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FACE-SAVING ACTS IN FAUX PAS STORIES: THE IMPORTANCE OF CONTEXTUAL CUES DURING INFERENTIAL PROCESSES OF AUTISTIC AND NON-AUTISTIC ADULTS

A faux pas occurs when someone unintentionally says or does something socially inappropriate. Recognition of a faux pas requires cognitive and affective theory of mind ability. The Faux Pas Recognition test consists of short stories with and without faux pas, followed by target questions assessing mental state and emotion attribution abilities.
The aim of this study was to gain deeper insight into the social cognitive abilities of autistic (N=12) and non-autistic (N=11) adults. We examined (a) whether affective and cognitive mental state attribution in autistic and non-autistic participants can be assessed more effectively through a modified version of the Faux Pas Recognition Test, and (b) whether the representation of an avoidance process as a contextual cue within the target stories of the Faux Pas Recognition Test influences the inferential and affective mental state attribution processes in autistic and non-autistic individuals. Our results indicate that the modified Faux Pas Recognition Test provides a more comprehensive assessment of participants' social cognitive abilities, and that the presence of avoidance processes as contextual cues supports emotion attribution and consideration of the implicit meaning of an utterance.

Keywords: faux pas, facework, autism, contextual cue, avoidance process

1. INTRODUCTION

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), autism spectrum disorder[16] is characterized by persistent deficits in social communication and social interaction, such as difficulties in social-emotional reciprocity, nonverbal communicative behaviours, or developing, understanding, and maintaining relationships (APA, 2013). For example, adjusting one's behaviour to various social contexts can be a challenge for autistic individuals.

Another diagnostic criterion for autism is the presence of restricted, repetitive patterns of behaviour, interests, or activities, and these characteristics can also highly affect one's social behaviour in an interaction. Social cognitive abilities are linked to pragmatic ones, and theory of mind abilities are necessary for perspective-taking to engage in an interaction successfully. Social cognitive differences are related to pragmatic deficits and the understanding of the self in autism spectrum disorder (condition) (Bosco et al. 2018; Lombardo & Baron-Cohen, 2010; APA, 2013). Multiple studies have shown that autistic people might favor honesty and might be less concerned about others' and their own face and self than non-autistic individuals (Howlin, 1996; Belek, 2018; Koskinen et al., 2021; Williams

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[16] The authors prefer the term *autism spectrum condition* over *autism spectrum disorder*, as the latter reflects a more medicalized perspective. Furthermore, throughout the study, the terms *autism* and *autistic person* are primarily used, in line with the neurodiversity paradigm and consistent with the terminology preferred by a large part of the autistic community (Bottema-Beutel et al. 2021).

& Happé, 2009), while other scholars claim that autistic people can successfully take part in interactions in line with the so-called social norms, especially when conventionalized forms and contextual cues facilitate successful interaction (Sirota, 2004; Kissine et al., 2015). In this study, we explore how faceworking acts (avoidance processes, such as changing the topic when an awkward situation occurs) as contextual cues affect the understanding of faux pas stories in the case of autistic and non-autistic adults' performance.

2. THEORETICAL BACKGROUND

This paper focuses on the phenomenon of faux pas, which, by definition, involves a false belief and a feeling of awkwardness. According to Baron-Cohen and his colleagues (1999:408) part of the definition of a faux pas should include [an] "uh-oh" reaction […], best summed up by the phrase "I wish I hadn't said that!"'. The following story from the Faux Pas Recognition test (Stone et al., 1998) exemplifies a faux pas in social interaction, in which Sarah probably wishes she hadn't revealed the surprise party.

> 'Story 2. Helen's husband was throwing a surprise party for her birthday. He invited Sarah, a friend of Helen's, and said, "Don't tell anyone, especially Helen." The day before the party, Helen was over at Sarah's and Sarah spilled some coffee on a new dress that was hanging over her chair.
>
> "Oh!" said Sarah, "I was going to wear this to your party!"
>
> "What party?" said Helen.
>
> "Come on," said Sarah, "Let's go see if we can get the stain out."' (Stone et al., 1998)

For the successful recognition and interpretation of a faux pas, it is essential to have a comprehensive understanding of human cognitive processes, social relations and accepted social norms.

2.1. A cognitive pragmatic perspective on communication

Ostensive-inferential communication means that the communicator indicates, by verbal or non-verbal ostension, their intention to communicate a given set of information, which is interpreted by their interlocutor through decoding and inference processes. Both verbal and nonverbal communication can only be achieved through both the expression and recognition of intentions. Therefore, successful communication requires that the communicator's informative and communicative intentions are fulfilled and mutually manifested. These intentions depend on the actual context of the interaction, which builds up from the physical, cognitive, and social contexts (Sperber & Wilson, 1995; Ivaskó & Németh T., 2002).

