# Informant Agreement in the Assessment of Disruptive Behavior Disorders in Detained Minors in Belgium: A Diagnosis-Level and Symptom-Level Examination

Olivier Colins, M.Ed.; Robert Vermeiren, M.D., Ph.D.; Gilberte Schuyten, Ph.D.; Eric Broekaert, Ph.D.; and Veerle Soyez, Ph.D.

***Objective:*** Because diagnostic assessment of children emphasizes information from multiple informants, the reliability of findings in detained and incarcerated samples may be hampered. The objective of the current study was to examine parent-child agreement with regard to disruptive behavior disorders (with or without impairment) and disorder-related symptoms in detained male youths.

***Method:*** Between January 2005 and February 2007, a representative sample of 150 detainees, 12 to 17 years old, from the 3 Youth Detention Centers for boys in Flanders, Belgium, and 1 parent of each were interviewed with the Diagnostic Interview Schedule for Children, Version IV (DISC-IV). Interviewees were selected consecutively on the basis of Belgian origin for practical, financial, and time-related reasons. Of the 150 participants, 9 were excluded and the parents of 26 could not be included for various reasons, and thus full data were obtained for 115 parents.

***Results:*** Overall poor parent-child agreement at the disorder and symptom level was found, which is consistent with previous studies. Parents reported significantly more unique information on attention-deficit/hyperactivity disorder (ADHD) ($p < .001$) and oppositional defiant disorder (ODD) ($p < .001$), while youths reported significantly more unique conduct disorder (CD)-related information ($p = .01$).

***Conclusion:*** The large proportion of parents uniquely reporting ADHD and ODD supports previous concerns about the reliability of self-reported ADHD and ODD and suggests an essential contribution by parents to the accurate assessment of these disorders in adolescent detainees. With regard to CD, it may be appropriate to rely on youth self-report.

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*Received May 11, 2007; accepted Sept. 20, 2007. From the Departments of Special Education (Mr. Colins and Drs. Broekaert and Soyez) and Data Analysis (Dr. Schuyten), Faculty of Psychology and Educational Sciences, Ghent University, Belgium; and the Department of Child Psychiatry, Leiden University Medical Center/Curium, Leiden, and the Department of Forensic Youth Psychiatry, Free University Medical Center, Amsterdam, the Netherlands (Dr. Vermeiren).*

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*Corresponding author and reprints: Olivier Colins, M.Ed., Department of Special Education, Faculty of Psychology and Educational Sciences, Ghent University, Henri Dunantlaan 2, 9000 Gent, Belgium (e-mail: olivier.colins@ugent.be).*

Research on the prevalence of psychiatric disorders in detained and incarcerated adolescents[1–3] has resulted in increased awareness among clinicians, scientists, and policy makers of the mental health needs of these juveniles.[4] Although of great clinical interest and importance, a frequently reported limitation of current prevalence studies in detained and incarcerated youths is the unique reliance on youth self-report since contact with parents of these delinquent juveniles is extremely difficult. Because diagnostic assessment of children emphasizes information from multiple informants,[5] the reliability of findings in detained and incarcerated samples may be hampered. In order to investigate cross-informant diagnostic reliability in forensic samples, the current study focuses on youth self-report as well as parent report for attention-deficit/hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), and conduct disorder (CD). A crucial problem with multiple informant assessment, however, is the frequent disagreement between informants.[6–8] In dealing with such discrepant information, parent and youth reports can be interpreted separately (i.e., informant-specific) or by means of the "OR rule" or "AND rule."[9] According to these 2 rules, the child is identified as having a disorder or symptom if at least 1 informant (OR rule) or both informants (AND rule) reported the disorder or symptom.

To the best of our knowledge, only 1 interview-based study thus far reported on parent-child agreement of in-

carcerated youths. Ko et al.[10] reported low agreement for ADHD and ODD and/or CD and found that parents add more unique information than youths with regard to ADHD and ODD and/or CD. Limitations of that study need to be noted. First, the low prevalence rate of past-month ADHD and the combination of past-month ODD and past 6-month CD into 1 diagnostic category warrants further study of this subject. Second, parents and youths were interviewed with different versions of the Diagnostic Interview Schedule for Children, Version IV (DISC-IV) (i.e., interview-based DISC-IV for parents versus computerized Voice-DISC-IV for youths) that are likely to generate slightly different response rates. Finally, because only 21% of the parents were reached and since no differentiation was made with regard to gender, the findings may not be generalizable to other samples of detained or incarcerated male youths.

