

Musical genre preferences in Autism Spectrum Disorder

Authors and affiliations

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Introduction & Background

- Autism Spectrum Disorder (ASD) affects 1 child in every 68¹
- Music interventions are a promising tool for treating ASD symptoms⁴
- Musical intervention outcomes in ASD are enhanced by listening to favorite music.^{3,5}
- Symptom severity, verbal ability, spatial reasoning abilities and age may influence music preferences in ASD²

Objectives & hypothesis

- Examine musical genre preferences in ASD children (Analysis A) and likelihood to prefer certain genres as a function of age, symptom severity, verbal ability and spatial reasoning (Analysis B).
- Expectations :
 - Heterogenous musical genre preferences between subjects + equally distributed among genres
 - Symptom severity will predict music preferences in children with ASD.

METHODS

Parent-reported questionnaire on musical taste :

What are the main types of music your child listens to? Please choose all that apply:

- Classical
- Jazz
- Pop
- Rock
- Traditional/Folk
- Other (please specify)

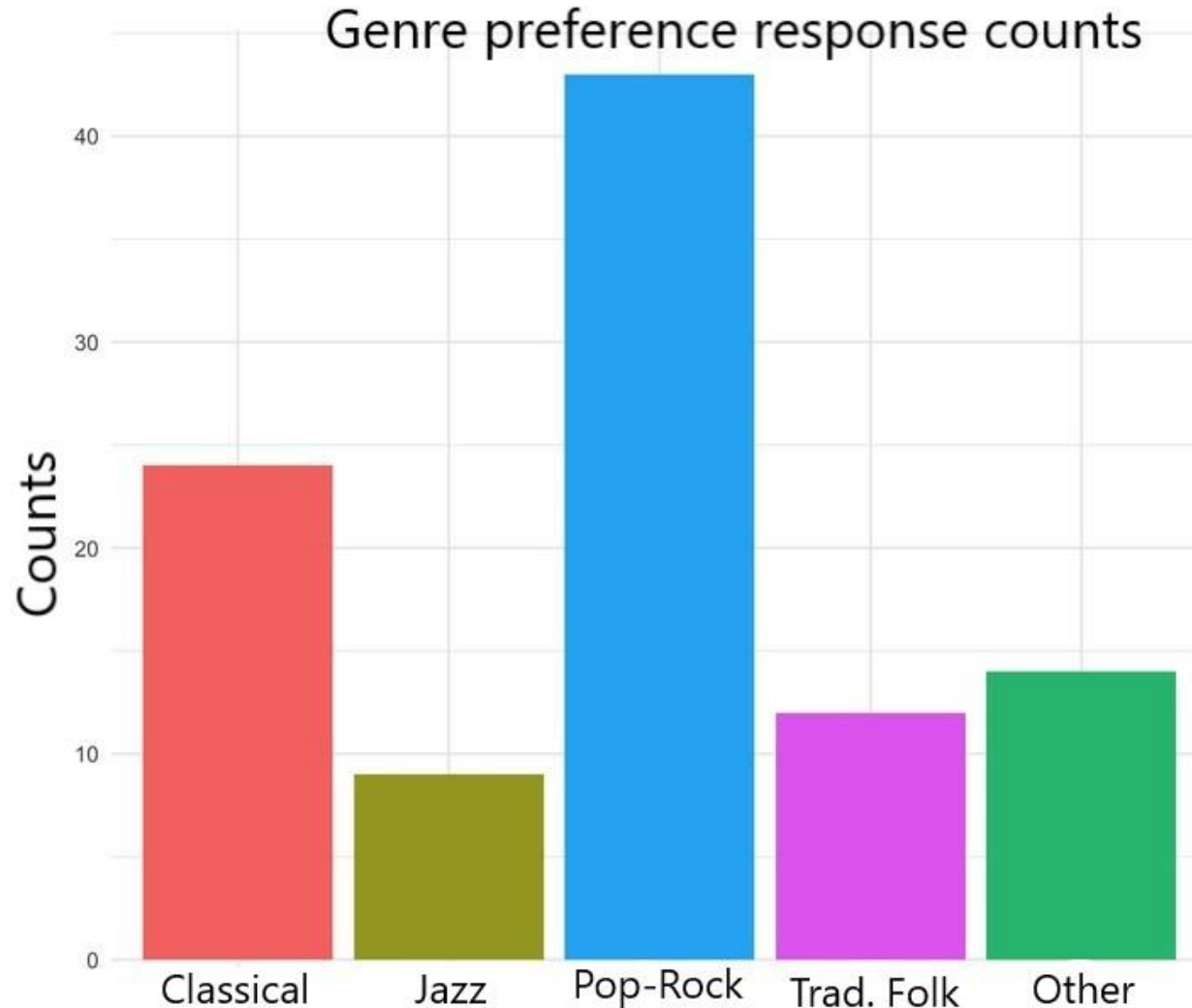
Additional Measures :

Symptom severity	Social Responsiveness Scale-2 (SRS2)
Verbal ability	Clinical Evaluation of Language Fundamentals (CELF4)
Spatial Reasoning	PIQ from the Wechsler Adult Intelligence Scale, Fourth Ed. (WAIS-IV)

Analysis :

