogno^{1,2*}, Maria Antonietta Pinto¹ and Nira Mashal³

¹Department of Developmental and Social Psychology, Sapienza University of Rome, Rome, Italy, ²Faculty of Psychology, University Niccolò Cusano, Rome, Italy, ³Faculty of Education, Bar-Ilan University, Ramat Gan, Israel

KEYWORDS

figurative language, comprehension, production, intervention, neurodevelopmental disorders

Editorial on the Research Topic

[Rethinking figurative language in neurodevelopmental disorders: Theoretical challenges stemming from intervention](#)

The idea that inspired this Research Topic was to go beyond the state of the art concerning figurative language competencies in children with neurodevelopmental disorders. In the 90's of past century, the stress was essentially on weaknesses on the part of these children, although with great variability as a function of the typologies of disorders. In the successive decades, research has focused on novel methodological objectives, among which the implementation of intervention programs, which, in turn, revealed other strengths and new theoretical challenges. Yet, only few studies tested the efficiency of intervention programs aiming to enhance figurative language competencies in neurodevelopmental disorders. Furthermore, evidence regarding intervention programs promoting creative thinking (e.g., generating unique metaphorical expressions) in these disorders are remarkable scarce. The contributions of this Research Topic uncover two important facts: the most studied aspect of figurative language is metaphor and the most studied population in this respect is ASD. Thus, extending the current tools and tasks for other aspects of figurative language and to different neurodevelopmental disorders is warrant. Each contribution of this Research Topic represents an important step forward for deeper understanding of the strengths and difficulties in figurative language processing in neurodevelopmental disorders.

Kasirer et al. investigated verbal and figural creativity in children with Autism Spectrum Disorder (ASD; 11–14 years), and typically developed peers (TD; 11–15 years,) in relation to executive functions and fluid intelligence. A sentence completion questionnaire was used to test creative verbal generation while a task of drawing non-existent objects was used to assess figural abilities. Children with ASD generated a greater quantity of creative metaphors and showed greater use of a specific kind of representational change on the figural creativity task, i.e., cross-category insertions. Phonemic fluency contributed to variance in novel

metaphor generation in the ASD group while fluid intelligence contributed to variance in novel metaphor generation in the TD group. Therefore, children with ASD and TD apparently differ in the cognitive abilities underlying metaphor generation, which points to a unique creative profile among children with ASD.

Another factor often investigated in relation to figurative language understanding is Theory of mind, generally assessed by false beliefs tasks. [Glenwright et al.](#) claimed that these tasks involve cognitive processing demands that might mask false belief understanding because they require elicited responses. The authors examined 20 males with ASD (3–9 years) and 20 TD males (2–5 years) using a spontaneous-response false belief task that measures children's eye gaze durations. Both groups looked reliably longer at the belief-consistent picture, regardless of whether the character's belief was true or false, though children with ASD were slower. Thus, this technique can potentially complement the assessment of figurative language in children with ASD.

In a similar vein, [Fussman and Mashal](#) present the translated version of the Assessment of Pragmatic Abilities and Cognitive Substrates (APACS) into Hebrew (production and comprehension) also applicable in neurodevelopmental disorders. Production is assessed by an interview and description tasks while comprehension is assessed by narratives, figurative language and humor tasks. A contribution of Theory of Mind to pragmatic production, pragmatic comprehension and APACS total scores was found. Factor analysis revealed that humor is a separate skill among the other pragmatic skills. APACS therefore offers a comprehensive battery assessing various aspects of figurative language, likely to identify specific deficits, and therefore provide an appropriate basis for intervention programs.

[Chahboun et al.](#) present a literature review of the studies reporting difficulties in children with neurodevelopmental disorders related to an area of non-literal language usages that goes beyond the two main figures of speech, i.e., metaphor and metonymy, and extends this area to other figures, such as irony, sarcasm, and idioms. The review also considers some intervention programs and points to the research gaps through a critical analysis of earlier studies. Interestingly, the author highlights a disproportionate focus on metaphors compared to other typologies of figurative language. The article finally suggests promising approaches for intervention.

[Vulchanova and Vulchanov](#) also carry out a qualitative review centered on figurative language processing in neurotypical individuals and individuals with autism. The authors address the factors which influence the processing of different figures of speech. To this end, the review critically considers evidence from research, including findings in the authors' own studies, and the extent to which previous reviews provide a reliable picture of potential deficits in figurative language processing in autism. In light of the above considerations, the authors offer some insights for interventions

targeting non-literal language skills in children and adults with autism.

[Melogno and Pinto](#) review the literature reporting on the trainings implemented with children with ASD without intellectual disability to enhance their capability to cope with metaphor comprehension. The authors classify the studies describing these trainings into two main strands of thought: behavioral-analytic and psycholinguistic. Beyond some basic similarities these interventions share to guide children toward the analysis of the semantic features of metaphors, the mental pathways elicited rely on cognitive and linguistic processes of a different nature. While in the behavioral-analytic perspective adults teach the meaning of metaphors, in the psycholinguistic perspective, adults stimulate semantic and pragmatic abilities to cope with possible interpretations of metaphors.

Two major points should be noted: on the one hand, the difficulties in figurative language refer to a plurality of figures of speech, which points to a core capability, that of going beyond literal meaning, which requires particular semantic and pragmatic abilities. On the other, when children with ASD are solicited to elaborate meanings beyond literality, and receive some support in analyzing them, an unforeseen phenomenon often appears, the *creation* of original metaphorical expressions. This unexpected reaction highlights the complexity of the relationships between metaphor comprehension and production, not only in children with ASD but, in more general terms, also with typically-developing children. Overall, two theoretical challenges can be drawn from the above points: the study of semantic and pragmatic abilities at meta-level in children with neurodevelopmental disorders, and non-literal usages production in relation with comprehension.

Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.