According to Frith and Frith (2007), social cognition is the sum of processes that allow individuals of the same species to interact with each other, and social cognitive differences are related to the differences and deficits in pragmatic abilities (Bosco et al., 2018). The intentions with which the communicator and their interlocutor engage in interactions and the intentions they attribute or can attribute to each other depend on their cognitive abilities, for instance, on their theory of mind ability, the ability to attribute mental states, emotions, and intentions to each other, and to predict the behaviour of the other person based on these attributions (Premack & Woodruff, 1978). Mental state attribution is essential for perspective-taking and to be able to interpret the implied meaning of the context, therefore, essential for successful communication (Baron & Cohen, 1995; Sperber & Wilson, 1995; Győri, 2006).

The term 'faux pas' frequently occurs in studies in cognitive psychology, since the difficulty in recognizing and interpreting a situation involving a faux pas may indicate an underdeveloped (Gál, 2015) or impaired (Baron & Cohen et al., 1999; Varga et al., 2008; Gál et al., 2011) social cognitive ability.

2.2. A sociopragmatic perspective on communication

Brown and Levinson (1987:61) assume that 'all competent adult members of a society have (and know each other to have) […] face, the public self-image that every member wants to claim for himself […], [and] certain rational capacities, in particular consistent modes of reasoning from ends to the means that will achieve those ends.' Rationally thinking members have two wants: the freedom of action (negative face) and the positive self-image claimed by interactants (positive face) (Goffman, 1967; Brown & Levinson, 1987).

When someone has or maintains face, they present an image of themselves that is internally consistent and supported by judgements of other participants (Goffman 1967). With facework, one can counteract incidents with symbolic implications that threaten one's face, as face-threatening acts run contrary to the face wants of the addressee and/or of the speaker. With redressive action such as modifications or additions, the speaker can save the face of the addressee of the potential face-threatening action and indicate that the threat was neither intended nor desired (Brown & Levinson, 1987).

As Goffman (1967: 14-15) claims, there are three levels of responsibility that one may have for a face-threatening action that he has created. First, the speaker is innocent, his offence is unintended, and he would have tried to avoid it if he had seen the negative consequences of it. Goffman names this kind of threats faux pas, gaffes, boners, or bricks. Secondly, it may happen that the speaker commits the

threat intentionally to cause an open insult. Lastly, incidental offences can happen when the speaker acts despite the negative consequences, but not because of them. In these cases, the threats are unintended but possibly predictable by-products of the act. These threats can address both the speaker's and their interlocutor's faces.

There are two basic kinds of facework: the avoidance process and the corrective process. The former means that the best way to prevent threats is to avoid contacts that are likely to create an incident. When a person chances an encounter, they can keep off sensitive topics and avoid activities that would lead to the expression of a threat. Also, they can change the topic of the conversation if they recognize the potential for a threat. In situations when the person who commits the faux pas fails to prevent the incident, he can attempt to maintain the fiction that the threat has not happened. The corrective process refers to an act when the interactants acknowledge the incident as a threat, deem it worthy of direct attention and attempt to mitigate its threats (Goffman, 1967: 5-21).

3. THE FAUX PAS RECOGNITION TEST (ADULT VERSION)

According to Baron-Cohen and his colleagues (1999: 408), a faux pas occurs when someone says something that the other person might not want to hear or know, and which typically has negative consequences that the speaker never intended. The speaker usually feels a mix of regret and embarrassment, feeling bad for the hearer after the faux pas has been committed. In this section, we present the Faux Pas Recognition Test designed for adults (Stone et al. 1998; Baron-Cohen et al. 1999; Gregory et al. 2002).

3.1. The design of the original Faux Pas Recognition Test

Detecting a faux pas requires the understanding that the speaker's and the hearer's knowledge states are different, and that the utterance might have an emotional impact on the hearer. This means that the recognition and understanding of a faux pas requires first-order theory of mind ability to correctly attribute thoughts and beliefs to the characters of a story in which a faux pas was committed. Additionally, it also requires second-order theory of mind ability to understand that the characters have different beliefs and thoughts about each other. Also, with the affective theory of mind ability, one should be able to recognize the emotional impact caused by the faux pas, while with the cognitive theory of mind ability, it is important to detect that the speaker committed the faux pas unintentionally, without any malicious or offensive intention, because of his false belief (Stone et al. 1998; Baron-Cohen et al. 1999; Gregory et al. 2002).

