Suicidality in adults with autism spectrum disorder: The role of depression and alexithymia

Andreia P. Costa[1], Cathia Loor[2], Georges Steffgen[1]

[1]Institute for Health and Behavior - University of Luxembourg; [2]Autisme Luxembourg a.s.b.l

contact: andreia.pintocosta@uni.lu

Background

Individuals with autism spectrum disorder (ASD) have a higher risk of depression and suicidality than individuals without ASD.

Alexithymia, a personality construct characterized by a lack of emotional awareness, that is highly linked to depression, is also more prevalent among people with ASD than in the general population.

Few studies have so far examined the increased risk of suicidality in people with ASD and none have looked into how alexithymia could be a significant risk factor for suicidality in ASD.

Objectives

The aim of the present study is to explore more closely the relationship between alexithymia, depression, and suicidality in ASD.

Hypotheses:

- There are higher rates of depression, suicidality, and alexithymia in people with ASD compared to neurotypical adults.
- Because the risk of suicidality can be explained by high levels of depression and alexithymia in the general population, this is also expected for the people with ASD.

References

Bagby, R. M., Taylor, G. J., & Parker, J. D. (1994). The twenty-item Toronto Alexithymia Scale—II. Convergent, discriminant, and concurrent validity. *Journal of psychosomatic research, 38*(1), 33-40. **Hoekstra**, R. A., Vinkhuyzen, A. A., Wheelwright, S., Bartels, M., Boomsma, D. I., Baron-Cohen, S., ... & van der Sluis, S. (2011). The construction and validation of an abridged version of the autism-spectrum quotient (AQ-Short). *Journal of autism and developmental disorders, 41*(5), 589-596. **Osman**, A., Bagge, C. L., Gutierrez, P. M., Konick, L. C., Kopper, B. A., & Barrios, F. X. (2001). The Suicidal Behaviors Questionnaire-Revised (SBQ-R): validation with clinical and nonclinical samples. *Assessment, 8*(4), 443-454. **Radloff**, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied psychological measurement, 1*(3), 385-401.

Participants

Sample Description for Age and Gender

Group	ASD group N=53 M(SD)	Control group N=132 M(SD)	Comparison statistics
Age	33.75(11.02)	29.08(8.74)	-3.04
Gender			7.72
Male	21	31	
Female	31	101	
Other	1	0	

Note. M = mean, *SD* = standard deviation
t-test for age with *t*(183) = -3.04, *p* < .01 and chi-square analysis for gender with $\chi^2(2)$ = 7.72, *p* < .05

Measures

- Demographics questionnaire;
- Autistic traits: Autism Spectrum Quotient – short version (AQ-short; Hoekstra et al., 2011);
- Depressive symptomatology: Center for Epidemiological Studies Depression – Scale (CES-D; Radloff, 1977)
- Suicidality: Suicide Behaviours Questionnaire - Revised (SBQ-R; Osman, Gutierrez, Konick, Kopper, & Barrios, 2001)
- Alexithymia: Toronto Alexithymia Scale (TAS-20; Bagby, Taylor, & Parker, 1994)

Results

Descriptive Statistics of the Scores of the AQ-short, SBQ-R, CES-D and TAS-20 and Analysis of Covariance (ANCOVA)

	ASD group		Control group		Statistics
Measure	*M*	*SD*	*M*	*SD*	*Ancovas*
AQ-short	85.53	12.91	53.26	7.55	F(1,181) = 394.61, *p* < .001, η_p^2 = .69
CES-D	23.81	12.18	13.04	9.45	F(1,181) = 51.86, *p* < .001, η_p^2 = .22
SBQ-R	8.34	3.65	4.77	2.18	F(1, 181) = 71.51, *p* < .001, η_p^2 = .28
TAS-20	63.09	12.00	41.33	11.15	F(1,181) = 143.44, *p* < .001, η_p^2 = .44

Note. AQ-short = Autism Spectrum Quotient – short version, SBQ-R = Suicidality Behaviour Questionnaire – Revised, CES-D = Center for Epidemiological Studies Depression –Scale, TAS-20 = Toronto Alexithymia Scale;
M = mean, *SD* = standard deviation, η_p^2 = partial η^2

Results

Three-step Hierarchical Multiple Regression Analysis for Variables Predicting Suicidality