The current study reports upon disorder and symptom agreement or disagreement between multiple informants. First, prevalence rates of ADHD, ODD, and CD in a detained sample of minors are presented, including the strength of parent-child agreement and unique informant contributions by comparing youth and parent reports at the disorder level (with and without impairment). Because youths are considered to be unreliable informants for disorders requiring developmental information (e.g., ADHD),[1] and because oppositional defiant behavior may be considered by detained adolescents as developmentally appropriate normal behavior, it is hypothesized that parent-child agreement will be poor and that parents will more frequently identify ADHD and ODD and will also more frequently identify unique ADHD and ODD. However, because parents may have limited knowledge about youths' behavior outside the home, it is hypothesized that parent-child agreement will be poor for CD and that youths will more frequently identify CD and unique CD. As juvenile justice youths are often thought to be poor reporters of impairment,[3] it is hypothesized that parents uniquely report more disorder-related impairment than youths. Second, percentages of disruptive behavior–related symptoms are presented, and the strength of informant agreement at the symptom level is examined. Because parent-child agreement for dimensional approaches of problem behavior is poor as well,[11] at best, moderate agreement at the symptom level is expected. In addition, it is hypothesized that parents will report more ADHD-related and ODD-related, but fewer CD-related, symptoms, in both the overall prevalence analyses and in the analyses of discrepant cases.

## METHOD

### Subjects

Between January 2005 and February 2007, a total of 305 recently detained minors (12 to 17 years old ) from the 3 existing Youth Detention Centers for boys in the region of Flanders, Belgium, were randomly selected according to the inclusion criteria. Criteria for inclusion were being of Belgian or Moroccan origin, being placed for at least 1 month, and having sufficient knowledge of Dutch. Of those 305 boys, 13 could not be approached because of practical circumstances (e.g., daily activities), 45 boys refused participation, 1 did not have sufficient knowledge of Dutch, and 1 wanted to participate but could not be assessed because of solitary confinement, resulting in a participation rate of 80% (N = 245). Participants were pending final trial and were interviewed between 3 days and 3 weeks after their detention intake.

The current study design (as part of a larger study on psychiatric disorders in 245 detained boys) (O.C., R.V., G.S., et al., manuscript submitted, 2007) included contacting the parents/caretakers of the first 150 interviewed boys of Belgian origin by telephone, in order to seek their participation for a psychiatric interview of their children. For practical (i.e., language), financial, and time-related reasons, the current study design did not include parents of youths of Moroccan origin. Of those 150 boys of Belgian origin, 2 participants did not want us to contact their parents, while 5 boys had not seen their parents for more than a couple of days during the year preceding the current detention. In addition, professionals from the Youth Detention Center asked us not to contact the parents of 2 boys in particular. Of the 141 remaining boys, 26 parents could not be included for various reasons (e.g., incorrect phone numbers, repeatedly postponed interviews). Ultimately, full data were obtained for 115 parents (77%). Boys whose parents were interviewed were not significantly different from boys whose parents were not interviewed regarding age, socioeconomic status, or disruptive behavior disorders or related symptoms. In the current sample (N = 115), 32.4% of the boys committed past-year violent offenses, followed by status (30.4%), property (21.7%), and substance-related offenses (15.7%). Nearly 44.3% had been detained in the past. Most parent respondents were female (82.6%) and biological parents (94.8%).

