Child self-report and parent ratings for the Strengths and Difficulties Questionnaire: Norms and agreement in a Swedish random population sample

Bojing Liu¹²†, Karin Engström²†, Isabel Jadbäck³, Sara Ullman¹, Anne H. Berman¹∗

¹Department of Clinical Neuroscience, Centre for Psychiatry Research, Karolinska Institutet, Stockholm, Sweden
²Department of Public Health Sciences, Karolinska Institutet, Stockholm, Sweden
³Department of Psychology, Uppsala University, Uppsala, Sweden

*Corresponding author: anne.h.berman@ki.se  † Share first authorship of this article

Abstract

Background: The Strengths and Difficulties Questionnaire (SDQ) measures behavioral problems among children and adolescents. Prior research in Sweden has included child self-report or parent ratings from community or population data.

Objective: To provide child–reported and parent–rated SDQ norms for 11- to 16-year-olds, as well as data on child–parent agreement and parental sociodemographic correlates: education, employment status, and quality of life.

Method: A random population sample with 600 children aged 11 to 16 years, 100 per age group, and one of their parents (N=1200) yielded a sampling pool of 1158 participants and a 34.8% response rate, including 175 child–parent pairs and 27 and 26 child/parent singletons. Responses to child and parent versions of the extended SDQ were analyzed by child gender and age. Child–parent agreement was evaluated using the Prevalence- and Bias-Adjusted Kappa and Bland–Altman plots.

Results: Older children reported greater difficulties compared with younger children, while girls reported a higher negative impact of difficulties on daily life in comparison to boys. Child–parent item-by-item agreement was fair to slight on 15 of the 25 SDQ items, perfect to moderate on 9 items, and less than chance on 1 item, but generally high regarding dichotomous assignment to the “raised difficulties” or “normal” groups, based on subscales and the total SDQ score. Greater difficulties for children were reported by parents born outside Sweden, parents of children born outside Sweden, parents lacking regular employment, and parents with lower education or lower quality of life. In relation to other child–parent pairs, parents born outside Sweden perceived greater difficulties for their children compared with the children’s own ratings. Parents with better physical health and social relationships rated their children as having fewer difficulties compared with the rates reported by children.

Conclusions: Gender differences contrasted with prior Swedish studies showing higher ratings for boys on hyperactivity and total difficulties and for girls on emotional symptoms. However, findings on increased difficulties with age concurred with prior studies. Research on children’s mental health should be widely and systematically conducted at regular intervals and encompasses large, representative samples in order to inform national public health and health-care policy regarding measures to support children and enhance their mental health.

Keywords: Strengths and Difficulties Questionnaire (SDQ); child self-report; parent ratings; child–parent agreement; mental health; population study; Internet-based survey

Introduction

The prevalence of mental health disorders among children and adolescents worldwide is estimated at about 10% to 20%, and a need for mental health services exists for about 5% to 20% of the population under 18 years (1,2). However, child and adolescent mental health is not systematically measured anywhere in the world, nor is the need for mental health services adequately met in any country (1,2). A first step toward eventually minimizing the gap between mental health needs and services is to measure mental health status among representative samples of children and adolescents at regular intervals. Norm data can then be used to reliably
assess overall needs for child and adolescent mental health services (1) as well as identify individual children whose mental health status warrants clinical attention. In Sweden, various aspects of child and adolescent mental health have been studied over the past three decades without reaching any firm conclusion regarding changes in mental health problems; although the prevalence of psychological problems has not declined, it is not entirely clear whether it has increased (3).

As part of continual efforts to establish the status of mental health among children and youth in Sweden, the Strengths and Difficulties Questionnaire (SDQ) (4,5) has been used to assess behavioral problems, primarily in community samples but also in a few clinical samples, supporting the instrument’s discriminant validity (6). A recent study showed excellent psychometric properties, including internal consistency reliability and construct validity, for the Swedish parental version of the SDQ in online and paper-and-pencil versions (7). Research on the SDQ in Sweden began with a study in 1999 and is still ongoing. Both positive psychometric properties (6-8) and psychometric limitations for the SDQ (9) have been reported. Data sets from community samples have shown some gender differences, with agreement regarding girls’ increased emotional symptoms in comparison to that of boys (8,10-12). A very large Swedish public health study on sixth and ninth graders contributed a rich data set with useful mapping of mental health status in the country (12).

Despite the considerable research published, so far the focus has been on limited age ranges, and child-reported and parent-rated scores have not been presented together. Some studies reported only parent ratings (6-8,13,14) and some only children’s self-report (9,11,12,15). An ongoing prospective school-based study will be reporting longitudinal data on both child-reported and parent ratings on the SDQ, and data for seventh graders have been published (16). Parent ratings have been collected for samples of younger children up to 10 years old (8,14) and for older children, separated into groups by school class levels (9-12), as well as for 10- to 13-year-olds (7), but not for an entire age range of older children up to and including adolescents. One study included an analysis of a random community sample of children 5 to 15 years old (6), but reported only parent ratings. None of the Swedish studies published at this writing have reported norms for a full range of children’s ages, nor has child–parent agreement been evaluated.1

Existing international research on agreement between adult informants and children’s self-report of mental health and well-being is very limited, and results differ based on sample characteristics as well as on the aspects of mental health studied (17,18). Child–parent agreement in population samples has been higher than that in clinical samples. However, sociodemographic factors can influence the agreement between parents and children; for example, lower-educated parents have reported more symptoms in their children and assessed the impact of symptoms on everyday life as being higher than the assessment made by their children, compared with parent–child agreement in families with higher-educated parents (17). Parents with low self-reported quality of life (QoL) have also been found to rate their children’s QoL lower than the children’s own assessment (19).

Associations between parental sociodemographic and psychosocial characteristics and SDQ child self-reports as well as parent ratings are an additional important aspect of research on children and adolescents’ mental health. For example, the large national study cited above found that worse mental health was reported by children who did not live with either of their parents, and more bullying and social isolation were experienced by children with one or both parents born outside Europe as well as by children not living with either of their parents (12). Some research suggests that parental characteristics correlate with ratings of children’s mental health (7,20), whereas other studies report that parents’ educational level does not correlate with their adolescent children’s mental health (21). With the exception of one study (7), we have not identified published Swedish research on parental characteristics in relation to children’s behavioral problems based specifically on the SDQ.