The Faux Pas Recognition test assesses the participant's cognitive and affective mental state attribution abilities by requiring responses to target questions concerning short stories that either contain a conversational faux pas (10 target stories) or do not (10 control stories, containing minor inconveniences that are resolved). The first target question ('*Did anyone say something they shouldn't have said or something awkward?'*) always follows the stories, while the rest of the five target questions are only asked if the participant detects the faux pas in the target stories, or falsely detects one in the control stories. The two control questions are raised following all the stories, both target and control stories. The target questions assess: (1) detection of the faux pas or the lack of faux pas, (2) identification of the person who committed the faux pas ('*Who said something they shouldn't have said or something awkward?'*), (3) understanding inappropriateness: explanation of why the faux pas was inappropriate *('Why shouldn't they have said it or why was it awkward?'*), (4) intentions: attribution of intention to the character who committed faux pas ('*Why do you think they said it?*'), (5) belief: recognition the false belief of the character who committed faux pas (*'Did X know/realize that Y?'*), and (6) empathy: understanding of the emotional state of the addressee of the faux pas (*'How do you think X felt?'*). The control questions are designed to examine whether the participant has comprehended the story. To successfully complete the 20 short tasks (stories), the participant must recognize that the speaker made an inappropriate remark, identify the speaker's false belief, acknowledge the absence of offensive intent, and infer the negative emotional consequences (Stone et al., 2003).

The full set of stories, questions and instruction for scoring is available on the website of the Autism Research Centre.[17]

3.2. Previous studies using the original test

Versions of the Faux Pas Recognition Test have been used to assess both children (Baron-Cohen et al. 1999) and adults (Stone et al., 1998; Gregory et al., 2002). Baron-Cohen and colleagues (1999) found that despite doing well on the first- and second-order theory of mind tasks, autistic children and children with Asperger's Syndrome[18] performed significantly lower on the Faux Pas Recognition Test than 11-year-old non-autistic boys and girls. Also, their results showed that both groups could identify that no one had said anything awkward in the control stories, however in the target stories autistic children identified faux pas significantly less often than the control group (Baron-Cohen et al. 1999).

[17] https://docs.autismresearchcentre.com/tests/FauxPas_Adult.pdf
[18] Since the 5th ed. of the APA Diagnostic Manual (2013), Asperger's Syndrome falls into the category of the autism spectrum disorders.

Zalla et al. (2009) investigated mindreading abilities in a group of adults diagnosed with Asperger Syndrome by using the faux pas task. They found that their research participants generally successfully detected faux pas (detection of faux pas, person identification), but generally were unable to provide correct justifications regarding reasons and intentions. They failed to recognize the mistaken belief or forgetfulness that caused the faux pas, and they did not understand that the protagonists in the stories did not commit the faux pas intentionally and thus did not offend the addressee deliberately. Also, they did not understand the emotional impact resulting from the involuntary inappropriate act.

Assessing typically developing Hungarian adults (sample ranging from 11 to 75 years of age) on the adult version of the Faux Pas Recognition test, Gál (2015: 102) found an increase in Faux Pas Recognition Test total scores between ages 11 and 12, followed by a slight decline in performance beginning in the 13–17 age group, but there was no statistical difference between 18–29- and 30–59-year-olds. Theory of mind performance was lowest in the older adult group (60–75 years), compared to all younger age groups. The results show that both the cognitive and affective components of faux pas understanding decline with advancing age. The results of her study showed no significant differences across the different age groups on the control stories, suggesting that the age-related differences reflect genuine variations in theory of mind ability. These findings are consistent with previous research demonstrating age-related decreases in theory of mind performance (Maylor et al., 2002; Duval et al., 2011), and with studies showing reduced performance among older adults on the Faux Pas Recognition Test (Wang & Su, 2006).

3.3. Cognitive and sociopragmatic approach to the test material

In this section, we present the categorization of the faux pas stories from the Faux Pas Recognition Test based on whether they contain facework/ redressive action/ avoidance process or not. In our previous research (Mezőlaki & Ivaskó, 2024a;b;c), a comparison of the stories containing faux pas was carried out according to the following criteria: 1) the original knowledge about the state of the world, 2) the truth-content of the utterance involving a faux pas, 3) whether the interactants employed any redressive action after the faux pas occurred, and 4) whether the speaker regretted committing a faux pas. Here, we focus on the third and fourth aspects of the analysis.

Out of the 10 faux pas stories, only 5 (number 2 – quoted in Section 2., 11, 12, 15, 18) contain an utterance with which one of the participants aims to maintain the fiction that the threat has not happened and, therefore, these contain facework. The face-working participants in these 5 stories always try to save the offended person's face by changing the topic, and none of the 10 faux pas stories

contains any corrective process. On the other hand, some of the control stories do contain a corrective process (e.g. number 20), in which the participants recognize and address the misunderstanding, and try to resolve it. This raises the question of whether the character committing the faux pas regrets the threat, and whether the research participant can attribute this mental state to the speaker or not.