### Procedure

This study was approved by the institutional review board of the Faculty of Psychology and Educational Sciences, Ghent University. Participants were approached and assessed following a standardized protocol. Selected detainees were approached individually and given oral and written information about the aims, the content, and the duration of the interviews. They were assured that their information was confidential and that refusal to participate would not affect their judicial status or stay in the Youth Detention Center. The boys then could consult their primary caregivers or other adults about participation. Participants had to give written informed consent before starting the study. Participants were interviewed in a private

  

area in the Youth Detention Center by the DISC-trained first author or by one of 2 DISC-trained final-year special education students who did not belong to the Youth Detention Center staff. After we explained the goal of contacting their parents, youths were asked if they would allow us to contact their parents/caretakers by phone. After obtaining contact information, the first author attempted to reach 1 parent/caretaker for each boy at least 10 times over a 1-month period at varying times of the day, in order to make a telephone appointment at a time of the parent/caretaker's choice. The vast majority of parents were interviewed within 3 weeks after the youths themselves had been interviewed. Only a very few parents participated at a later stage. Participating youths and parents did not receive compensation. A standard procedure for presenting the assessment instruments was followed.

### Measures

***Crime-related data.*** *Offenses* referred to the worst type of index offense that was an immediate cause for detention in a Youth Detention Center in the past year. Offenses were hierarchically ordered into 4 types of offending categories according to severity (i.e., violent, property, substance-related, and status offending).

***Psychiatric disorders.*** Past-year prevalence of disruptive behavior disorders was assessed with the DISC-IV, parent and youth versions.[12] Comorbidity referred to the presence of at least 2 disruptive behavior disorders. Test-retest reliability of the DISC-IV has generally been reported to be acceptable for youths, parents, and combined parent-child reports.[12]

***Impairment.*** At the end of each diagnostic section, the DISC-IV addresses 6 domains in which impairment might be present during the period in the last year when symptoms caused the most problems.[12] In the current study, impairment at the disorder level was made operational if the participant reported moderate or severe impairment in 1 or more domains (e.g., academic/occupational functioning).[3,10]

***Psychiatric symptoms.*** Since DISC-IV *stem* questions (i.e., asked of every participant) are overly sensitive and yield many false-positives,[12] additional DISC-IV diagnostic criteria relating to pervasiveness, frequency, and/or duration were required for symptoms to be considered present. ADHD-related symptoms were considered to be present if a duration of at least 6 months in 2 or more settings was reported. For ODD, all behaviors had to persist for 6 months with a frequency of at least once a week. For CD, the DISC-IV diagnostic criteria scoring algorithm for the past 12 months was followed (see Table 2).

### Statistical Analysis

The $\chi^2$ statistic was used to determine differences between the prevalence of disorders/symptoms reported by parents and their children. The $\kappa$ statistic was used to test parent-child agreement. Interpretation of the $\kappa$ value was based on the guidelines proposed by Landis and Koch[13]: poor ($\kappa < 0.40$), moderate ($0.39 < \kappa < 0.60$), and good ($\kappa > 0.59$). Kappa on its own is difficult to interpret meaningfully without taking into account the prevalence index, bias index, and confidence interval.[14] The *prevalence index* is the absolute value of the difference between the positive ratings (i.e., the number of parents and youths both agreeing on the presence of disorder/symptom) and negative ratings (i.e., the number of parents and youths both agreeing on the absence of disorder/symptom), divided by the total sample ($N = 115$). The greater the difference between the positive and negative ratings, the higher the prevalence index. When there is a large prevalence index, $\kappa$ is underestimated and thus lower than when the prevalence index is low or zero. The *bias index* is the difference between the number of parents uniquely reporting a disorder/symptom and the number of youths uniquely reporting a disorder/symptom, divided by the total sample. However, when there is a large bias index, $\kappa$ is overestimated and thus higher than when the bias index is low or zero.[14] Therefore, alongside $\kappa$ and the 2-sided 95% confidence interval, we report the prevalence index and bias index for each variable. The McNemar test was used to examine which informant significantly reported more unique diagnostic information (i.e., discrepant cases or disagreement).[15] All tests were 2-tailed with an $\alpha$ level of .05 as an indication for statistical significance. Statistical analyses were performed using SPSS, Version 12.0 (SPSS Inc., Chicago, Ill.).

## RESULTS

### Prevalence, Parent-Youth Agreement at the Disorder Level (without impairment)

Table 1 shows the number of juveniles meeting criteria for a disorder as reported by youths and parents. The number of discrepant and concordant cases and the $\kappa$, $\chi^2$, and McNemar statistics are presented as well.