The current study was conceived to remedy three inadequacies in prior Swedish research on the SDQ. First, we aimed to provide preliminary normative data for the SDQ by child self-report at each age group for which the SDQ is intended (11 to 16 years), as well as parent rating norms for all of these groups. Second, we assessed agreement between parents and children on behavioral problems according to the SDQ. Third, we evaluated correlations between parental sociodemographic characteristics and QoL on the one hand and behavioral problems among children and adolescents on the other. We investigated a random Swedish population sample of children and adolescents, with one parent for each respondent.

---

1 Supplementary Table S1 offers an overview and textual summary of these findings.
Method
This cross-sectional study design was carried out between June 13, 2012 and December 31, 2012. Ethical approval was granted by the Stockholm Regional Ethical Vetting Board at Karolinska Institutet (No. 2012/688-31/5).

Participants and procedure
A random sample was drawn on May 30, 2012 from the Swedish tax authority registry of child parent/guardians with children 11 to 16 years old. One home address was provided for each parent/guardian, and 600 children and adolescents (N=100 for each age group) and their parents were approached by postal mail. Information was sent out on four occasions: one letter and two reminders with links to online versions of the questionnaires, and a third and final reminder including paper versions of the questionnaires. Each letter included a serial number for the family to enable pairing of children and parents from the same household. Respondents to the online questionnaires, uploaded on the SurveyXact secure online questionnaire system (22), gave their informed consent and entered their serial number online. Data were stored in a secure, encrypted database.

The first letter was sent by post in the middle of June 2012, and reminders were sent two and seven weeks later. A third reminder including paper questionnaires was sent nine weeks after the first letter. All questionnaire responses before December 31, 2012 were included in the data set analyzed. No compensation was offered to participants. See Table 1 for participant flow and study response rates.

Data for matched child–parent pairs were obtained for 175 children and their parents (29.2% of the 600 pairs approached). Additional single responses were obtained from 27 children (4.5%) and 26 parents (4.3%). The percentage of participants answering the questionnaires online was 66.2% and that in paper versions (by post) was 33.8%. KIDSCREEN-27 data from this study sample have been reported separately (23).

Instruments
Strengths and Difficulties Questionnaire
The SDQ is a brief screening instrument for assessing children and adolescents’ mental health status for 4- to 16-year-olds, via parent or teacher ratings, or for 11- to 16-year-olds, by self-report (4,24,25). Everyday difficulties, measured by the SDQ, are defined as symptoms and behaviors that elicit self-reported child/adolescent suffering and/or attention and concern from parents, as expressed in SDQ parent ratings. The SDQ consists of 25 items distributed on the following five subscales with five items each: emotional symptoms, conduct problems, hyperactivity-inattention, peer problems, and prosocial behavior. Each item is scored on a three-point scale (0=“not true”; 1=“somewhat true”; and 2=“certainly true”). Subscale scores are computed by summing up the relevant items, after adjusting for reversed items. Each total subscale score ranges from 0 to 10. Higher scores on the first four subscales reflect difficulties, whereas higher scores on the prosocial subscale reflect strengths.

The SDQ is available in an extended version that includes an “Impact supplement” with one item indicating how upsetting or distressing the child’s difficulties are and four items on social impairment resulting from the child’s possible problems (interference with home life, friendships, classroom

| TABLE 1. Participant flow, questionnaire formats and response rates for the study |
|---------------------------------|-----------------|-----------------|
| **Format**                      | **Children**    | **Parents**     |
| **Initial sampling pool**       | 600             | 600             |
| Non-participants who explained their lack of participation* | 21 | 21 |
| **Final sampling pool**         | 579             | 579             |
| **Cumulative (N)**              |                 |                 |
| Response without reminder       | Online          | 43              | 46              |
| After one reminder              | Online          | 89              | 109             |
| After second and third reminders| Online          | 127             | 147             |
| After three reminders†          | Paper           | 202             | 201             |
| Response rate (%)               |                 | 34.8            | 34.7            |

*Non-participants included here had incorrect addresses or explicitly communicated their reasons for not participating as difficulties with Swedish language, having disabled child, and lacking interest in participating in the study. The remaining non-participants (377 children and 378 parents) simply did not respond to researchers’ letters.

† Of the total questionnaires received from parents and children, 175 were from matched parent-child pairs (29.2%) with an additional 27 from only the child and 26 from only the parent.
learning, and/or leisure activities). Each impact item is scored on a three-point scale (0=“not at all” or 0=“only a little”; 1=“quite a lot”; and 2=“a great deal”). The SDQ total impact score (scale 0 to 10) thus refers to the extent to which everyday difficulties interfere with daily activities.

In this study, we used the Swedish-language extended SDQ for the parent and self-report versions. Previous studies have indicated satisfactory psychometric properties for the parent-rating version (6,8). For the self-report version in a large Swedish sample (11), internal consistency reliability according to the person separation index (an analogue to Cronbach’s alpha) was fair to good for all subscales other than conduct and peer problems, but a Rasch analysis detected problems in most dimensions other than emotional symptoms (21). Nonetheless, this SDQ version has been used in later studies (10,12) and was therefore retained unchanged for the current study.

Parent quality of life

Derived from the longer WHOQOL-100, the 26-item WHOQOL-BREF was developed to provide brief QoL assessment for adults (26). Two items concern general well-being and the remaining 24 items generate information about four domains: physical health (seven items); psychological health (six items); social relationships (three items); and environment (eight items). All items are scored on a five-point scale. Before scoring, some items are reversed; domain scores are then scaled in a positive direction where higher scores denote higher QoL (27). QoL in this article refers to overall QoL, as measured by the WHOQOL-BREF.