None of the target stories mention explicitly whether the speaker who committed the faux pas regrets causing the embarrassment. There are two target stories (2 and 12) the content of which implies that the speaker might regret their utterance. In story 2, this is more obvious, since the speaker herself performs the redressive action. In story number 12, the addressee of the faux pas was the overhearer, and it was another person, the hearer, who tried to apply the avoidance process and save everybody's face. If there is no facework in the stories, or it is not the speaker who commits it, then it is not clear whether the person committing the faux pas regrets their face-threatening act or not. The only way to resolve this is to assume and imagine that after the story the speaker realizes that they committed a faux pas and to assume that they have not intentionally offended their partner. The following story is an example of a faux pas story from the Faux Pas Recognition test (Stone et al. 1998) that does not contain facework. In the story, Lisa does not know that Jill is the one who bought the curtains and commits a faux pas by criticizing them. Unlike story 2, there is no topic shifting in the text.

> 'Story 4. Jill had just moved into a new flat. Jill went shopping and bought some new curtains for her bedroom. When she had just finished decorating the flat, her best friend, Lisa, came over. Jill gave her a tour of the flat and asked, "How do you like my bedroom?" "Those curtains are horrible," Lisa said. "I hope you are going to get some new ones!"'

In our previous research (Mezőlaki & Ivaskó, 2024a;b;c), we added two more questions to the Faux Pas Recognition Test to get a more accurate picture of the research participants' cognitive and affective mental state attribution abilities, metapragmatic abilities, and their inferential processes. In these questions, 'X' is the person who commits the faux pas and 'Y' is the offended person. The following two questions were added to the test:

1. Did X want Y to hear what X was saying? Why?
2. Does X regret saying what X was thinking? Why?

By addressing the first question, we hoped to gain a deeper understanding of the research participant's beliefs about the character's informative and communicative intentions, and it might also be revealed who the research participant believes to be the addressee of the utterance. The second question aims to recognize the emotions of the character who committed the faux pas, therefore, we can learn more about the research participant's affective mental state attribution ability. Answering this question may also reveal whether participants take into consideration the redressive action (topic shifting) or the lack

of it in the stories. If the participants answer 'If the person who committed the faux pas realizes their mistake, they will regret it!', we can also get information about the extent to which the participants rely on the context of the particular story and the extent to which they can build on the implications of the text. Based on the results of the modified version of the test, it was found that the explicit formulation of the avoidance process (such as topic shifting) might affect whether the research participants attribute immediate regret to the person committing the faux pas (Mezőlaki & Ivaskó, 2024a;b;c).

4. ANALYSIS OF THE APPLICATION OF THE MODIFIED FAUX PAS RECOGNITION TEST

In the following, we present how autistic and non-autistic adults perform on the modified version of the Faux Pas Recognition Test.

4.1 Materials and method

The Hungarian adaptation of the adult version of the Faux Pas Recognition Test (Gál, 2015) was used, complemented with our two previously introduced target questions. These questions were only asked if the participants detected a faux pas, and were asked before the control questions.

All procedures were in accordance with the ethical standards of the Medical Research Council, University of Szeged, and an ethical permission[19] was provided by the Medical Research Council, Hungary in 2021. The recruitment process and data collection took place between March 2022 and April 2023. The recruitment was carried out on social media sites, and institutions and organizations dealing with autism helped us spread the call for research. Participation in the research was voluntary, and the data was processed anonymously. Each participant filled in an informed consent form. Research participants could withdraw from the research at any point and request the deletion of their data.

The data collection took place in person, in a quiet, low-stimulus environment. Only the research participant and the examiner were present in the room. A tablet and a voice recorder were used to record data. Participants were provided with individual printed copies of the target and control stories of Faux Pas Recognition Test, which they could follow while the researcher read the stories aloud. The questions were presented by the researcher exclusively in oral form. Basic demographic data were collected via a Jotform questionnaire administered on a tablet device. Jamovi (version 2.2) software was used for statistical analysis. Descriptive statistics were conducted on all major variables, Mann-Whitney

[19] Case number: IV/3899- 1 /2021/EKU, Title in Hungarian: Udvariassági stratégiák autizmus spektrum zavarban: homlokzatfenyegető aktusok tipikus és atipikus nyelvhasználók körében.

U tests were used for pairwise between-group comparisons. Friedman tests and Wilcoxon tests were used for in-group comparisons.

Scoring the Faux Pas Recognition Test was in accordance with Stone and her colleagues' work (1998). For each faux pas story (target story), the research participant gets 1 point for each target question answered correctly. Overall, there was a total score of 60 points that research participants can get on the 6 target questions on the 10 faux pas stories. For control stories, participants get 1 point for detecting that there is nothing inappropriate in the stories, and get 1 point for each unanswered target question (total score of 60 points). The maximum reachable score in ratio is 1.0 on each question. For further information about the scoring, read the instructions: https://docs.autismresearchcentre.com/tests/FauxPas_Adult.pdf (Stone et al. 1998: 23–27).

