Discrepancies Between Parent and Clinician Report of Autism Spectrum Disorder Features: Associations with Demographics, Diagnosis, and Intervention

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Background

- Parent-report measures are incorporated alongside clinical observation throughout the autism spectrum disorder (ASD) diagnostic process.
- Discrepancies may arise between parent and clinician ratings of ASD symptoms.[1,2]
- Informant discrepancies demonstrate stability over time and are predictive of children's clinical outcomes.[3,4,5]
- In an ASD sample, discrepancies between parent and teacher symptom ratings mapped onto differences in the child's age, amount of treatment, and likelihood of having co-occurring conditions.[6]
- Discrepancies between parent and clinician ratings of ASD symptoms have been found to be moderated by demographic factors, such as race and household income, and clinical characteristics, such as IQ and behavioral difficulties.[7]
- Understanding factors associated with clinician-parent disagreement is important because discrepancies may impede access to care.

Aims

Aim 1: Examine how discrepancies between clinician and parent reports of ASD symptoms relate to children's demographic characteristics (i.e., sex, family income, race).

Aim 2: Explore how informant discrepancies relate to children's age at first ASD diagnosis and amount of intervention received.

Methods

Participants

- Participants were 280 children with ASD (76.8% male, 67.9% white), ages 6-11 (*M*=8.5±1.64 years), who participated in the Autism Biomarkers Consortium for Clinical Trials (ABC-CT).

Measures

- Clinician-reported ASD symptoms were assessed via the Autism Diagnostic Observation Schedule, Second Edition (ADOS-2).[8]
- Parent-reported ASD symptoms were assessed via the Social Responsiveness Scale, Second Edition (SRS-2).[9]
- Parents also reported their family income, the number of hours of intervention their child received in the past six weeks, and the child's race, sex, and age at first autism diagnosis.

Analysis

- A variable-centered approach was used.
- Clinician-parent overall discrepancy scores were calculated by subtracting the Z-score of the SRS-2 total raw score from the Z-score of the ADOS-2 calibrated severity score (CSS).
- Clinician-parent social discrepancy scores were calculated by subtracting the Z-score of the SRS-2 total social communication index (SCI) raw score from the Z-score of the ADOS-2 social affect (SA) CSS.
- Clinician-parent restricted and repetitive behavior (RRB) discrepancy scores were calculated by subtracting the Z-score of the SRS-2 total RRB raw score from the Z-score of the ADOS-2 RRB CSS.
- Mann Whitney U and Kruskal Wallis tests were used to explore how informant discrepancies differed by race, sex, and family income.
- Spearman's correlations were used to examine associations between informant discrepancies and the diagnosis and intervention variables.
- Additional independent T-tests and Mann Whitney U tests were used to explore differences in SRS-2 ratings by participant sex and differences in ADOS-2 ratings by participant sex.

Results

- Discrepancies between parent and clinician ratings of ASD symptoms did not differ by race or family income.
- Relative to clinicians, parents reported lower overall symptom levels for males (*m*=.12) and higher overall symptom levels for females (*m*=-.20; *U*=5553.00, *p*=.028; Figure 1).
- A similar pattern of sex differences emerged for clinician versus parent ratings of social symptoms, specifically, with parents reporting lower levels of social symptoms for males (*m*=.07), relative to clinicians, and higher levels of social symptoms for females (*m*=-.42; *U*=5408.50, *p*=.014; Figure 2).
- No sex differences emerged in parent versus clinician report of RRB symptoms.