***Prevalence.*** Parents reported significantly higher rates of ADHD and ODD. Youths reported significantly more CD and—when taking into account age at onset—adolescent-onset CD. In addition, comorbidity was significantly more frequently reported by parents than by youths. No significant differences were found with regard to childhood-onset CD.

***Agreement.*** Diagnostic agreement between informants was low ($\kappa < 0.40$) for all disorders. The high prevalence index of childhood-onset CD suggests a prevalence effect on the $\kappa$ coefficient. As a consequence, the strength of informant agreement for this CD subtype may be underestimated. Bias indices for all disorders were rather low and therefore did not indicate an overestimation of informant agreement.

Table 1. Prevalence of Disruptive Behavior Disorders According to Youth and Parent Report,[a] and Parent-Child Diagnostic-Level Agreement, Discrepancies, and Concordance in the Assessment of Disruptive Behavior Disorders (N = 115)

| | Prevalence of Disorder | | | | Discrepant Cases | | Concordance | |
|---|---|---|---|---|---|---|---|---|
| Condition | Youth, N (%) | Parent, N (%) | κ (95% CI) | (prevalence index; bias index) | Unique Youth, N (%) | Unique Parent, N (%) | Both Reported Disorder, N (%) | Both Denied Disorder, N (%) |
| Criteria only | | | | | | | | |
| ADHD | 19 (16.5) | 45 (39.1)[b] | 0.23 (0.06 to 0.39) | (0.4; 0.2) | 6 (5.2) | 32 (27.8)[c] | 13 (11.3) | 64 (55.7) |
| ODD | 37 (32.2) | 64 (55.7)[b] | 0.25 (0.09 to 0.40) | (0.1; 0.2) | 9 (7.8) | 36 (31.3)[c] | 28 (24.3) | 42 (36.5) |
| CD | 72 (62.6)[d] | 54 (47.0) | 0.21 (0.04 to 0.38) | (0.1; 0.2) | 32 (27.8)[e] | 14 (12.2) | 40 (34.8) | 29 (25.2) |
| Childhood-onset CD | 32 (27.8) | 28 (24.3) | 0.24 (0.05 to 0.43) | (0.5; 0.1) | 19 (16.5) | 15 (13.0) | 13 (11.3) | 68 (59.1) |
| Adolescent-onset CD | 40 (34.8)[d] | 26 (22.6) | 0.12 (–0.06 to 0.30) | (0.4; 0.1) | 28 (24.3)[e] | 14 (12.2) | 12 (10.4) | 61 (53.0) |
| Comorbidity | 35 (30.4) | 56 (48.7)[b] | 0.21 (0.04 to 0.38) | (0.2; 0.3) | 12 (10.4) | 33 (28.7)[c] | 23 (20.0) | 47 (40.9) |
| Criteria with impairment | | | | | | | | |
| ADHD | 19 (16.5) | 44 (38.3)[b] | 0.20 (0.04 to 0.36) | (0.5; 0.2) | 7 (6.1) | 32 (27.8)[c] | 12 (10.4) | 64 (55.7) |
| ODD | 36 (31.3) | 62 (53.9)[b] | 0.22 (0.06 to 0.38) | (0.1; 0.2) | 10 (8.7) | 36 (31.3)[c] | 26 (22.6) | 43 (37.4) |
| CD | 61 (53.0) | 52 (45.2) | 0.19 (0.01 to 0.39) | (0.0; 0.1) | 28 (24.3) | 19 (16.5) | 33 (28.7) | 35 (30.4) |
| Childhood-onset CD | 29 (25.2) | 28 (24.3) | 0.23 (–0.12 to 0.43) | (0.5; 0.0) | 17 (14.8) | 16 (13.9) | 12 (10.4) | 70 (60.9) |
| Adolescent-onset CD | 32 (27.8) | 24 (20.9) | 0.06 (–0.13 to 0.25) | (0.5; 0.1) | 24 (20.9) | 16 (13.9) | 8 (7.0) | 67 (58.3) |
| Comorbidity | 33 (28.7) | 55 (47.8)[b] | 0.15 (–0.02 to 0.32) | (0.2; 0.2) | 13 (11.3) | 35 (30.4)[c] | 20 (17.4) | 47 (40.9) |

[a]Based on the Diagnostic Interview Schedule for Children, Version IV.
[b]Significantly more parents than youths reported disorder ($\chi^2$).
[c]Significantly more parents than youths uniquely reported disorder (McNemar test).
[d]Significantly more youths than parents reported disorder ($\chi^2$).
[e]Significantly more youths than parents uniquely reported disorder (McNemar test).
Abbreviations: ADHD = attention-deficit/hyperactivity disorder, CD = conduct disorder, ODD = oppositional defiant disorder.