Sociodemographic factors

Sociodemographic factors were measured via questions to parents, covering the following: country of birth; the child’s living status (categorized as living with both parents or other, meaning living with either one parent or with other adults); the parent’s living status, categorized as living with or without a partner; employment, dichotomized as being currently employed (permanent, temporary, and self-employment) or other (sick leave, parental leave, disabled, retired, student, job-seeking, unpaid domestic work, and other); and educational level, categorized into three groups according to the number of educational years completed. See Table 2 for details.

\[
\begin{array}{lcccc}
\text{Sociodemographic and psychosocial factors} & \text{Children (N=403)*} & \text{Parents (N=403)*} \\
\hline
\text{Mean age (standard deviation)} & 13.7 (1.83) & 45.6 (5.49) \\
\text{Sex} & & & \\
\text{Male} & 78 (39.4) & 38 (18.9) \\
\text{Female} & 120 (60.6) & 163 (81.1) \\
\text{Born in Sweden} & & & \\
\text{Yes} & 188 (93.5) & 177 (88.1) \\
\text{No} & 13 (6.5) & 24 (11.9) \\
\text{Child living status} & & & \\
\text{With both parents} & 159 (80.3) & - \\
\text{With either parent/others} & 39 (19.7) & - \\
\text{Parent living status} & & & \\
\text{With partner} & - & 173 (86.1) \\
\text{Without partner} & - & 28 (13.9) \\
\text{Employment} & & & \\
\text{Employed} & & 172 (86.0) \\
\text{Other} & & 28 (14.0) \\
\text{Education (years)} & & & \\
\text{11 or less} & - & 56 (28.0) \\
\text{12 to 14} & - & 64 (32.0) \\
\text{15 or more} & - & 80 (40.0) \\
\text{WHOQOL-BREF, scale 0 to 100} & Mean (standard deviation) & & \\
\text{Physical health} & - & 75.4 (18.82) \\
\text{Psychological health} & - & 72.8 (16.13) \\
\text{Social relationships} & - & 69.4 (17.34) \\
\text{Environment} & - & 73.5 (14.16) \\
\text{Total} & N=202 & N=201 \\
\end{array}
\]

*Both parent and child responded, N=175; parent only responded, N=26; child only responded, N=27

†The children approached were 11 to 16 years old but some had turned 17 years old by the time they answered the questionnaire

Statistical analysis
Normative data are presented on the basis of child self-report as well as parent ratings. For child self-reported norms, all child data were used (N=202). For parent rating norms and child–parent agreement analyses, single-child and single-parent respondents were excluded from the analysis, leaving 175 child–parent pairs. The sample source is indicated in each table.

Child-report and parent ratings
The distributions of child self-report data are described using box plots. All comparative analyses were based on two-tailed tests with a significance level of \( \alpha = 0.05 \). Non-parametric tests were used to identify differences in SDQ subscales and total difficulties scores (TDS) by gender (Mann–Whitney U test) and age groups (Kruskal–Wallis test) for both parent ratings and child-reported scores. Age and sex differences in binary SDQ total impact scores were tested using Fisher’s exact test for both parent ratings and child-reported scores, as observations in some cells of contingency tables were below 10. Post-hoc pairwise comparisons were conducted using Dunn’s test (28).

Regarding cutoff levels for children’s difficulties, we proceeded using guidance from Goodman (25), who identified cutoffs such that the top 10% in his sample were categorized as “abnormal,” with a corresponding cutoff; the next decile was categorized as “borderline,” with a second corresponding cutoff score; and the remaining 80% were categorized as “normal” (5, 25). Our sample was healthier than Goodman’s with regard to each of the SDQ subscales (8, 25), and applying Goodman’s cutoffs to our sample resulted in very low frequencies in the “abnormal” and “borderline” categories. Therefore, we decided to adapt Goodman’s concept of defining one part of the sample as in some way aberrant, such that we defined the top 10% of our sample as “raised” in relation to the remaining 90%, which we defined as “normal.” This generated new cutoff levels in our sample; these are presented in the column furthest to the right in Tables 3a (self-report) and 4a (parent rating), with comparative cutoff levels from Goodman’s data (25). For the SDQ total impact score, we used the 10% prevalence marker for “raised difficulties” and identified a cutoff level of 1 for parent-rated scores and 2 or more for child-reported scores.

Child–parent agreement
Child–parent agreement was explored in three ways: item-by-item; by subscales; and by SDQ-TDS score. We first tested the item-by-item child–parent agreement, based on raw scores for each item, using the prevalence- and bias-adjusted kappa (PABAK) coefficient for ordinal data (PABAK-OS, a modified PABAK) (29) and proportion of agreement. We further examined child–parent agreement on SDQ subscale scores and SDQ-TDS score based on dichotomous variables: that is, whether or not the difficulties were raised, using the PABAK (30) and proportion of agreement. The interpretation of the kappa coefficient has been summarized separately (31). Last, a non-parametric Bland–Altman plot was generated to further illustrate child–parent agreement on the SDQ-TDS score as a continuous variable (32). In the Bland–Altman plot the y-axis represents differences in child–parent agreement based on subtracting the parent scores from the children’s scores (i.e., child–parent disagreement). The x-axis represents an average of the children’s and parents’ scores. The child–parent differences are expressed in medians (5% to 95% inter-percentile range). Child–parent disagreement is indicated by dots in relation to the zero bias line on the y-axis; the shading of the dot darkens with increasing numbers of child–parent pairs with the same difference score.

Sociodemographic and psychosocial factors
The impact of sociodemographic and psychosocial factors on the SDQ-TDS and on child–parent agreement was examined using the Mann–Whitney U test for gender, country of birth, living status, and parent’s employment. Exact tests were performed when the number of observations was less than ten in each category; the Kruskal–Wallis test was used for parental education level, and Spearman correlations for child and parent ages and WHOQOL-BREF domains. Child–parent agreement was defined as the difference between self-reported and parent-rated SDQ-TDS. We first performed the analysis according to the absolute value of the agreement, and later stratified by whether a child or his/her parent reported a higher score.

Statistical analyses were performed using SAS 9.3 (SAS Institute Inc., Cary, NC, USA), R software (http://www.r-project.org), and a web-based PABAK-OS calculator (http://www.singlecase research.org/calculators/pabak-os). P-values are reported in a two-digit format with values rounded up or down, unless the three-digit format adds relevant information.