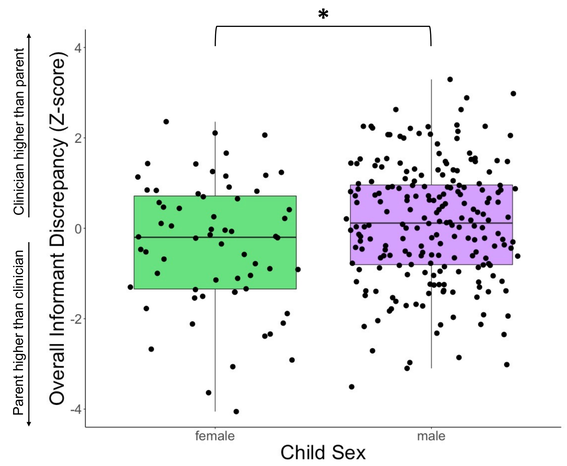

Figure 1. Differences in clinician–parent overall symptom discrepancy scores across female and male participants. *p<.05

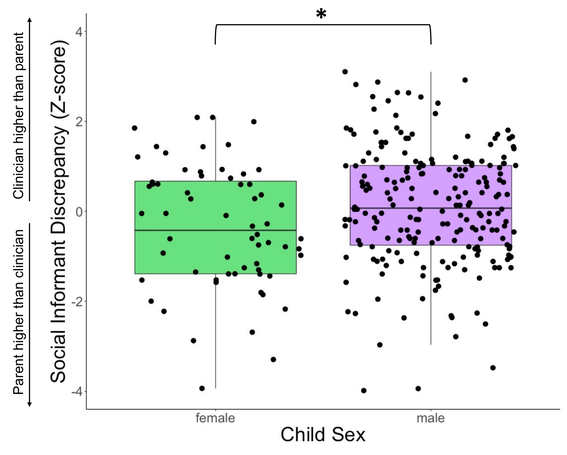

Figure 2. Differences in clinician–parent social symptom discrepancy scores across female and male participants. *p<.05

- Evaluating sex differences in symptom ratings within each instrument (ADOS-2 or SRS-2) revealed that clinicians reported higher levels of overall ASD symptoms on the ADOS-2 in males (*m*=8.00) than in females (*m*=7.00; *U*= 4909.00, *p*<.001), but parent ratings of overall symptoms on the SRS-2 did not differ for males and females (*p*=.850).

Results

- Higher clinician ratings of overall (*r*(264)=-.20, *p*=.001) and social symptoms (*r*(264)=-.19, *p*=.002), relative to parent ratings, were associated with an earlier diagnosis (Table 1).
- Higher clinician ratings of overall (*r*(254)=.19, *p*=.003) and social symptoms (*r*(254)=.20, *p*=.001), relative to parent ratings, were associated with a greater number of intervention hours (Table 2).
- Clinician-parent discrepancies in ratings of RRB symptoms were not associated with age at first diagnosis or with intervention hours.

Table 1. Correlations between clinician-parent discrepancy score and age at first diagnosis. **p<.01

Age at First Diagnosis	
Discrepancy Domain	**Correlation Coefficient**
Overall symptoms	-.20**
Social symptoms	-.19**
RRB symptoms	-.05

Table 2. Correlations between clinician-parent discrepancy score and total intervention hours. **p<.01

Intervention Hours	
Discrepancy Domain	**Correlation Coefficient**
Overall symptoms	.19**
Social symptoms	.20**
RRB symptoms	.01

Conclusions

- The finding that parents, relative to clinicians, reported greater ASD symptoms in girls and fewer in boys may point to parental over-report of symptoms in females or clinician under-report of symptoms in females.
- Under-report of females' symptoms by clinicians may reflect a decreased sensitivity of the ADOS-2 in picking up symptoms in females or may reflect clinicians overlooking symptoms in females potentially due to "social camouflaging" during the short observation period.[10, 11, 12]
- The association of higher clinician ratings of ASD symptoms, relative to parent ratings, with earlier diagnosis and a greater amount of intervention emphasizes the important role of formal clinical evaluations in facilitating support for autistic children.
- Exploration of the relationship between informant discrepancy and demographic characteristics (e.g., race, SES) in more diverse samples is warranted.
- Future research may also seek to employ a person-centered approach to identify different profiles of clinician-parent discrepancies in ASD.

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