***Unique information.*** The McNemar test results indicated that parents significantly more frequently reported unique ADHD and ODD ($p < .001$), while youths significantly more frequently identified unique CD ($p = .01$), in particular adolescent-onset CD. In addition, comorbidity was significantly more frequently reported uniquely by parents. Childhood-onset CD, however, was not reported significantly more frequently by one informant.

### Prevalence, Parent-Youth Agreement at the Disorder Level (with impairment)

Almost all informants who reported ADHD, ODD, childhood-onset CD, and comorbidity by criteria only also reported disorder-specific impairment. However, the number of youth self-reports (compared to parent reports) of CD and adolescent-onset CD decreased when impairment was taken into account. All parent-youth agreement or disagreement statistics were similar to reports without impairment, with only 1 exception: when impairment was considered, youths no longer significantly more frequently identified unique CD or unique adolescent-onset CD (Table 1).

### Prevalence, Parent-Youth Agreement at the Symptom Level

Table 2 shows the prevalence of ADHD-related, ODD-related, and CD-related symptoms as reported by both informants; the number of discrepant and concordant cases; and the $\chi^2$, κ, and McNemar statistics.

***ADHD-related symptoms.***

Prevalence. All inattentive symptoms were reported significantly more frequently by parents. Four hyperactive-impulsive symptoms differed significantly between parent and youth reports: "Acts as if driven by a motor," "Blurts out answers," "Difficulty awaiting turn," and "Interrupts or intrudes on others" were more frequently reported by parents.

Agreement. Parent-child agreement was low ($\kappa < 0.40$) for all symptoms, while the prevalence index and bias index were low for all but 2 symptoms. The high prevalence indices of "Leaves seat in classroom or other situations" and "Difficulty playing or engaging quietly" suggested an underestimation of the κ coefficient.

Unique information. The McNemar test results indicated that all inattentive symptoms and 3 hyperactive-impulsive symptoms (i.e., "Acts as if driven by a motor," "Difficulty awaiting turn," and "Interrupts or intrudes on others") were reported significantly more uniquely by parents. Not 1 ADHD-related symptom was reported significantly more uniquely by youths (McNemar).

***ODD-related symptoms.***

Prevalence. Except for "Loses temper," "Argues with adults," and "Spiteful or vindictive," ODD-related symptoms were reported significantly more by parents.

Agreement. Informant agreement was very low for all ODD-related symptoms. Because of a high prevalence index, it is possible that the κ coefficient was underestimated for "Blames others for his mistakes."

Unique information. Five symptoms were reported significantly more uniquely by parents (i.e., "Actively defies or refuses to comply," "Deliberately annoys people," "Blames others for his mistakes," "Touchy or easily annoyed by others," and "Angry and resentful"), while

Table 2. Prevalence of Disruptive Behavior Disorder Symptoms According to Youth and Parent Report,[a] and Parent-Child Symptom-Level Agreement, Discrepancies, and Concordance (N = 115)

