Correspondence Between Early Caregiver and Examiner Concerns For ASD and ADHD

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INTRODUCTION

- Autism spectrum disorder (ASD) and attention-deficit/hyperactivity disorder (ADHD) are highly comorbid and there is evidence of familial cross-aggregation.  
- By 12 months, caregiver concerns predict later diagnoses of ASD. Examiner concerns have been shown to be less predictive.  
- Caregiver and examiner concerns, considered separately, have been found to be associated with elevated familial risk for ADHD and later ADHD symptoms.  
- Correspondence between caregiver and examiner concerns for ASD and ADHD has not been widely explored.

OBJECTIVE

To evaluate correspondence between caregiver and examiner concerns related to ASD and ADHD symptoms in a sample of infants at high and low familial risk, with implications for clinical practice.

METHODS

- Participants were 122 infants at low risk (n = 36, 14 female), high risk for ASD (n = 49, 21 female), and high risk for ADHD (n = 37, 18 female), and their caregivers.
- Infants followed longitudinally, evaluated at 12, 18, and 24 months of age.
- Caregiver and examiner concerns about behavior and/or development were elicited at the end of each study visit.
- Free-response concerns were coded into specified categories (social/stereotyped behavior and behavior temperament) and tallied.
- The category social/stereotyped was indicative of ASD and behavior/temperament was indicative of ADHD concerns.
- Correspondence at each visit was calculated using intraclass correlation coefficients (ICCs).
- ICCs were compared between groups at each age to test whether the risk groups significantly differed.

RESULTS

Figure 1: Number of Concerns From Caregivers & Examiners

Table 1: Correspondence Between Caregiver and Examiners

CONCLUSIONS & FUTURE DIRECTIONS

- Clinicians should take caregiver concerns seriously, even if the concerns are not shared by clinicians.
- Some factors that may account for discrepancies include the different contexts in which parents/clinicians are observing behavior, different thresholds for what is “normative,” different background knowledge, etc.
- Future research should examine whether correspondence is related to diagnostic outcomes rather than familial risk-group.
- Sex differences in correspondence may be worth exploring.
- It might be worthwhile to examine whether having clinicians observe behavior in an infant’s natural environment (for instance, through telehealth) might improve correspondence.

SUMMARY

- Generally poor-to-fair correspondence between caregivers and examiners across concern categories for all ages/groups (exception: good-to-excellent agreement for ADHD-risk group social/stereotyped concerns at 18 and 24 months).
- In general, there were few group differences in correspondence between examiners/caregivers.

ACKNOWLEDGEMENTS

Mahalo to Dr. Miller, Dr. Kadhaskar, the rest of the Miller Lab team, and the participating families! Thank you, also, to the MCHC RISE UP!

REFERENCES

A full list of references can be found by scanning this QR code using your phone’s camera app.
ASD and ADHD are highly comorbid with evidence of familial cross-aggregation (Miller et al, 2019).

By 12 months, caregiver concerns predict later diagnoses of ASD (Ozonoff et al, 2009).

Examiner concerns have been shown to be less predictive (Sacrey et al, 2018).

Caregiver and examiner concerns (separately) were associated with elevated familial risk for ADHD and later ADHD symptoms (Miller et al, 2018; Miller et al, 2020).

Correspondence between caregiver and examiner concerns for ASD and ADHD has not been widely explored.

INTRODUCTION

To evaluate correspondence between caregiver and examiner concerns related to ASD and ADHD symptoms in a sample of infants at high and low familial risk for these conditions, with implications for clinical practice.
Participants: 122 infants were divided into low risk (n = 36, 14 female), high risk for ASD (n = 49, 21 female), and high risk for ADHD (n = 37, 18 female), and their caregivers. Infants were followed longitudinally, evaluated at 12, 18, and 24 months of age. Caregiver and examiner concerns about behavior and/or development were elicited.

METHODS

- Free-response concerns were coded and tallied.
- Social/stereotyped indicative of ASD; behavior/temperament indicative of ADHD.
- Correspondence calculated using intraclass correlation coefficients (ICCs).
- ICCs were compared.
RESULTS

Figure 1: Number of Concerns From Caregivers & Examiners

- Average number of concerns from caregivers and examiners at each visit/age across Low-Risk, ASD-Risk, and ADHD-Risk groups for Social/Stereotyped Behavior (a) and Behavior/Temperament (b). *p<.05
- Generally caregivers and examiners on average had about the same number of concerns.
RESULTS

Table 1: Correspondence Between Caregiver and Examiners

<table>
<thead>
<tr>
<th></th>
<th>Low-Risk</th>
<th>ASO-Risk</th>
<th>ADHD-Risk</th>
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<tr>
<td><strong>SOCIAL/STEREOTYPED CONCERNS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>n</td>
<td>ICC</td>
<td>95% Cl</td>
</tr>
<tr>
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<td>24</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>18</td>
<td>35</td>
<td>0.557*</td>
<td>0.277, 0.749</td>
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<tr>
<td>24</td>
<td>30</td>
<td>-0.36</td>
<td>-0.376, 0.319</td>
</tr>
<tr>
<td><strong>BEHAVIOR/TEMPERAMENT CONCERNS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>n</td>
<td>ICC</td>
<td>95% Cl</td>
</tr>
<tr>
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<tr>
<td>18</td>
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<tr>
<td>24</td>
<td>30</td>
<td>0.449*</td>
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</table>

<table>
<thead>
<tr>
<th>Poor</th>
<th>Fair</th>
<th>Good</th>
<th>Excellent</th>
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</thead>
<tbody>
<tr>
<td>&lt; 0.40</td>
<td>0.40-0.59</td>
<td>0.60-0.74</td>
<td>0.75-1.00</td>
</tr>
</tbody>
</table>

- Generally: poor-to-fair correspondence between caregivers and examiners; few group differences in correspondence between examiners/caregivers.
CONCLUSIONS & FUTURE DIRECTIONS

- Generally poor-to-fair correspondence between caregivers and examiners
- Prior findings: caregiver concerns are predictive of autism outcomes, associated with later ADHD symptoms
- Clinicians should take caregiver concerns seriously and incorporate them into clinical decision making.
  - Thresholds for what is "normative"
  - Background knowledge

Some factors that may account for discrepancies:
- Contexts in which caregiver/clinicians are observing behavior
- Thresholds for what is "normative"
- Background knowledge

Future research:
- We did not have outcome data, only risk-group data
  - Correspondence might be related to diagnostic outcomes rather than familial risk-group.
- Sex differences in correspondence.
- Clinicians observing behavior in an infant’s natural environment might improve correspondence.
ACKNOWLEDGMENTS

Mahalo to Dr. Miller, Dr. Kadlaskar, the rest of the Miller Lab team, and the participating families! Thank you, also, to the MCHC RISE UP!

REFERENCES