The Reliability and Validity of a Novel Autistic Burnout Measure Among Neurodiverse College Students

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Introduction

- The **autistic burnout (ABO)** construct, which arose from the autistic community, has been increasingly discussed in online fora.
- The scientific literature attempting to describe ABO has only begun very recently[1-6]:
  - ABO: Period of **exhaustion**, **social withdrawal**, **poorer executive functioning and quality of life**, and more, which occur in autistic individuals after exposure to prolonged stressors such as social and sensory burdens.
- May be implicated in **poor mental health, depression, and suicidality** in the autistic population.
- To date, very few published attempts to **operationalize and quantitatively measure ABO.**

Objectives

1. Evaluate the internal consistency of a **novel measure of ABO**.
2. Explore whether ABO exhibits convergent and discriminant validity with **theoretically-related and unrelated variables**.

Methods

Participants & Design

- N=62 first-semester college students (n=8 formally diagnosed with ASDs, n=19 suspected autistic, n=35 non-autistic).
- Survey at the end of fall 2021 semester as part of larger online study[7] at four universities in the northeastern United States.

Measures[8-12]

(Note: c=hypothesized convergent validity with ABO; d=hypothesized discriminant validity with ABO)

- 8-item ABO scale, total score range: 8-48
- Dimensional autism measure – Social Responsiveness Scale (SRS-2)[c]
- Depression – Beck Depression Inventory (BDI-II)[c]
- Anxiety – Generalized Anxiety Disorder – 7 (GAD-7)[c]
- Stress – Perceived Stress Scale (PSS)[c]
- Brief Fear of Negative Evaluation (BFNE)[c]
- Repetitive thinking measure created by authors (RepT)[c]
- Adult Repetitive Behaviors and Interests Questionnaire (ARBI-Q; created by coauthor Z.J.W.)[c]
- Interests Scale (IS) item "On average, how much time do you spend doing activities related to your special interest?"[c]
- NIH Toolbox Friendship measure[c]
- Demographics: Gender[c], birth sex[c], sexual orientation[c], age[d], race[d], ethnicity[d], university

Statistical Analyses

- ABO measure reliability – assessed using Cronbach's Alpha.
- ABO measure convergent and discriminant validity – cross-sectional Pearson correlations and one-way ANOVAs.

Results

Table 1. ***Novel ABO survey items.***

1. It became very draining to "act appropriately" or "blend in" when I was with other people.
2. I was much more easily bothered by everyday sounds than I used to be.
3. I almost always felt like I had the energy to do what I needed to get done.[R]
4. I was able to handle most everyday sensory environments without much trouble.[R]
5. Simple everyday tasks were physically or emotionally draining.
6. I felt burned out from everything that I needed to do.
7. I couldn't take care of my responsibilities as much as before.
8. It felt like I couldn't pay attention or stay on task as well as I could in the past.

Note. Items were developed based on the ABO definition proposed in Raymaker et al., 2020[1]. The initial prompt for this survey was "Please rate each of the following statements according to how you have felt within the past month." Responses options were given on a 1-6 "Strongly Disagree" to "Strongly agree" Likert scale. [R]Reverse-scored items.

Table 2. ***Sample characteristics.***

	Total Sample N=62	Autistic n=27	Non-autistic n=35	Group Differences: Autistic vs. Non-autistic
ABO	28.97(9.62)	31.37(7.06)	27.11(10.96)	$F(1,60)=3.08$, $p=.08$
SRS-2	58.97(11.05)	64.52(9.68)	54.67(10.20)	**$F(1,60)=14.80$, $p<.001$**
BDI-II	16.27(11.40)	17.59(9.87)	15.18(12.57)	$F(1,58)=0.66$, $p=.42$
GAD-7	7.17(5.54)	8.30(4.51)	6.24(6.18)	$F(1,58)=2.10$, $p=.16$
PSS	20.28(7.87)	22.67(5.98)	18.33(8.74)	**$F(1,58)=4.79$, $p=.033$**
BFNE	37.72(13.63)	40.59(11.85)	35.36(14.69)	$F(1,58)=2.23$, $p=.14$
RepT	25.23(8.89)	28.26(5.58)	22.76(10.32)	**$F(1,58)=6.18$, $p=.016$**
ARBI-Q	55.80(27.99)	75.74(21.06)	39.49(21.78)	**$F(1,58)=42.39$, $p<.001$**
Friend	28.26(7.82)	25.42(6.95)	30.56(7.82)	**$F(1,60)=6.84$, $p=.011$**
Age	19.23(4.27)	20.44(6.28)	18.29(0.75)	**$F(1,60)=4.08$, $p=.048$**
Gender:				
% Man	39%	33%	43%	$X^2(2, N=62)=3.41$, $p=.18$
% Woman	45%	41%	48%	
% Nonbinary/other	16%	26%	9%	
Sexual orientation				
% Heterosexual	65%	46%	77%	**$X^2(1, N=61)=6.21$, $p=.013$**
% Bi- or pansexual	35%	54%	23%	
Race/ethnicity:				
% Native American	3%	7%	0%	**$X^2(4, N=60)=15.75$, $p=.003$**
% Asian	23%	4%	39%	
% Black	8%	4%	12%	
% White	60%	82%	43%	
% Biracial	5%	4%	6%	
% Hispanic	16%	11%	20%	

Note. ABO = 8-item autistic burnout scale; "Autistic" column includes both clinically diagnosed and undiagnosed/self-identified autistic participants; See Methods for measure names.