Results
Sample characteristics
Table 2 shows sample characteristics. The children’s mean age was 13.7 years (standard deviation=1.83), with 39.4% boys. The mean parental age was 45.6 years (standard deviation=5.49), with 18.9% men. A large majority of the participants were born in Sweden (88.1% of parents; 93.5% of children). Most of the children lived with both parents (80.3%), and...
TABLE 3a. Gender-stratified self-reported Strengths and Difficulties Questionnaire subscale scores (range, 0 to 10), total difficulties score (range, 0 to 40) and total impact score (range, 0 to 10)

<table>
<thead>
<tr>
<th>SDQ subscale</th>
<th>Total (Boys)</th>
<th>Girls</th>
<th>p-value</th>
<th>Missing</th>
<th>Cutoff (Goodman)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperactivity</td>
<td>2(1–4)</td>
<td>2(1–4)</td>
<td>.98</td>
<td>6</td>
<td>5 (7)</td>
</tr>
<tr>
<td>Emotional symptoms</td>
<td>2(1–4)</td>
<td>2(1–4)</td>
<td>.34</td>
<td>7</td>
<td>5 (7)</td>
</tr>
<tr>
<td>Conduct problems</td>
<td>1(0–2)</td>
<td>1(0–2)</td>
<td>.74</td>
<td>5</td>
<td>3 (5)</td>
</tr>
<tr>
<td>Peer problems</td>
<td>1(0–2)</td>
<td>1(0–2)</td>
<td>.13</td>
<td>5</td>
<td>3 (6)</td>
</tr>
<tr>
<td>Prosocial</td>
<td>9 (8–10)</td>
<td>9 (8–10)</td>
<td>.10</td>
<td>6</td>
<td>6 (4)</td>
</tr>
<tr>
<td>Total difficulties score</td>
<td>7 (5–11)</td>
<td>8 (4–10.5)</td>
<td>.87</td>
<td>7</td>
<td>14 (20)</td>
</tr>
<tr>
<td>Total impact score ≥2</td>
<td>9.7%</td>
<td>2.6%</td>
<td>14.3%</td>
<td>.006*</td>
<td>7</td>
</tr>
<tr>
<td>Total observations</td>
<td>N=78</td>
<td>N=120</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SDQ, Strengths and Difficulties Questionnaire

† Mann–Whitney U test
‡The cutoff value refers to the total sample and describes the cutoff for the 90th percentile for each sub-scale except for the prosocial scale where the 10th percentile cutoff is given
§The cutoffs for the “abnormal” category for children 4 to 16 years old were obtained from Goodman (25)
¶ The percentages reported in this row refer to the percentage of children in each column with a total impact score of ≥2

TABLE 3b. Age-stratified self-reported Strengths and Difficulties Questionnaire subscale scores (range, 0 to 10), total difficulties score (range, 0 to 40) and total impact score (range, 0 to 10)

<table>
<thead>
<tr>
<th>SDQ subscale</th>
<th>11 (years)</th>
<th>12 (years)</th>
<th>13 (years)</th>
<th>14 (years)</th>
<th>15 (years)</th>
<th>16–17 (years)</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperactivity</td>
<td>2(1–4)</td>
<td>2(1–4)</td>
<td>2(0–4)</td>
<td>2(1–3.5)</td>
<td>3(1–4.5)</td>
<td>3(1–4)</td>
<td>.75</td>
</tr>
<tr>
<td>Emotional symptoms</td>
<td>2(1–4)</td>
<td>1(0–2)</td>
<td>2(1–4)</td>
<td>2(1–3)</td>
<td>2(0–4)</td>
<td>3(2–4)</td>
<td>.03*</td>
</tr>
<tr>
<td>Conduct problems</td>
<td>1(0–2)</td>
<td>2(1–2)</td>
<td>1(0–2)</td>
<td>1(0–2)</td>
<td>1(0–1)</td>
<td>1(1–3)</td>
<td>.05*</td>
</tr>
<tr>
<td>Peer problems</td>
<td>2(1–3)</td>
<td>1(0–1)</td>
<td>1(0–3)</td>
<td>1(0–3)</td>
<td>1.5(0.5–3)</td>
<td>2(1–2)</td>
<td>.06</td>
</tr>
<tr>
<td>Prosocial</td>
<td>8 (7–9)</td>
<td>9 (8–10)</td>
<td>8 (8–9)</td>
<td>9.5 (8.5–10)</td>
<td>9 (8.5–10)</td>
<td>9 (7–9)</td>
<td>.02*</td>
</tr>
<tr>
<td>Total difficulties score</td>
<td>8 (5–12)</td>
<td>6 (4–8)</td>
<td>6 (4–11)</td>
<td>6 (4–10.5)</td>
<td>6.5 (4.5–11)</td>
<td>9 (7–12)</td>
<td>.08</td>
</tr>
<tr>
<td>Total impact score ≥2</td>
<td>3.5%</td>
<td>3.3%</td>
<td>13.5%</td>
<td>12.0%</td>
<td>3.1%</td>
<td>18.6%</td>
<td>.13†</td>
</tr>
<tr>
<td>Total observations</td>
<td>N=29</td>
<td>N=31</td>
<td>N=37</td>
<td>N=25</td>
<td>N=33</td>
<td>N=43</td>
<td></td>
</tr>
</tbody>
</table>

SDQ, Strengths and Difficulties Questionnaire

†The children were 16 years old when the population sample was drawn but some had turned 17 years old by the time they answered the questionnaire
‡Kruskal–Wallis test
§The percentages reported in this row refer to the percentage of children in each column with a total impact score of ≥2
¶ Fisher’s exact test
* p < .05
### TABLE 4a. Parent-reported Strengths and Difficulties Questionnaire subscale scores (range, 0 to 10), total difficulties score (range, 0 to 40) and total impact score (range, 0 to 10) by child gender in parent–child pairs (N=175)

