Cognitive flexibility and emotion regulation in autism: Insights from BRIEF-A self-reports

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Background

- In autism: difficulties in executive functioning (EF)
  - Most evidence for cognitive flexibility (Shift)
  - Findings for other EF domains remain mixed, including emotion regulation (ER)
- BRIEF-A: self-report measure of EF in daily life
  - 9 subscales, incl. Shift & ER
- Unclear in autistic adults
  - magnitude of EF differences
  - sex-related patterns
  - screening value of BRIEF-A (Shift & ER)

Objective

Compare BRIEF-A profiles of ASD vs non-ASD
Examine EF sex differences in ASD
Evaluate classification accuracy of BRIEF-A (Shift/ER)

Methods

Design: retrospective analysis of diagnostic data

Sample

- Autistic adults:
  n = 2014 (47% male, age: M = 32.84, SD = 11.71)
- Non-autistic adults with psychiatric conditions: n = 2513 (42% male, age: M = 33.28, SD = 11.36)

Measure: BRIEF-A, T-scores
Higher T-score = more reported difficulties

Analyses

- Group comparisons: t-tests + Cohen's d
- Bonferroni corrected α = .005
- ROC analysis of Shift scale for detecting ASD

Results

Group differences
Autistic adults > non-autistic adults

- Shift scale (p < .001, d = 0.50)
- Other BRIEF-A scales: small/negligible effects
- ER scale: not unique to autism (ns, d ≈ 0.1)

Within autism

- Most T-scores > 60
- Men
  Strongest elevations on Initiate, Working memory, Plan/Organize & Shift scales
- Women
  Strongest elevations on same EF scales, plus elevation on ER scale
  Women > men, for Shift, ER & Working memory scale (p < .001), with largest effect for ER scale (d = 0.70). This difference is also present in the non-autistic group.

ROC analysis of Shift scale for detecting ASD

- Overall
  - AUC = .642 (95% CI [.626, .658], p < .001), optimal cut-off T-score = 64, sensitivity 69%, specificity 52%
- Sex-specific cut-offs improve performance
  - Men: AUC = .634, optimal cut-off T-score = 60, sensitivity 73%, specificity 47%
  - Women: AUC = .658, optimal cut-off T-score = 64, sensitivity 75%, specificity 47%

BRIEF-A, a transdiagnostic instrument, shows potential for autism screening

Conclusion

- Cognitive flexibility difficulties distinguish autistic from non-autistic adults with psychiatric conditions
- Emotion regulation difficulties appear to reflect a general sex difference (women > men)
- BRIEF-A ShiftModest but meaningful screening signal for autism
  - Sex-specific cut-offs improve sensitivity (T = 60 men; T = 64 women)
  - Useful complementary EF profile information (not diagnostic)