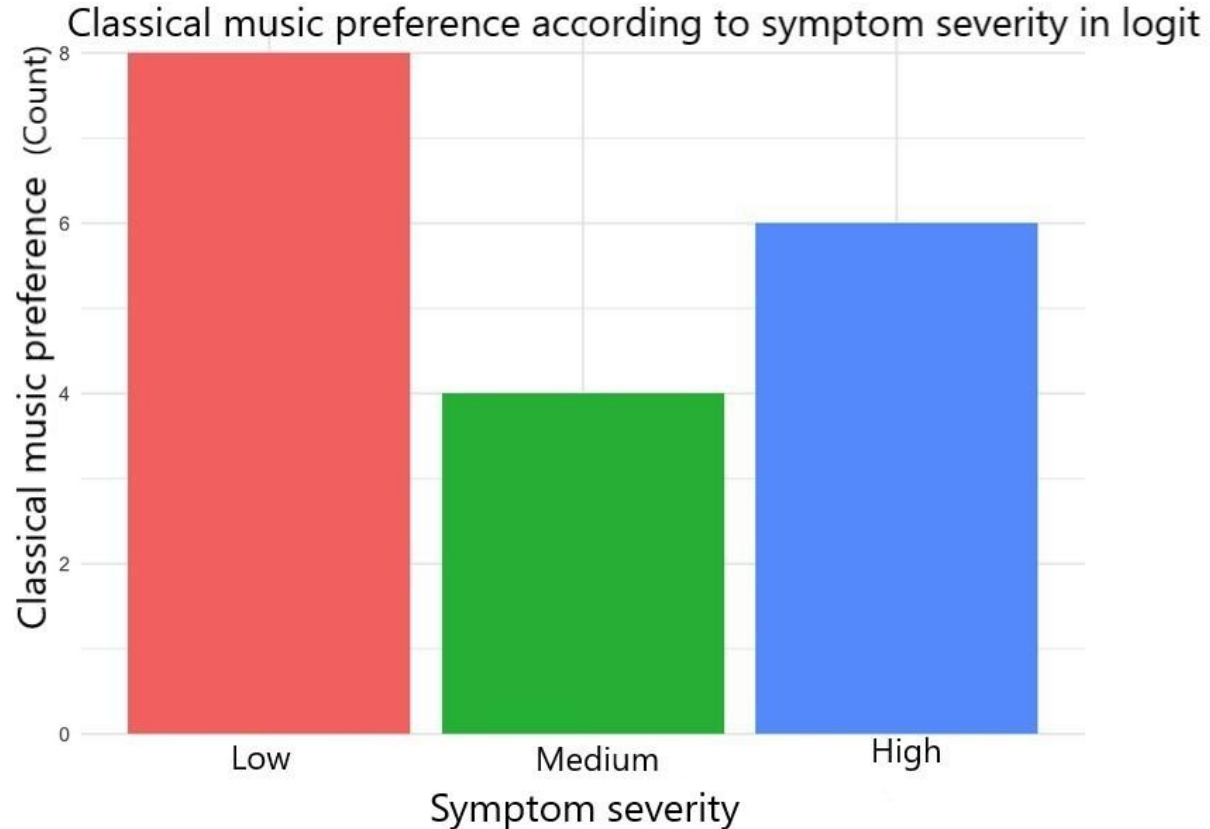
	Analysis A (chi-square)	Analysis B (log. regression)
N	53	38
Response Counts; range	130 (1-7)	92 (1-5)
Age : mean (sd); range	10.22 (1.85); 6.17-12.94	10.19 (1.75); 6.17-12.6
SRS-2 : Mean (sd); range	NA	70.6 (9.43); 55-90
CELF-4 : Mean (sd); range	NA	5.95 (4.14); 1-14
PIQ : Mean (sd); range	NA	106.77 (18.77); 68-138

RESULTS ANALYSIS A (Chi-Square)



- Responses of preference were not distributed equally among genres ($p < 0.001$)
- Pop-Rock was preferred to other genres in ASD ($p < 0.009$)
- Pop-rock was more preferred than classical music ($p < 0.02$), but did not pass bonferroni correction for multiple comparisons.

RESULTS ANALYSIS B (binomial log. regression)



MODEL:

- DV = classical (0=does not listen, 1=listens to);
- IV = Age + Symptom Severity + Verbal ability + PIQ + Pop-Rock + Total genre responses selected

Logistic regression model - classical music :

- The model was highly significant at $\chi^2(7, N=38)=34.167, p<.0001$
- Explained 89.3% (Nagelkerke R squared) of variance
- Strongest predictor: symptom severity (low n=10; med n=16; high n=12)
- High severity children were 3.1 times less likely to prefer classical music than medium severity.
- Choosing classical music was 2.9 times more likely for each additional genre choice that was selected.
- The model using pop-rock as a DV instead of classical was significant ($p<0.016$), $R^2 = 66.9\%$, but no predictor coefficients were significant.

CONCLUSIONS

- ASD children seem to show a greater interest for classical music (see Bhatara & Quintin, 2013) as well as pop-rock over other genres
- Preferences in classical music could be predicted by symptom severity, with higher severity showing lower interest in classical music.
- An interest in a wider variety of genres predicted preferences in classical music
- Preferences in pop-rock were stable and did not change based on age, symptom severity, verbal ability or visual-spatial ability.
- The finding that genre preferences in ASD vary based on symptom severity (social, restricted interests) can provide guidelines to select the appropriate musical material for training musical skills in ASD.

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