<table>
<thead>
<tr>
<th>SDQ subscale</th>
<th>Total</th>
<th>Boys</th>
<th>Girls</th>
<th>p-value</th>
<th>Missing</th>
<th>Cutoff† (Goodman/Smedje)‡</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperactivity</td>
<td>1 (0–3)</td>
<td>1 (0–3)</td>
<td>1 (0–3)</td>
<td>.72†</td>
<td>3</td>
<td>5 (7/7)</td>
</tr>
<tr>
<td>Emotional symptoms</td>
<td>1 (0–2)</td>
<td>1 (0–2)</td>
<td>1 (0–2)</td>
<td>.97‡</td>
<td>3</td>
<td>4 (5/5)</td>
</tr>
<tr>
<td>Conduct problems</td>
<td>1 (0–1)</td>
<td>1 (0–1)</td>
<td>1 (0–1)</td>
<td>.98‡</td>
<td>4</td>
<td>2 (4/4)</td>
</tr>
<tr>
<td>Peer problems</td>
<td>1 (0–2)</td>
<td>1 (0–2)</td>
<td>1 (0–2)</td>
<td>.92‡</td>
<td>3</td>
<td>3 (4/4)</td>
</tr>
<tr>
<td>Prosocial</td>
<td>9 (8–10)</td>
<td>9 (8–10)</td>
<td>9 (8–10)</td>
<td>.75†</td>
<td>4</td>
<td>6 (4/5)</td>
</tr>
<tr>
<td>Total difficulties score</td>
<td>4 (2–8)</td>
<td>4.5 (2–8)</td>
<td>4 (2–8)</td>
<td>.67†</td>
<td>4</td>
<td>12 (17/14)</td>
</tr>
<tr>
<td>Total impact score ≥1</td>
<td>13.4%</td>
<td>12.7%</td>
<td>13.8%</td>
<td>1.00†</td>
<td>5</td>
<td>See note *</td>
</tr>
<tr>
<td>Total observations</td>
<td>N=65</td>
<td>N=110</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SDQ, Strengths and Difficulties Questionnaire

†The cutoff value refers to the total sample and describes the cutoff for the 90th percentile for each sub-scale except for the prosocial scale where the 10th percentile cutoff is given
‡Goodman (25) reported parental and teacher ratings for children 4 to 16 years old, while Smedje et al. (8) reported parental ratings for children 6 to 10 years old
§Mann–Whitney U test
¶The percentages reported in this row refer to the percentage of children in each column with a total parent-rated impact score of ≥1
††Fisher’s exact test
¶¶Goodman used ≥2 as the cutoff for the total impact score, and Smedje et al. (8) did not report the total impact score
§§p < .01

### TABLE 4b. Parent-reported Strengths and Difficulties Questionnaire subscale scores (range, 0 to 10), total difficulties score (range, 0 to 40) and total impact score (range, 0 to 10) stratified by child age group in parent–child pairs (N=175)

<table>
<thead>
<tr>
<th>SDQ subscale</th>
<th>11 (years)</th>
<th>12 (years)</th>
<th>13 (years)</th>
<th>14 (years)</th>
<th>15 (years)</th>
<th>16–17 (years)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperactivity</td>
<td>1 (0–3)</td>
<td>1 (0–3)</td>
<td>1 (0–3)</td>
<td>1.5 (0–3)</td>
<td>1 (0–4)</td>
<td>1 (0–3)</td>
<td>.88†</td>
</tr>
<tr>
<td>Emotional symptoms</td>
<td>1 (0–2)</td>
<td>1 (0–2)</td>
<td>1 (0–3)</td>
<td>0 (1–3)</td>
<td>2 (0–2)</td>
<td>1 (0–2)</td>
<td>.46‡</td>
</tr>
<tr>
<td>Conduct problems</td>
<td>1 (0–1.5)</td>
<td>0 (0–2)</td>
<td>1 (0–1)</td>
<td>0 (0–2)</td>
<td>1 (0–1)</td>
<td>1 (0–2)</td>
<td>.98†</td>
</tr>
<tr>
<td>Peer problems</td>
<td>1 (0–2)</td>
<td>2 (1–2)</td>
<td>1 (0–2)</td>
<td>1 (0–3)</td>
<td>1 (0–2)</td>
<td>1 (0–2)</td>
<td>.57‡</td>
</tr>
<tr>
<td>Prosocial</td>
<td>9 (8–10)</td>
<td>9.5 (9–10)</td>
<td>9 (8–10)</td>
<td>9 (7–10)</td>
<td>9 (8–10)</td>
<td>9 (7–9)</td>
<td>.76‡</td>
</tr>
<tr>
<td>Total difficulties score</td>
<td>4 (2–5.5)</td>
<td>5 (2–8)</td>
<td>4 (2–8)</td>
<td>3 (1–9)</td>
<td>4 (1–7)</td>
<td>4 (1–9)</td>
<td>.97†</td>
</tr>
<tr>
<td>Impact score ≥1</td>
<td>16.0%</td>
<td>9.1%</td>
<td>15.2%</td>
<td>13.6%</td>
<td>12.9%</td>
<td>12.8%</td>
<td>.99§</td>
</tr>
<tr>
<td>Total observations</td>
<td>N=25</td>
<td>N=24</td>
<td>N=33</td>
<td>N=22</td>
<td>N=31</td>
<td>N=40</td>
<td></td>
</tr>
</tbody>
</table>

SDQ, Strengths and Difficulties Questionnaire

†Kruskal–Wallis test
‡The percentages reported in this row refer to the percentage of children in each column with a total parent-rated impact score of ≥1
§Fisher’s exact test
§§p < .05

![FIGURE 1. Gender-stratified child-reported Strengths and Difficulties Questionnaire (SDQ) subscales (range, 0 to 10) and total difficulties score (range, 0 to 40)](image-url)
FIGURE 2. Age-stratified child-reported hyperactivity and emotional symptoms subscales