Responses for the additional questions (Did X want Y to hear what X was saying? Why?, Does X regret saying what X was thinking? Why?) were scored as follows. We categorized the participants' answers into groups, and summed up the total answers per categories. The additional questions were only asked if the participants detected a faux pas in the story. As there were 10 faux pas stories in the test, one participant could answer a question in a certain way 10 times. Later, we divided the faux pas stories into two groups based on whether they involved an avoidance process or not: 5 stories that involve avoidance process (topic shifting) and 5 stories that do not. Scores were measured at group level.

4.2. Participants

The group of research participants included a total of 23 persons, 12 adult autistic persons with level 1 severity for autism spectrum condition, and 11 adult non-autistic persons. All participants were of Hungarian nationality and spoke Hungarian as their primary language. The average age of autistic people was 36.7 years (SD=7.94), while the average age of non-autistic people was 29 years (SD=6.02). All participants were between 19 and 52 years of age at the time of data collection. Based on the findings of Gál (2015), the age differences among our participants should not have a significant statistical effect on the theory of mind ability of the participants.

5. RESULTS

5.1. Results on the original elements of the Faux Pas Recognition Test

Table 1. shows the performances of the two research groups on the Faux Pas Recognition Test. Scores are in ratio. The assumption of normality was tested using the Shapiro–Wilk test. Results

indicated that normality was not met within groups ($p < 0.05$), therefore, Mann-Whitney U tests were used for pair-wise between-group comparisons. We found no significant differences between autistic and non-autistic individuals' performances, neither in the aggregated total scores nor in the item-level comparisons of the target (faux pas) questions (Q1-Q6).

Table 1. Group comparisons of total, subscale, and item-level scores on the original Faux Pas Recognition Test (scores are in ratio).

Test elements	**U**	**p**	**Autistic participants** median	**Non-autistic participants** median	**Autistic participants** mean (SD)	**Non-autistic participants** mean (SD)
Faux pas Recognition total scores including control stories (no control questions)	55	0.518	0.879	0.925	0.846 (0.132)	0.864 (0.135)
Faux pas stories scores (no control stories and control questions)	63	0.88	0.816	0.850	0.753 (0.271)	0.758 (0.240)
Control stories scores (no control questions)	42.5	0.118	0.925	1	0.937 (0.06)	0.970 (0.06)
Control questions (of both faux pas and control stories)	60.5	0.384	1	1	0.998 (0.007)	1 (0.00)
Target questions of target (faux pas) stories						
Q1. FP Detection	61	0.772	0.900	0.900	0.833 (0.277)	0.809 (0.221)
Q2. FP Detection (person identification -Who said it?)	60.5	0.750	0.900	0.900	0.808 (0.294)	0.791 (0.234)
Q3. Understanding Inappropriateness	64	0.924	0.900	0.900	0.775 (0.302)	0.791 (0.234)
Q4. Intentions	66	1.00	0.7500	0.800	0.669 (0.302)	0.673 (0.290)
Q5. Belief	58	0.640	0.700	0.800	0.635 (0.303)	0.700 (0.249)
Q6. Empathy	64.5	0.959	0.900	0.900	0.800 (0.273)	0.791 (0.230)

Performances on the target questions were also compared within groups. Because the assumption of normality was not met for all variables, Friedman tests were conducted. The Friedman test was significant in case of the autistic group $\chi^2(5) = 28.2$, $p < 0.001$, as well as of the non-autistic group $\chi^2(5) = 32.9$, $p < 0.001$. These findings indicate that there are fundamental differences among the variables within both groups. In case of both the autistic and the non-autistic research groups, Q1 (FP detection), Q2 (Person identification), Q3 (Understanding inappropriateness) and Q6 (Empathy) scores are significantly higher than Q4 (Intentions) and Q5 (Belief) scores, measured by Durbin-Conover tests.

5.2. Results of the additional questions of the Faux Pas Recognition Test

Five categories were created based on the answers the participants provided to the first additional question 'Did [the character who committed faux pas] want [the addressee] to hear [the character who committed faux pas]?'. These are the following: 1) 'I do not know': when the

participants replied that ‘I don’t know the answer’, or ‘One cannot know the answer’, or ‘I cannot decide’; 2) ‘Yes’: we applied this category to the answers that indicated that the participant attributed offensive intent to the speaker; 3) ‘No’: this category encompassed responses interpreted as reflecting the participant’s perception of the speaker’s intent as not offensive; 4) ‘Spoken to them’: when the participant took the literal meaning of the question, and answered that the speaker indeed spoke to the other, therefore, wanted to be heard; 5) ‘Without offensive intent’: when the participant explicitly answered that the speaker wanted to be heard, but the offence was not intentional. Target questions, and additional questions were not raised if participants did not recognize the faux pas in the target stories, these instances are categorized as ‘Omitted questions’.

