The broader autism phenotype in mothers is associated with increased discordance between maternal-reported and clinician-observed instruments that measure child autism spectrum disorder

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Supplement 1. Description of measures used to evaluate child autism spectrum disorder in the Study to Explore Early Development (SEED)

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| --- | --- | --- | --- | --- |
| **Instrument** | **Instrument Type** | **Respondent** | **Length** | **Description** |
| Social Communication Questionnaire (SCQ) | Screening questionnaire | Mother | 40 yes or no questions that take approximately 15 minutes to complete | SEED staff administered the questionnaire about a child’s behavior and development over the phone during study enrollment call |
| Autism Diagnostic Interview-  Revised (ADI-R) | Interview | Mother | 93 items that take approximately 150 minutes to complete | Structured interview about child’s past and current behavior and development that is led by a SEED clinician either at the mother’s home, SEED clinic, or over the phone |
| Autism Diagnostic Observation Schedule (ADOS) | Observation | Clinician | 40 minute observation and interaction period | SEED clinician interacts and observes the child at the child’s home or SEED clinic. Different modules are administered based on child’s age and verbal language ability |
| The Ohio State University Autism Rating Scale (OARS) | Synthesis of available data | Clinician | Clinician completed Likert scale of certainty that the child has ASD, completed after all other data are collected | SEED clinician or team of clinicians used all available data, specifically from the ADI-R and ADOS to give best clinical impression of whether the child has ASD |

Supplement 2. Overall estimates comparing discordance between maternal and clinician ratings on child autism spectrum disorder screening and evaluation instruments in the Study to Explore Early Development (SEED), by maternal broader autism phenotype status, weighted to account for missing Social Responsiveness Scale-adult

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **SCQ** | | | | **ADI-R** | | | |
|  | **‘Over-reporting’ a** | | **‘Under-reporting’ b** | | **‘Over-reporting’** | | **‘Under-reporting’** | |
|  | **RR** | **95% CI** | **RR** | **95% CI** | **RR** | **95% CI** | **95% CI** | **RR** |
|  | **Weighted** | | | | | | | |
| **ADOS** | **1.49** | 1.02, 2.17 | 0.72 | 0.27, 1.91 | **2.58** | 1.20, 5.54 | 0.94 | 0.51, 1.72 |
| **OARS** | 1.28 | 0.94, 1.75 | 0.63 | 0.20, 1.97 | 1.61 | 0.91, 2.82 | 1.00 | 0.50, 1.98 |
|  | **Unweighted** | | | | | | | |
| **ADOS** | **1.55** | 1.07, 2.25 | 0.67 | 0.26, 1.76 | **2.85** | 1.35, 6.03 | 0.84 | 0.47, 1.53 |
| **OARS** | 1.30 | 0.95, 1.77 | 0.6 | 0.20, 1.82 | 1.67 | 0.96, 2.92 | 0.92 | 0.46, 1.81 |
|  | **Difference** | | | | | | | |
| **ADOS** | -4.0 |  | 6.9 |  | -10.5 |  | 10.6 |  |
| **OARS** | -1.6 |  | 4.8 |  | -3.7 |  | 8.0 |  |

Weighted by maternal race, maternal education, and study site.

RR: risk ratio;

CI: confidence interval

SCQ: Social Communication Questionnaire;

ADI-R: Autism Diagnostic Interview-Revised

ADOS: Autism Diagnostic Observation Schedule

OARS: The Ohio State University Autism Rating Scale;

a ‘Over-reporting’ is when the SCQ or ADI-R meets SEED ASD risk or ASD criteria while ADOS or OARS does not

b ‘Under-reporting’ is when the SCQ or ADI-R does not meet SEED ASD risk or ASD criteria while ADOS or OARS does

Supplement 3. Overall estimates comparing discordance between maternal and clinician ratings on child autism spectrum disorder screening and evaluation instruments in the Study to Explore Early Development (SEED), by maternal broader autism phenotype status, evaluating excluding mothers with Spanish as a preferred language

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **SCQ** | | | | **ADI-R** | | | | |
|  | **‘Over-reporting’ a** | | **‘Under-reporting’ b** | | **‘Over-reporting’** | | | **‘Under-reporting’** | |
|  | **RR** | **95% CI** | **RR** | **95% CI** | | **RR** | **95% CI** | **RR** | **95% CI** |
|  | **English speakers only (n=665)** | | | | | | | | |
| **ADOS** | 1.40 | 0.90, 2.18 | 0.70 | 0.27, 1.83 | **2.66** | | 1.13, 6.22 | 0.94 | 0.51, 1.75 |
| **OARS** | 1.14 | 0.79, 1.66 | 0.60 | 0.20, 1.82 | 1.39 | | 0.74, 2.61 | 0.96 | 0.47, 1.97 |
|  | **Full sample (N=712)** | | | | | | | | |
| **ADOS** | **1.63** | 1.12, 2.37 | 0.57 | 0.21, 1.50 | **2.85** | | 1.35, 6.03 | 0.84 | 0.47, 1.53 |
| **OARS** | 1.3 | 0.95, 1.77 | 0.51 | 0.16, 1.57 | 1.67 | | 0.96, 2.92 | 0.92 | 0.46, 1.81 |
|  | **Percent difference** | | | | | | | | |
| **ADOS** | -16.4 |  | 18.6 |  | -7.1 | |  | 10.6 |  |
| **OARS** | -14.0 |  | 15.0 |  | -20.1 | |  | 4.2 |  |

RR: risk ratio;

CI: confidence interval;

SCQ: Social Communication Questionnaire;

ADI-R: Autism Diagnostic Interview-Revised

ADOS: Autism Diagnostic Observation Schedule;

OARS: The Ohio State University Autism Rating Scale

a ‘Over-reporting’ is when the SCQ or ADI-R meets SEED ASD risk or ASD criteria while ADOS or OARS does not

b ‘Under-reporting’ is when the SCQ or ADI-R does not meet SEED ASD risk or ASD criteria while ADOS or OARS does