FIGURE 3. Age-stratified child-reported conduct and peer problem subscales

FIGURE 4. Age-stratified child-reported prosocial subscale and total difficulties score
<table>
<thead>
<tr>
<th>SDQ items</th>
<th>PA</th>
<th>PABAK (95% CI)</th>
<th>p-value</th>
<th>Rating†</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prosocial scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Considerate of other people’s feelings</td>
<td>0.70</td>
<td>0.55 (0.48–0.62)</td>
<td>.000</td>
<td>Moderate</td>
</tr>
<tr>
<td>Shares readily with other children</td>
<td>0.49</td>
<td>0.24 (0.17–0.31)</td>
<td>.000</td>
<td>Fair</td>
</tr>
<tr>
<td>Helpful if someone is hurt, upset of feeling ill</td>
<td>0.58</td>
<td>0.37 (0.30–0.44)</td>
<td>.000</td>
<td>Fair</td>
</tr>
<tr>
<td>Kind to younger children</td>
<td>0.82</td>
<td>0.73 (0.66–0.80)</td>
<td>.000</td>
<td>Substantial</td>
</tr>
<tr>
<td>Often volunteers to help others</td>
<td>0.83</td>
<td>0.32 (0.25–0.40)</td>
<td>.000</td>
<td>Fair</td>
</tr>
<tr>
<td><strong>Hyperactivity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restless, overactive, cannot stay still for long</td>
<td>0.43</td>
<td>0.14 (0.07–0.22)</td>
<td>.008</td>
<td>Slight</td>
</tr>
<tr>
<td>Constantly fidgeting or squirming</td>
<td>0.74</td>
<td>0.21 (0.14–0.28)</td>
<td>.000</td>
<td>Fair</td>
</tr>
<tr>
<td>Easily distracted, concentration wanders</td>
<td>0.40</td>
<td>0.11 (0.03–0.18)</td>
<td>.052</td>
<td>Slight</td>
</tr>
<tr>
<td>Thinks things out before acting</td>
<td>0.49</td>
<td>0.23 (0.16–0.30)</td>
<td>.000</td>
<td>Fair</td>
</tr>
<tr>
<td>Sees tasks through to the end, good attention span</td>
<td>0.48</td>
<td>0.22 (0.15–0.29)</td>
<td>.000</td>
<td>Fair</td>
</tr>
<tr>
<td><strong>Emotional symptoms scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often complains of headaches, stomachaches, and so on</td>
<td>0.59</td>
<td>0.39 (0.32–0.46)</td>
<td>.000</td>
<td>Fair</td>
</tr>
<tr>
<td>Many worries, often seems worried</td>
<td>0.46</td>
<td>0.19 (0.12–0.26)</td>
<td>.000</td>
<td>Slight</td>
</tr>
<tr>
<td>Often unhappy, downhearted, or tearful</td>
<td>0.68</td>
<td>0.52 (0.45–0.59)</td>
<td>.000</td>
<td>Moderate</td>
</tr>
<tr>
<td>Nervous or clingy in new situations</td>
<td>0.33</td>
<td>–0.01 (–0.08–0.06)</td>
<td>.871</td>
<td>Less than chance</td>
</tr>
<tr>
<td>Many fears, easily scared</td>
<td>0.62</td>
<td>0.43 (0.36–0.50)</td>
<td>.000</td>
<td>Moderate</td>
</tr>
<tr>
<td><strong>Conduct problems scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often has temper tantrums or hot tempers</td>
<td>0.50</td>
<td>0.25 (0.18–0.32)</td>
<td>.000</td>
<td>Fair</td>
</tr>
<tr>
<td>Generally obedient, usually does what</td>
<td>0.48</td>
<td>0.21 (0.14–0.29)</td>
<td>.000</td>
<td>Fair</td>
</tr>
<tr>
<td>Often fights with other children or bullies them</td>
<td>0.92</td>
<td>0.88 (0.81–0.95)</td>
<td>.000</td>
<td>Almost perfect</td>
</tr>
<tr>
<td>Often lies and cheats</td>
<td>0.78</td>
<td>0.67 (0.60–0.74)</td>
<td>.000</td>
<td>Substantial</td>
</tr>
<tr>
<td>Steal from home, school, or elsewhere</td>
<td>0.90</td>
<td>0.85 (0.78–0.92)</td>
<td>.000</td>
<td>Almost perfect</td>
</tr>
<tr>
<td><strong>Peer problems scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rather solitary, tends to play alone</td>
<td>0.42</td>
<td>0.13 (0.06–0.20)</td>
<td>.015</td>
<td>Slight</td>
</tr>
<tr>
<td>Has at least one good friend</td>
<td>0.83</td>
<td>0.75 (0.68–0.82)</td>
<td>.000</td>
<td>Substantial</td>
</tr>
<tr>
<td>Generally liked by other children</td>
<td>0.59</td>
<td>0.39 (0.32–0.46)</td>
<td>.000</td>
<td>Fair</td>
</tr>
<tr>
<td>Picked on or bullied by other children</td>
<td>0.84</td>
<td>0.75 (0.68–0.83)</td>
<td>.000</td>
<td>Substantial</td>
</tr>
<tr>
<td>Gets on better with adults than with other children</td>
<td>0.43</td>
<td>0.15 (0.08–0.22)</td>
<td>.006</td>
<td>Slight</td>
</tr>
<tr>
<td>SDQ total difficulties</td>
<td>0.87</td>
<td>0.74 (0.64–0.84)</td>
<td>.000</td>
<td>Substantial</td>
</tr>
<tr>
<td>Total impact score</td>
<td>0.81</td>
<td>0.62 (0.51–0.74)</td>
<td>.000</td>
<td>Substantial</td>
</tr>
</tbody>
</table>

SDQ, Strengths and Difficulties Questionnaire; PABAK, prevalence- and bias-adjusted kappa

*Individual item responses for children and parents were compared based on raw ordinal scores. Subscale scores, SDQ total difficulties and total impact scores were all compared based on dichotomous variables, see Method
†Proportion of agreement
‡PABAK<0, agreement less than chance; 0.01≤PABAK<0.2, slight agreement; 0.21≤PABAK<0.40, fair agreement; 0.41≤PABAK<0.60, moderate agreement; 0.61≤PABAK<0.80, substantial agreement; 0.81≤PABAK<0.99, almost perfect agreement (29)
Note. p-values <.05 highlighted in bold
most of the parents lived with a partner (86.1%). Regarding employment and education, almost all of the parents were employed; less than one-third had 11 years or less of education and 40% had 15 years or more of education. The mean parental score for each domain of WHOQOL-BREF (scale 0 to 100; standard deviations in parentheses) was 75.4 (18.82) for physical health; 72.8 (16.13) for psychological health; 69.4 (17.34) for social relationships; and 73.5 (14.16) for environment.

Child-reported Strengths and Difficulties Questionnaire scores Figure 1 and Table 3a show the distribution of child-reported SDQ scores stratified by gender. Boys and girls did not differ overall in SDQ subscales scores and the TDS, but they did differ on the total impact score, where the impact of difficulties was greater for a considerably larger proportion of girls (14.3%) than for boys (2.6%).

Figures 2 to 4 and Table 3b show the distribution of child-reported SDQ scores across age groups. Age-related differences were observed for emotional symptoms (\(p=.03\)), conduct problems (\(p=.05\)), and prosocial (\(p=.02\)) scores. The total impact score did not differ overall between the age groups. Post-hoc pairwise comparisons showed that children in the 16- to 17-year group had higher scores for emotional symptoms compared with those in the 12-year age group (\(p=.01\)).