We created 4 categories based on the answers the participants provided to the second additional question ‘Does [the character who committed faux pas] regret saying what [the character who committed faux pas] was thinking?’. These are the following: 1) ‘I do not know’: when the participants replied that they did not know the answer or that one cannot know the answer or that they were unable to decide; 2) ‘No’: if the participants replied that the speaker does not regret committing the faux pas; 3) ‘Yes’: when the participants said that the speaker does regret committing the faux pas; and 4) ‘Would regret’: when the participants answered that the speaker would regret committing the faux pas after realizing the ‘mistake’, negative emotional consequences. Again, ‘Omitted question’ marks the instances when the participants did not detect the faux pas in the target stories.

Table 2. shows how frequently each response was given by the two groups, as well as the between-group comparisons of these responses. Scores are calculated as the sum of item responses (out of 10 / question). The assumption of normality was tested using the Shapiro–Wilk test. Results indicated that in most cases normality was not met within groups ($p < 0.05$), therefore, Mann-Whitney U tests were used for pair-wise between-group comparisons. We found only one significant difference between the groups: autistic research participants responded ‘I do not know’ more frequently to the question ‘*Does [the character who committed faux pas] regret saying what [the character who committed faux pas] was thinking*?’ than members of the non-autistic group ($p = 0.013$).

Table 2. Response frequencies and group comparisons on the additional questions of the Faux Pas Recognition Test (scores are summed).

Response categories	**U**	**p**	**Autistic participants** median	**Non-autistic participants** median	**Autistic participants** mean (SD)	**Non-autistic participants** mean (SD)
Question 'Did [the character who committed faux pas] want [the addressee] to hear [the character who committed faux pas]?'						
'I do not know'	49.5	0.092	0.00	0.00	0.250 (0.452)	0.000 (0.000)
'Yes'	59.0	0.672	1.00	1.00	1.083 (1.676)	1.091 (1.136)
'No'	58.0	0.604	1.00	1.00	1.167 (1.403)	0.727 (0.467)
'Spoken to them'	52.0	0.391	3.00	0.00	2.917 (2.503)	2.273 (3.197)
'Without offensive intent'	50.0	0.332	2.00	3.00	2.667 (2.015)	4.000 (2.864)
Omitted question	64.5	0.949	1.00	1.00	1.917 (2.712)	1.909 (2.212)
Question 'Does [the character who committed faux pas] regret saying what [the character who committed faux pas] was thinking?'						
'I do not know'	30.0	**0.013***	1.00	0.00	1.42 (1.38)	0.273 (0.905)
'Yes'	46.5	0.229	1.50	2.00	1.75 (1.71)	2.273 (1.191)
'No'	62.0	0.819	1.00	2.00	2.08 (2.19)	1.727 (1.104)
'Would regret'	53.0	0.438	3.50	3.00	3.00 (2.04)	3.818 (2.359)
Omitted question	64.5	0.949	1.00	1.00	1.75 (2.73)	1.909 (2.212)

* Significant at < 0,05 between autistic and non-autistic groups with Mann-Whitney U test.

Frequencies of responses were also compared within groups. Because the assumption of normality was not met for all variables, Friedman tests were conducted. In case of the first added question (Did [the character who committed faux pas] want [the addressee] to hear [the character who committed faux pas]?), the Friedman test was significant in case of the autistic group $X^2(5) = 18.3$, $p = 0.003$, as well as of the non-autistic group $X^2(5) = 19.2$, $p = 0.002$. These findings indicate that there are fundamental differences among the variables within both groups. In case of the autistic group, 'Spoken to them' was responded significantly more often than 'I do not know' ($p < 0.001$), 'Yes' ($p = 0.01$), and 'No' ($p = 0.034$). Also, 'Without offensive intent' was also responded significantly more often by autistic participants than 'I do not know' ($p < 0.001$), 'Yes' ($p = 0.012$) and 'No' ($p = 0.039$). Non-autistic group of participants' 'Without offensive intent' responses were significantly more frequent than 'I do not know' ($p < 0.001$), 'Yes' ($p = 0.013$), 'No' ($p = 0.015$) and 'Spoken to them' ($p = 0.013$). Also 'Spoken to them' was responded significantly more often than 'I do not know' ($p = 0.015$). Non-autistic participants responded 'No' significantly more often than 'I do not know' ($p = 0.013$), and 'Yes' than 'I do not know ($p = 0.015$).

In case of the second added question (Does [the character who committed faux pas] regret saying what [the character who committed faux pas] was thinking?), the Friedman test was not significant in case of the autistic group $X^2(4) = 8.55$, $p = 0.073$, meaning that there is no difference among the variables fundamentally, therefore, results of the Durbin-Conover test should be interpreted with caution. In the case of the non-autistic group, the Friedman test was significant $X^2(4) = 16.1$, $p =$

0.003, resulting in a fundamental difference among the variables. The autistic group of participants supplied the answer 'Would regret' significantly more often than 'I do not know' ($p = 0.029$) and 'Yes' ($p = 0.041$). Non-autistic participants responded significantly more often with 'Would regret' than 'I do not know' ($p < 0.001$). Also, they replied significantly more often with 'Yes' ($p < 0.001$) and 'No' ($p = 0.011$) than 'I do not know'.