| | Prevalence of Symptom | | | | Discrepant Cases | | Concordance | |
|---|---|---|---|---|---|---|---|---|
| Symptom | Youth, N (%) | Parent, N (%) | κ (95% CI) | (prevalence index; bias index) | Unique Youth, N (%) | Unique Parent, N (%) | Both Reported Symptom, N (%) | Both Denied Symptom, N (%) |
| ADHD: inattentive | | | | | | | | |
| Failed to give close attention | 11 (9.6) | 43 (37.4)[b] | 0.13 (–0.02 to 0.27) | (0.5; 0.3) | 4 (3.5) | 36 (31.3)[c] | 7 (6.1) | 68 (59.1) |
| Difficulty sustaining attention | 20 (17.4) | 50 (43.5)[b] | –0.03 (–0.17 to 0.12) | (0.4; 0.3) | 12 (10.4) | 42 (36.5)[c] | 8 (7.0) | 53 (46.1) |
| Does not seem to listen | 24 (20.9) | 54 (47.0)[b] | 0.03 (–0.13 to 0.18) | (0.3; 0.3) | 12 (10.4) | 42 (36.5)[c] | 12 (10.4) | 49 (42.6) |
| Does not follow instructions/fails to finish (school)work | 28 (24.3) | 63 (54.8)[b] | 0.19 (0.04 to 0.33) | (0.2; 0.3) | 7 (6.1) | 42 (36.5)[c] | 21 (18.3) | 45 (39.1) |
| Difficulty organizing tasks and activities | 15 (13.0) | 54 (47.0)[b] | 0.07 (–0.06 to 0.20) | (0.4; 0.3) | 6 (5.2) | 45 (39.1)[c] | 9 (7.8) | 55 (47.8) |
| Avoids tasks that require sustained mental effort | 26 (22.6) | 63 (54.8)[b] | –0.01 (–0.15 to 0.14) | (0.2; 0.3) | 12 (10.4) | 49 (42.6)[c] | 14 (12.2) | 40 (34.8) |
| Loses things necessary for tasks or activities | 14 (12.2) | 39 (33.9)[b] | 0.10 (–0.06 to 0.26) | (0.5; 0.2) | 7 (6.1) | 32 (27.8)[c] | 7 (6.1) | 69 (60.0) |
| Easily distracted by extraneous stimuli | 20 (17.4) | 57 (49.6)[b] | 0.18 ( 0.04 to 0.31) | (0.3; 0.3) | 5 (4.3) | 42 (36.5)[c] | 15 (13.0) | 53 (46.1) |
| Forgetful in daily activities | 20 (17.4) | 36 (31.3)[b] | 0.17 (–0.01 to 0.36) | (0.5; 0.1) | 10 (8.7) | 26 (22.6)[c] | 10 (8.7) | 69 (60.0) |
| ADHD: hyperactive-impulsive | | | | | | | | |
| Fidgets with hands or feet or squirms | 37 (32.2) | 40 (34.8) | 0.12 (–0.06 to 0.31) | (0.3; 0.0) | 21 (18.3) | 24 (20.9) | 16 (13.9) | 54 (47.0) |
| Leaves seat in classroom or other situations | 10 (8.7) | 20 (17.4) | 0.10 (–0.11 to 0.30) | (0.7; 0.1) | 7 (6.1) | 17 (14.8) | 3 (2.6) | 88 (76.5) |
| Runs about or climbs excessively | 19 (16.5) | 29 (25.2) | 0.12 (–0.10 to 0.31) | (0.6; 0.1) | 12 (10.4) | 22 (19.1) | 7 (6.1) | 74 (64.3) |
| Difficulty playing or engaging quietly | 12 (10.4) | 17 (14.8) | 0.18 (–0.10 to 0.41) | (0.7; 0.0) | 8 (7.0) | 13 (11.3) | 4 (3.5) | 90 (78.3) |
| Acts as if driven by a motor | 16 (13.9) | 31 (27.0)[b] | 0.24 (0.05 to 0.44) | (0.6; 0.1) | 7 (6.1) | 22 (19.1)[c] | 9 (7.8) | 77 (67.0) |
| Talks excessively | 10 (8.7) | 9 (7.8) | 0.37 (0.07 to 0.66) | (0.8; 0.0) | 6 (5.2) | 5 (4.3) | 4 (3.5) | 100 (87.0) |