Parent ratings Parent-rated SDQ subscale and total scores were stratified by child gender (Table 4a) and age group (Table 4b). In contrast to child-reported scores, no differences were found between parent ratings by gender or age.

Child–parent agreement

An item-by-item analysis showed that, out of the 25 SDQ items, 9 (36%) had perfect to moderate agreement (8% almost perfect; 16% substantial; 12% moderate), 15 (60%) had fair to slight agreement (40% fair; 20% slight), and 1 (4%) had agreement less than chance (see Table 5). Generally high child–parent agreement was observed for all five SDQ subscales and the SDQ-TDS based on dichotomous variables (see Table 5). The prosocial subscale had the highest PABAK and proportion of agreement. Substantial agreement was observed for the SDQ-TDS, where a Bland–Altman plot indicated that children generally reported higher TDS scores compared with that reported by parents; that is, the median (5% to 95%) was 3 (–8, 12); and child–parent disagreement was higher as the magnitude of difficulties (\(x\)-axis) increased, as shown by the larger proportion of cases above and below the zero bias line as the average score of parents’ and children’s responses increases (see Figure 5).
Sociodemographic and psychosocial associations

Crude associations were calculated between sociodemographic and psychosocial factors, and children’s self-reported SDQ-TDS (Supplementary Table S2) as well as parent SDQ-TDS ratings (Supplementary Table S3). None of the sociodemographic or QoL factors were related to child self-reported SDQ-TDS. In contrast, parent ratings by non-Swedish-born parents as well as those with non-Swedish-born children tended to be higher in comparison with other parents; the same phenomenon occurred for parents with “other” employment status and for those with lower education, compared with other parents. All the four subscales of the WHOQOL-BREF showed inverse correlations with parent-rated SDQ-TDS; that is, parents with better QoL reported fewer difficulties for their children.

The associations between sociodemographic and psychosocial factors and the absolute size of agreement as well as the direction of child–parent agreement (whether children felt worse or better than parents rated them) are shown in Supplementary Table S3. Associations with the size of agreement were found only for parental social relationships, where higher QoL was associated with less agreement ($r=0.16$; $p=.04$).

Parents born outside Sweden were more likely to report more difficulties than their children on the SDQ-TDS ($p=.03$). Parents with better physical health ($r=0.25$; $p<.01$) and social relationships ($r=0.19$; $p<.05$) tended to report fewer difficulties than their children did.

Discussion

This study provided random population sample data on Swedish pre-adolescent children and adolescent self-report and parent-rated mental health, as measured by the SDQ. The study also reported data on child–parent agreement for these measures, as well as sociodemographic and psychosocial associations. In general, we found that older children reported greater difficulties compared with younger children. The only gender difference found was for the SDQ total impact score, where girls reported a significantly higher negative impact on daily life in comparison with boys. Parental sociodemographic and QoL factors did not affect child self-reports of difficulties. However, parent ratings were higher when parents were born outside Sweden, had lower education, or had “other” employment. Regarding child–parent agreement, this was generally high on SDQ subscales and for the TDS based on dichotomous variables. Parents who were born outside Sweden saw their children as having greater difficulties compared with the reports by children. Parents with better physical health and social relationships rated the children as having fewer difficulties compared with the reports by children.

Age

Older children reported greater difficulties on the emotional symptoms, conduct problems, and prosocial subscales, in line with previous Swedish research (11,12). The most salient post-hoc difference was that 16- to 17-year-olds had significantly higher emotional difficulties than did 11- to 12-year-olds. These differences parallel findings from epidemiological surveys showing a higher prevalence of psychiatric diagnoses among adolescents as compared with younger children (33, p. 35). Interestingly, parent ratings did not differ by children’s ages. We speculate that parent ratings may not differ by age because of the broader adult life perspective on adolescent problems, such that adult perception reduces the dramatic nature of problems perceived as monumental by the adolescent.

Gender

We found no gender differences for either child self-report or parent ratings, except on the self-reported total impact score, which was higher for girls than for boys. The latter finding agrees with previous Swedish research showing that girls experience worse mental health than do boys (12), and that psychosomatic complaints are more prevalent among girls in the 6th and 9th grades than among boys (11). The recent publication of child-reported and parent ratings for Swedish 7th graders also showed that, while parental ratings indicated no problems for over 90% of the sample, child-reported ratings indicated problems for almost 15% of the children, with a significantly higher proportion of girls indicating problems compared with boys (16). While one explanation for this is that girls’ mental health is worse than boys’, another explanation could lie in basic gender differences between girls and boys regarding engagement in interpersonal relationships, where girls tend to be more concerned about the status of their relationships and the way they are viewed by peers, thus suffering more from friendship and social network stress compared with boys (34). Our results differ from prior Swedish findings showing that boys had higher ratings on hyperactivity and total difficulties than do girls (8), whereas girls had higher ratings on emotional symptoms (8,10). These discrepancies in results may be due to methodological differences between school-based studies and random population samples. School-based studies might include a higher proportion of children with greater difficulties, but the findings might be more specific to the age groups or geographical areas studied.
Child–parent agreement
Parent–child agreement on individual items was generally lower than agreement on dichotomous SDQ subscales and the total SDQ score (SDQ-TDS). The discrepancy noted above between parent ratings and child-reported scores for age differences may be mirrored in the child–parent agreement on individual items but not on the dichotomous SDQ subscales and total score. Agreement based on dichotomous variables might be regarded as a good measure of clinical caseness, on which children and parents agree. Our findings based on individual items suggest that there might be small nominal everyday differences in nuances of problem perception between parents and children.

Regarding child–parent agreement on the continuous SDQ-TDS, the Bland–Altman plot suggested slightly higher child self-reported SDQ-TDS scores, while child–parent agreement based on dichotomous variables was substantial. One earlier study from the Netherlands also reported relatively high child–parent agreement (68.6%) on the SDQ-TDS but a low unadjusted kappa of 0.28 (35). No prior Swedish studies have reported data on child–parent agreement (see Supplementary Table S1 for a comparative overview). Differences in choice of agreement measure may generate difficulties when comparing results from different studies. Bland–Altman plots are most popular for testing inter-rater agreement for continuous variables (36), whereas kappa statistics are the most commonly used method for categorical variables (31). Some studies have used intra-class correlation coefficients, but these are generally viewed as measures of reliability rather than agreement (37).