5.3. Faux Pas Recognition Test results by presence of avoidance process (topic shifting) in the target questions

By categorizing the faux pas stories based on whether they explicitly include facework (avoidance process, topic shifting specifically) or not, we aimed to gain a deeper understanding of the mental state attribution abilities of the research participants. Pairwise in-group comparisons using Wilcoxon tests revealed no significant effect of the presence of the avoidance process on the original target questions of the Faux Pas Recognition Test (Q1–Q6) in either group.

For the first additional question ('Did [the character who committed the faux pas] want [the addressee] to hear [the character who committed the faux pas]?'), we examined whether the presence of topic shifting affected participants' responses. The assumption of normality was tested using the Shapiro–Wilk test. Results indicated that normality was not met within groups ($p<0.05$), therefore, Wilcoxon tests were used for pair-wise within-group comparisons. In the case of the autistic participants' group, we found that they replied 'Spoken to them' significantly more often when the faux pas stories did not include avoidance process than when they did ($T = 0$, $p = 0.02$). Also, autistic participants responded 'No' significantly more often if the faux pas stories included avoidance process ($T = 36$, $p = 0.01$). Analyzing the non-autistic research group's responses to the first additional question, we found one significant difference related to the presence of the topic shifting: they replied 'No' significantly more often when the stories included avoidance process ($T = 36$, $p = 0.006$).

As for the second additional question (Does [the character who committed faux pas] regret saying what [the character who committed faux pas] was thinking?), we also examined the differences in responses in relation to the presence of the avoidance process. Again, the assumption of normality was tested using the Shapiro–Wilk test. The results indicated that normality was not met within groups ($p < 0.05$) and because of this, Wilcoxon tests were used for pair-wise within-group comparisons. The autistic research group responded 'Yes' significantly more frequently when the faux pas story included facework (avoidance process) ($T = 28$, $p = 0.018$), and so did the non-autistic research group ($T = 28$, $p = 0.02$).

6. DISCUSSION

6.1. Discussion of the original variables of the Faux Pas Recognition Test

In the present study, we first examined how autistic and non-autistic individuals performed on the original items of the Faux Pas Recognition Test. We found that the two groups achieved similar total scores as well as similar scores on the target questions (Q1–Q6). This suggests that autistic and non-autistic participants in our research may have similar theory of mind abilities, or alternatively, that they may relied on cognitive processes that differ from those of non-autistic participants, and employed different problem-solving, compensatory strategies that resulted in statistically indistinguishable performances. The results are also similar to the average performance reported by Gál (2015) in a typically developing research group (18–59-year-olds).

When analyzing the target questions within groups, we found that, irrespective of the neurotype, participants had significantly more difficulty identifying the intentions of the character committing the faux pas (Q4 – Intentions) and recognizing that the speaker's behavior was based on a false belief (Q5 – Belief) compared to detecting the faux pas (Q1), identifying the character who committed it (Q2), understanding its inappropriateness (Q3), or recognizing its emotional consequences (Q6). These results converge with the findings of Zalla et al. (2009), who reported that autistic individuals generally succeeded in detecting faux pas situations but performed less well when providing correct justifications regarding reasons and intentions or in recognizing the emotional consequences. In contrast to Zalla et al.'s findings, however, the same pattern was also observed in the non-autistic group in our study. Furthermore, even the lowest median score (in the autistic group, on the Belief question: Med = 0.7) still reflects a relatively good level of performance. In our sample, differences in the ability to attribute affective and cognitive mental states cannot be demonstrated between groups with different neurotypes.

6.2. Discussion of the results of the additional questions of the Faux Pas Recognition Test

To the Faux Pas Recognition Test, we added two additional questions designed to provide a deeper insight into participants' inferential processes and mental state attributions. Autistic and non-autistic groups responded very similarly to these questions, with only one response category showing a significant difference between groups: autistic individuals were significantly more likely than non-autistic research participants to respond that they did not know, or that it could not be known whether the character who committed the faux pas regrets their utterance. Thus, while both groups performed similarly on the original target questions aimed at 'Belief' and 'Empathy', autistic participants

attributed affective mental state to the character committing a faux pas with significantly greater uncertainty than non-autistic research participants. Autistic participants often justified their 'I do not know' answers by saying that the stories typically end before the speaker could learn that their false belief has led them to say something unintentionally hurtful.

