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TRABAJO FINAL DE GRADO – PSICOLOGÍA

INFLUENCIA DE LA MODALIDAD DE PRESENTACIÓN DE LA IRONÍA EN LOS NIÑOS AUTISTAS

Resumen

El trastorno del espectro autista (TEA) es una condición del neurodesarrollo que según el DSM-5 (5ª ed.; DSM-5; American Psychiatric Association [APA], 2013) presenta dificultades en habilidades sociales, integración de la comunicación verbal y no verbal, y Teoría de la Mente (ToM).

La ToM tiene 4 niveles y es en el 3 (7-9 años) donde según Serrano (2012) comienza la comprensión de las ironías. Estas se emplean para expresar lo contrario al sentido literal o decir algo indirectamente. Esto puede interferir en la comprensión del mensaje en los autistas, ya que suelen ser bastante literales. Entre los propósitos de su uso encontramos la crítica, tono más negativo, o comentarios graciosos, tono más positivo/humorístico. (García, 2021)

Un estudio de Pexman y su equipo (2011) sugirió que la comprensión de las ironías en los autistas mejora cuando la tarea incluye menos demandas verbales o tiene apoyo visual. Otra investigación de Garcia y Clemente (2019) sobre la comprensión de los autistas y los faux pas según la modalidad presentada, reveló que el mejor método es el mixto (imagen, audio y texto).

En esta investigación se pretende averiguar qué modalidad de presentación es mejor para que los autistas comprendan las ironías. Se administraron distintas tareas de ironías (modalidad visual, verbal y mixta) a una muestra española de 60 niños de 7 a 12 años (TEA = 30 y neurotípicos/NT = 30).

Los resultados indicaron que los NT detectan mejor las ironías que los TEA en todas las modalidades. Y se observó que el mejor tipo de presentación es la verbal, seguida de la mixta y finalmente la visual.

El propósito del estudio es que sus implicaciones prácticas sirvan para mejorar la presentación de tareas ToM, más en concreto, las ironías.

Palabras clave: Autismo, teoría de la mente, ironía y modalidad de presentación.

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INFLUENCE OF THE MODALITY OF PRESENTATION OF IRONY IN AUTISTIC CHILDREN

Abstract

Autism spectrum disorder (ASD) is a neurodevelopmental condition that according to the DSM-5 (5th ed.; DSM-5; American Psychiatric Association [APA], 2013) presents difficulties in social skills, integration of verbal and non-verbal communication, and Theory of Mind (ToM).

ToM has 4 levels and it is in level 3 (7-9 years) where, according to Serrano (2012), the understanding of ironies begins. Ironies are used to express the opposite of the literal meaning or to say something indirectly. This can interfere with the understanding of the message in autistic children, as they tend to be quite literal. The purposes of their use include criticism, a more negative tone, or humorous comments, a more positive/humorous tone (García, 2021).

A study by Pexman and his team (2011) suggested that the comprehension of ironies in autistic people improves when the task includes fewer verbal demands or has visual support. Another research by Garcia and Clemente (2019) on the comprehension of autistic and faux pas according to the modality presented, revealed that the best method is the mixed method (image, audio and text).

In this research we aim to find out which presentation modality is best for autistic people to understand ironies. Different irony tasks (visual, verbal and mixed modality) were administered to a Spanish sample of 60 children aged 7-12 years (ASD = 30 and neurotypical/NT = 30).

Results indicated that NTs detect ironies better than ASD in all modalities. The best type of presentation was found to be verbal, followed by mixed and finally visual.

The purpose of the study is that its practical implications can be used to improve the presentation of ToM tasks, more specifically, ironies.

Keywords: Autism, theory of mind, irony and presentation modality.

INFLUENCE OF THE MODALITY OF PRESENTATION OF IRONY IN AUTISTIC CHILDREN

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Final Degree Project - Psychology

INTRODUCTION

Autism spectrum disorder (ASD) is a neurodevelopmental condition that according to the DSM-5 (5th ed.; DSM-5; American Psychiatric Association [APA], 2013) presents significant challenges in social skills, integration of verbal and non-verbal communication, and interpreting mental states of others or **Theory of Mind** (ToM). ToM is classified into 4 levels, with ascending order of complexity, and it is at level 3 (7-9 years) where, according to Serrano (2012), the understanding of irony begins. The function of irony is to express the opposite of the literal sense, which could cause interference for people with ASD as they are quite literal. This figure of speech can be found in various **modalities** such as **visual** (memes), **verbal** (conversations) or **mixed** (comic strips). (Garcia, 2021; Panzeri et al., 2022). In studies such as those by Pexman and his team (2011) on autistics and the comprehension of ironies or Garcia and Clemente (2019) on autism and faux pas, suggest that the **comprehension of autistics is better** when the task does **not have high verbal demands** or it has visual support, as it would be in the **mixed presentation modality.**

OBJECTIVES

To observe whether the modality of presentation (visual, verbal or mixed) of irony affects the degree of correct responses in children with ASD and neurotypical (NT) children.