Table 3. ***Relationships between ABO and theoretically-related (convergent) variables.***

	Dx[a]	SRS-2	BDI-II	GAD-7	PSS	BFNE	RepT	ARBI-Q	IS[a]	Friend	Gend.[a]	Sex[a]	SO
ABO	3.08	.56***	.63***	.69***	.71***	.40**	.72***	.37**	2.91	-.25	8.73***	12.40***	10.66***

*Note. *=p<.05, **=p<.01, ***=p<.001. Dx = Self reported autistic status, either autistic (including both clinically diagnosed and undiagnosed/self-identified) or not; SO = sexual orientation. See Methods for measure names; Correlations are 2-tailed. [a]One-way ANOVA run; F statistic is reported.*

Table 4. ***Relationships between ABO and theoretically-unrelated (discriminant) variables.***

	Age	Race[a]	Ethnicity[a]	University[a]
ABO	-.066	.68	.24	1.73

*Note. *=p<.05, **=p<.01, ***=p<.001. Correlations are 2-tailed. [a]One-way ANOVA run; F statistic is reported.*

Results (cont.)

- ABO items exhibited **high internal consistency (α=.91)**
- Participants did not differ on ABO scores by self-reported autism status (Table 2).
- **Dimensional autistic trait scores (SRS-2) were correlated with ABO scores** (Table 3).
- ABO was **associated with all hypothesized convergent variables EXCEPT** levels of engagement with passionate interests and friendships (Table 3).
- As hypothesized, ABO was **not associated with age, race, ethnicity, or university** (Table 4).

Discussion

- ABO demonstrated **strong psychometric properties**, including internal consistency, convergent, and divergent validity, suggesting it is a **promising empirical construct** for ongoing investigation.
- Results affirm ABO's potential ties with symptoms of **depression, anxiety, stress, and repetitive thinking** and with **sex/gender**.
- ABO was not found to differ based on between the categorical autistic and non-autistic group, possibly due to the presence of undiagnosed autistic people in the autistic category, and/or the end-of-semester timing of survey administration.
- Further efforts using larger, more diverse samples are needed to establish **whether burnout is quantitatively or qualitatively different in autistic (vs. non-autistic) people** and **how ABO may fit into the time course and etiology of mental health concerns**, namely depression and suicidality, in autism.

References

1. Raymaker, D.M., Teo, A.R., Steckler, N.A., Scharer, M., Delos Santos, A., Kapp, S.K., Hunter, M., Joyce, A., & Nicolaidis, C. (2020). "Having all of your internal resources exhausted beyond measure and being left with no clean-up crew": Defining autistic burnout. *Autism in adulthood, 2*(2), 132-143.
2. Mantzalas J., Richdale, A.L., Adikari, A., Lowe, J., & Dissanayake C. (2022). What is autistic burnout? A thematic analysis of posts on two online platforms. *Autism in Adulthood, 4*(1), 52-65.
3. Arnold, S.R., Higgins, J.M., Weise, J., Desai, A., Pellicano, E., & Trollor, J.N. (2023). Confirming the nature of autistic burnout. *Autism,* 13623613221147410. Advance online publication.
4. Higgins, J.M., Arnold, S.R., Weise, J., Pellicano, E., & Trollor, J.N.(2021). Defining autistic burnout through experts by lived experience: Grounded Delphi method investigating #AutisticBurnout. *Autism, 25*(8), 2356-2369.
5. Mantzalas, J., Richdale, A.L., & Dissanayake, C. (2022). A conceptual model of risk and protective factors for autistic burnout. *Autism Research*, *15*(6), 976-987.
6. Arnold, S.R., Higgins, J.M., Weise, J., Desai, A., Pellicano, E., & Trollor, J.N. (2023). Towards the measurement of autistic burnout. *Autism,* 13623613221147401. Advance online publication.
7. McKenney, E. E., Brunwasser, S. M., Richards, J. K., Day, T., Kofner, B., McDonald, R., Williams, Z. J., Gillespie-Lynch, K., Kang, E., Lerner, M. D., & Gotham, K. (2023). Repetitive negative thinking as a prospective predictor of depression and anxiety symptoms in autistic and non-autistic incoming college students. *Autism in Adulthood.* Advance online publication.
8. Constantino, J.N., & Gruber, C.P. (2012). *Social Responsiveness Scale, Second Edition*. Western Psychological Services.
9. Beck A.T., Steer, R.A., & Brown, O.K. (1996). *Beck Depression Inventory manual (2nd ed.)*. American Psychological Association.
10. Spitzer, R.L., Kroenke, K., Williams, J.B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of internal medicine*, *166*(10), 1092-1097.
11. Leary, M.R. (1983). A brief version of the Fear of Negative Evaluation Scale. *Personality and social psychology bulletin*, *9*(3), 371-375.
12. Bodfish, J.W. (2003). *Interests scale*. Chapel Hill, NC.
13. Cyranowski, J.M., Zill, N., Bode, R., Butt, Z., Kelly, M.A., Pilkonis, P.A., Salsman, J.M, & Cella, D. (2013). Assessing social support, companionship, and distress: National Institute of Health (NIH) Toolbox Adult Social Relationship Scales. *Health Psychology*, *32*(3), 293.

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