However, within-group analysis of responses revealed that autistic participants answered significantly more often that the character who committed the faux pas would feel regret if they discovered that they had unintentionally offended the other person due to a false belief than that they did not know the answer or that it could not be determined. Moreover, autistic research participants appeared to rely on their inferential processes, and answered more frequently that the speaker would regret the faux pas than that the speaker is feeling regret in the present. This distinction is critical, as in the target stories the speaker is never explicitly confronted by the other participants with the fact that they said something awkward, nor realizes in half of the target stories that they said something awkward, making it hard for their current affective mental state to involve regret.

Non-autistic participants provided definite answers to the question of whether the character committing faux pas regrets saying what they said, as the response 'I don't know / it cannot be determined' was chosen significantly less frequently compared to all other response categories. However, no significant differences emerged among their other responses to this question at group level, which means it cannot be concluded whether they relied more on the explicitly stated content of the story (no mention of regret) or on the implicitly suggested interpretation (that the speaker would likely feel regret afterwards). In case of such ambiguous results, we considered it particularly important to examine the responses in light of whether the target stories contained avoidance process, or not.

By asking if the character committing the faux pas wants the other person to hear what was said or not, we aimed to examine whether participants would respond based on the explicit, literal meaning of the question (the addressee of the utterance is the listener), or whether their answers would instead reflect consideration of the speaker's false belief and that the offense was unintentional. Since the autistic group more frequently gave the answers 'Spoken to them' and 'Without offensive intent' compared to the other answers, but no significant difference was found between these two responses, we may infer that autistic participants identified the listener as the addressee of the utterance. However, depending on the specific content of the given faux pas story, they appeared to consider either the explicit or the implicit meaning of the question.

In contrast, non-autistic participants showed a significant tendency to consider the implicit meaning of the question rather than the explicit one. Their responses ('Without offensive intent')

emphasized that, although the listener was indeed the addressee, the faux pas utterance was not intended to be offensive.

6.3. Discussion of the Faux Pas Recognition Test results by presence of avoidance process (topic shifting) in the target questions

The faux pas stories were grouped according to whether they included an avoidance process or not. The results showed that autistic participants were more likely to consider the explicit meaning of the first added question (identifying the listener as the intended addressee of the utterance) when the story did not include facework, topic shifting. Also, they were more likely to respond with 'No' (that the speaker did not want to be heard), when the story did include avoidance process. These findings suggest that the presence of the avoidance process as a contextual cue influences whether autistic individuals attend to the explicit or the implicit content of an utterance (in this case, the content of the added question).

Non-autistic participants also appeared to consider the presence of topic shiftings, although only for one response category. Specifically, when the faux pas stories contained topic shifting, they were significantly more likely to respond that the character committing the faux pas did not want their partner to hear the utterance, compared to when no topic shifting was present.

As for the second added question, both the autistic and the non-autistic groups were significantly more likely to attribute affective mental state (regret) in the present to the character committing the faux pas when the target stories included an avoidance process than when they did not include one. This suggests that although in the target stories containing avoidance process it is not the speaker who committed the faux pas who performs the topic change in 4 out of 5 cases, and it is not explicitly revealed to the speaker that their false belief led them to make an offensive comment, research participants in both groups nevertheless attributed regret to the speaker (who committed the faux pas) when a character shifted the topic. This may indicate that topic shifting, as a contextual cue, facilitates affective mental state attribution.

Koskinen et al. (2021) found that autistic individuals manage facework differently in social interactions compared to non-autistic individuals. In contrast to their findings, our results indicate that autistic participants were sensitive to the presence of topic shifting as a form of facework, which requires complex inferential processing and socio-cognitive operations. Topic shifting is fundamentally an implicit interactional act, and despite the commonly reported difficulty in interpreting nonliteral meaning within the autistic population, participants in our study were able to understand the function of

it. Consistent with the findings of Sirota (2004) and Kissine et al. (2015), our results suggest that contextual cues, such as topic shifting, support autistic individuals in navigating social interactions.

7. CONCLUSION

The aim of this study was to gain deeper insight into the social cognitive abilities of autistic (N=12) and non-autistic (N=11) adults. We examined (a) whether affective and cognitive mental state attribution in autistic and non-autistic participants can be assessed more effectively through a modified version of the Faux Pas Recognition Test, and (b) whether the representation of an avoidance process as a contextual cue within the target stories of the Faux Pas Recognition Test influences the inferential and affective mental state attribution processes in autistic and non-autistic individuals.

Our results indicate that the modified Faux Pas Recognition Test provides a more comprehensive assessment of participants' social cognitive abilities, and that the presence of avoidance processes as contextual cues supports emotion attribution and consideration of the implicit meaning of an utterance.

To the best of our knowledge, this study represents an original contribution to the literature, as no prior research has systematically investigated how the presence of an avoidance process (topic shifting) within faux pas stories influences their interpretation. Also, several limitations should be acknowledged. The sample size was relatively small, which limits the universality of the findings. Second, all participants were Hungarian, raising the possibility that cultural or linguistic factors may have influenced the results; future research should therefore examine more diverse populations.

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