To investigate whether there are significant differences in the mean scores when comparing the different modalities within each group (ASD and NT).

HYPOTHESIS

H1: NT children will perform better at detecting irony than ASD children.

H2: The mixed-mode presentation will get more hits.

H3: The most difference will be between the visual and verbal modality

METHODOLOGY

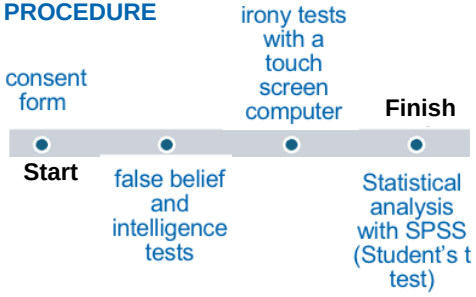
PARTICIPANTS

Spanish population
Age: 7-12 years old

Sample

Group	Mean Age (SD)	Mean IQ (SD)
ASD	9,4 (1,5)	102,8 (14,2)
NT	9.38 (1,48)	105,8 (12,7)

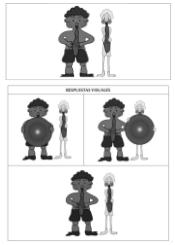
PROCEDURE



MATERIALS

Screening test: WISC-III and False belief ToM task
Ironies tasks (Garcia et al.,2016)

a) Visual (3)

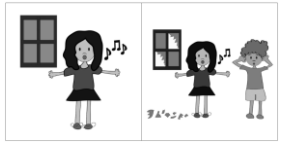


b) Verbal (3)

(sound of rain and storm)
"*What a nice day to go to the beach*"

c) Mixed (3)

"*Wow, Leire, what a great singer you are!*"



Types of questions:
1a, b and c) *"Is what the character has done true or false?"* (detection)
2a) *"Really, what should have happened?"* (choice)
2b and c) *"Was it really like that?"* (If necessary, ask more specifically)
"*Did the character want to go to the beach in the rain?"* (understanding)

Score: Wrong answer = 0, Correct answer = 1 — Maximum of 6 points per modality

RESULTS

Code: Highest mean — Largest significant difference — No significant difference

Table 1
Comparison of ASD and NT group in all three modalities

		Mean (SD)	t	p	d
Visual Irony	NT (30)	4.43 (1.13)	2.64	.011	.68
	ASD (30)	3.50 (1.57)			
Verbal Irony	NT (30)	4.97 (.78)	2.05	.045	.59
	ASD (30)	4.40 (1.27)			
Mixed Irony	NT (30)	4.73 (1.26)	1.42	.160	.37
	ASD (30)	4.27 (1.28)			

Note: NT higher mean scores than ASD in all modalities.
Visual irony has the worst performance.
Verbal irony has the best performance.
There are no significant differences in mixed modality.

Table 2
Differences between tasks in the ASD group

	Mean (SD)	t	p	d
Visual	3.50 (1.57)	2.96	.006	.54
Verbal	4.40 (1.28)			
Verbal	4.40 (1.28)	.43	.674	.08
Mixed	4.27 (1.29)			
Mixed	4.27 (1.29)	2.42	.022	.44
Visual	3.50 (1.57)			

Note: Mean values for verbal irony significantly higher than for visual irony, as well as for mixed vs. visual irony.
No significant differences between verbal and mixed irony.

Table 3
Differences between tasks in the NT group

	Mean (SD)	t	p	d
Visual	4.38 (1.12)	2.39	.024	.44
Verbal	4.97 (.78)			
Verbal	4.97 (.78)	.58	.284	.11
Mixed	4.79 (1.24)			
Mixed	4.73 (1.26)	.92	.166	.18
Visual	4.43 (1.14)			

Note: Verbal irony shows significantly higher mean values than visual irony. There are no significant differences between verbal and mixed irony, and mixed and visual irony.

DISCUSSION AND CONCLUSION

The research results verify H1, but not H2 and H3. We can see that NTs do detect ironies better on average than ASD, and this is more noticeable when it comes to visual ironies. As for what the literature says (Pexman et al., 2011) that a visual support could improve the understanding of ironies, in the case of this study this was not exactly the case, but it seems that for a better understanding of ironies it is necessary that verbal element that provides clues such as intonation, since if we only have the visual stimulus it may be confused with a joke or meme and lose the ironic meaning that is really intended to be conveyed. This is why irony is considered to be at a high level of ToM, since it is not until the age of 7 years and older that children have a better understanding of the communicative intentions of language and are able to make inferences about the mental state of the speaker. Limitation is that the tasks, although widely administered, have not been validated.

FUTURE RESEARCH LINES:

It would be very interesting to investigate more environmentally friendly interventions, for example using videotaped presentations, as this is the closest they will come to real social situations.

PRACTICAL IMPLICATIONS:

This work is very much related to what I have worked on in the autism association where I have done my external internship at the university, and is intended to be of help to professionals who carry out theory of mind interventions, more specifically in the understanding of irony, with autistic people.

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