Variables	*B*	SE *B*
Step 1		
Age	.12	.23
Gender	.03	.50
Step 2		
Age	–.01	.19
Gender	–.32	.40
Autistic traits (AQ-short)	1.24***	.28
Depression (CES-D)	1.30***	.23
Alexithymia (TAS-20)	–.38	.31
Step 3		
Age	–.15	.19
Gender	–.16	.39
AQ-short	1.01***	.28
CES-D	1.30***	.22
TAS-20	–.30	.30
AQ-short x TAS-20	.51**	.18

Note. B = unstandardized beta coefficient, *B* SE = standard error

Control variables: age and gender. Predictors: *z*-standardized autistic traits, depression and alexithymia, and the cross product of autistic traits and alexithymia

R^2 = .00 for Step 1 (*p* = .87), Δ R^2 = .41 for Step 2 (*p* < .001), Δ R^2 = .03 for Step 3 (*p* < .05)

**p* < .01, ****p* < .001

- The severity of autistic traits and depressive symptomatology were significant predictors of suicidality.
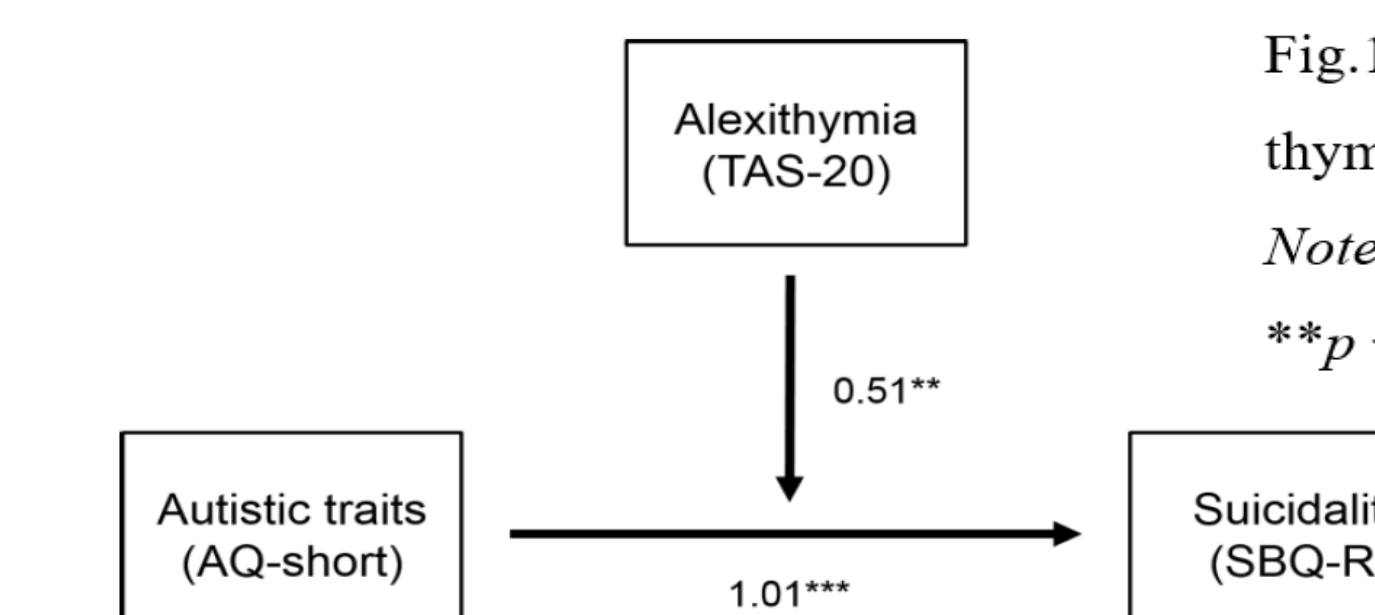- Alexithymia played a moderating role in the relation between autistic traits and suicidality.

Fig.1. Regression model for the moderator effect of alexithymia in the relation between autistic traits and suicidality. *Note.* Standardized coefficients are displayed. **p* < .01, ****p* < .001

- A significant relation was found between autistic traits and suicidality on participants with high levels of alexithymia [*b*=1.61, SE=0.31, *p*<.001], but not on low levels of alexithymia [*b*=-0.54, SE=.45, *p*=.24].

Conclusions

The present results show that individuals with ASD are vulnerable to suicidal ideation and that the severity of autistic traits, depression, and alexithymia are important factors in its occurrence.

Because of the high risk of suicidality in ASD, interventions that take into consideration depression, and particularly alexithymia, could potentially benefit people with ASD.