Sociodemographic and psychosocial factors
Sociodemographic factors were associated with parent ratings such that non-Swedish-born parents, as well as parents with “other” employment and lower education, rated higher levels of child difficulties compared with other parents. Earlier European research on parent-rated difficulties among children has shown a relationship between higher parental education and fewer difficulties (35,38). The relationship between parental sociodemographic factors and children’s self-reported mental health is, however, not clear in previous research. One Swedish study found a relationship between low parental education and lower occupational status and their adolescent children’s self-reported depressive symptoms (20), whereas the relationship has been less clear in other studies (21,39). The current study showed no associations between sociodemographic factors and child-reported SDQ. Also, parental QoL – social relationships, environment, and physical and psychological health – correlated with parent ratings of their children’s SDQ but not with child self-reported SDQ. Our finding of a differential impact of sociodemographic and psychosocial factors on parent-rated versus self-reported children’s mental health points at the importance of examining children’s own ratings of their difficulties rather than exclusively relying on parent ratings.

Regarding child–parent agreement, parents born outside Sweden reported more difficulties according to the SDQ-TDS for their children in comparison to the children’s self-reported score, while parents with better physical health and social relationships reported fewer difficulties than did their children. A study from Norway from 2010 (17) also showed that sociodemographic factors influence the agreement between children’s own reports and parents’ ratings of difficulties. They found that lower-educated parents reported more difficulties than their children. Our findings contribute further evidence regarding the importance of taking children and adolescents’ own reporting into account rather than relying on parent-rated children’s difficulties, as parents can be influenced in their assessments of their children’s difficulties by their own life situations.

Strengths and limitations
This study contributes normative SDQ child-report and parent-rated data by age and gender for each SDQ subscale, the SDQ-TDS, and total impact score in a randomly selected Swedish population sample. The study also contributes data on child–parent agreement for each item of the SDQ. To our knowledge, this is the first study using PABAK-OS, a kappa index not influenced by bias or prevalence, for assessing item-by-item child–parent agreement for SDQ (29).

In terms of limitations, we had a relatively low sample response rate, although typical for population studies conducted via postal mail: 38% overall and 29% for child–parent pairs. Given the particular challenge of obtaining responses from matched child–parent pairs, we considered the rate to be acceptable for analysis. However, the response rate does raise issues of power and representativeness. Had we been able to recruit more respondents, particularly child–parent pairs, we might have been able to draw somewhat firmer conclusions regarding our data. We had a larger proportion of females than males in our sample, to some extent among children and to a large extent among parents. Also, our sample showed an overrepresentation of parents with higher education and Swedish-born parents and children compared with the total population. On the other hand, the employment rate of 86% was approximately equal to the 85% in the total population (40). Also, parental QoL was
approximately equivalent to levels in Norwegian and Danish population samples, where WHOQOL-BREF studies have been conducted (27,41). Nonetheless, the representativeness of the sample may have been inadequate with regard to parental country of birth and educational level, and this may have affected the levels of SDQ scores such that difficulties were underestimated. At the same time, we would not expect the effect of sociodemographic and psychosocial factors on SDQ ratings to be significantly affected by inadequate representativity, in line with low effects of insufficient sample representativeness on such associations as described, for example, by Rothman et al. (42).

Finally, parent ratings were based on data from only one parent and no questions were asked about the other parent, implying that sociodemographic variables might have been misclassified to a certain extent. This could have led to an underestimation of our results regarding sociodemographic differences where, for example, parents were classified as employed although the other parent may have been unemployed or vice versa.

Clinical significance and conclusions
This study makes a significant contribution to the general literature on children’s mental health, reporting preliminary norms for both child self-report and parent ratings for children 11 to 16 years old, as well as child–parent agreement on the SDQ. Normative data are presented in a format that can be used to compare individual children’s mental health to population levels. We envision clinicians using our normative results to distinguish cases of children with adverse clinical development, who might need extra mental health resources, from children whose development is within the normal trajectory. Indeed, recent research from Denmark and Germany suggests that the SDQ is a suitable instrument for reliable prediction of developmental weaknesses (43-45). Although child–parent agreement is quite high in terms of caseness, our findings suggest that child-reported ratings may be more sensitive to differences by gender and age than parent ratings for children 11 to 16 years old. Also, parent ratings are influenced by their sociodemographic characteristics, an association not found in child self-reports. Clinicians should therefore preferably follow child-reported ratings in conjunction with parent ratings when evaluating treatment needs. Caution might also be exercised in generalizing the results to individuals born outside Sweden, since they were underrepresented in this study.

Future research on children’s mental health status should be conducted at regular intervals and should encompass larger samples in a cross-sectional design in order to improve the assessment of child and adolescent psychiatric service needs in health-care planning and inform national public health policy regarding measures to support children and enhance their mental health.

Acknowledgements
Authorship: AHB, SU, and KE conceived the study design. AHB obtained funding from the Söderström-Konigska Foundation as well as from the Mayflower Charity Foundation for Children, in collaboration with SU. As part of her MSc thesis work, IJ implemented the survey in its online version and carried out the data collection under AHB’s supervision. AHB wrote the Introduction section; IJ, AHB, BL, and KE wrote the Method section; BL was responsible for the data analysis strategy and conducted the analyses in collaboration with AHB and KE. BL, AHB, and KE wrote the Results section, and all authors collaborated on the discussion section. AHB led the work on the article and is responsible for the final manuscript. Sincere thanks are extended to the children and parents who took the time to participate in this study.

Conflict of interest
On behalf of all authors, the corresponding author states that there is no conflict of interest.

References

25


35. van der Meer M, Dixon A, Rose D. Parent and child agreement on reports of problem behavior obtained from a screening questionnaire, the SDQ. Eur Child Adolesc Psychiatry 2008;17:491-7.


Supplementary files

Table S1: Overview of studies reporting Swedish SDQ data, with Goodman (1997) as a reference point.
Table S2: Crude associations between sociodemographic and psychosocial factors, and child-reported and parent-rated SDQ-TDS
Table S3: Sociodemographic and psychosocial factors, and SDQ child-parent disagreement