| Blurts out answers | 17 (14.8) | 29 (25.2)[b] | 0.04 (–0.14 to 0.22) | (0.6; 0.1) | 12 (10.4) | 24 (20.9) | 5 (4.3) | 74 (64.3) |
| Difficulty awaiting turn | 15 (13.0) | 30 (26.1)[b] | 0.06 (–0.12 to 0.24) | (0.6; 0.1) | 10 (8.7) | 25 (21.7)[c] | 5 (4.3) | 75 (65.2) |
| Interrupts or intrudes on others | 16 (13.9) | 33 (28.7)[b] | 0.12 (–0.10 to 0.30) | (0.6; 0.1) | 9 (7.8) | 26 (22.6)[c] | 7 (6.1) | 73 (63.5) |
| ODD | | | | | | | | |
| Loses temper | 31 (27.0) | 41 (35.7) | –0.00 (–0.18 to 0.18) | (0.4; 0.1) | 20 (17.4) | 30 (26.1) | 11 (9.6) | 54 (47.0) |
| Argues with adults | 56 (48.7) | 66 (57.4) | 0.01 (–0.17 to 0.19) | (0.1; 0.1) | 21 (18.3) | 31 (27.0) | 35 (30.4) | 28 (24.3) |
| Actively defies or refuses to comply | 42 (36.5) | 75 (65.2)[b] | 0.01 (–0.14 to 0.16) | (0.0; 0.3) | 12 (10.4) | 45 (39.1)[c] | 30 (26.1) | 27 (23.5) |
| Deliberately annoys people | 14 (12.2) | 38 (33.0)[b] | 0.02 (–0.13 to 0.17) | (0.5; 0.3) | 9 (7.8) | 33 (28.7)[c] | 5 (4.3) | 68 (59.1) |
| Blames others for his mistakes/misbehavior | 4 (3.5) | 42 (36.5)[b] | 0.03 (–0.06 to 0.12) | (0.6; 0.3) | 2 (1.7) | 40 (34.8)[c] | 2 (1.7) | 71 (61.7) |
| Touchy or easily annoyed by others | 38 (33.0) | 63 (54.8)[b] | 0.04 (–0.12 to 0.20) | (0.1; 0.2) | 16 (13.9) | 41 (35.7)[c] | 22 (19.1) | 36 (31.3) |
| Angry and resentful | 47 (40.9) | 72 (62.6)[b] | 0.11 (–0.05 to 0.27) | (0.0; 0.2) | 14 (12.2) | 39 (33.9)[c] | 33 (28.7) | 28 (24.3) |
| Spiteful or vindictive | 23 (20.0) | 33 (28.7) | 0.03 (–0.15 to 0.21) | (0.5; 0.1) | 15 (13.0) | 26 (22.6) | 7 (6.1) | 66 (57.4) |
| CD | | | | | | | | |
| Bullies, threatens, or intimidates others | 31 (27.0) | 27 (23.5) | 0.17 (–0.02 to 0.36) | (0.5; 0.0) | 20 (17.4) | 16 (13.9) | 10 (8.7) | 68 (59.1) |
| Initiates physical fights | 58 (50.4)[d] | 21 (18.3) | 0.07 (–0.06 to 0.20) | (0.3; 0.3) | 46 (40.0)[e] | 7 (6.1) | 12 (10.4) | 46 (40.0) |
| Used a weapon that can cause physical harm | 55 (47.8)[d] | 19 (16.5) | 0.14 (0.00 to 0.28) | (0.4; 0.3) | 42 (36.5)[e] | 6 (5.2) | 13 (11.3) | 54 (47.0) |
| Physically cruel to people | 15 (13.0) | 9 (7.8) | –0.02 (–0.18 to 0.14) | (0.4; 0.1) | 14 (12.2) | 8 (7.0) | 1 (0.9) | 92 (80.0) |
| Physically cruel to animals | 3 (2.6) | 0 (0.0) | … | … | 3 (2.6) | 0 (0.0) | 0 (0.0) | 112 (97.4) |
| Has stolen while confronting a victim | 41 (35.7)[d] | 24 (20.9) | 0.14 (–0.04 to 0.32) | (0.4; 0.1) | 29 (25.2)[e] | 12 (10.4) | 12 (10.4) | 62 (53.9) |
| Has forced someone into sexual activities | 1 (0.9) | 5 (4.3) | 0.32 (–0.16 to 0.80) | (0.9; 0.0) | 0 (0.0) | 4 (3.5) | 1 (0.9) | 108 (93.9) |
| Has deliberately engaged in fire setting | 7 (6.1) | 3 (2.6) | 0.17 (–0.16 to 0.50) | (0.9; 0.0) | 6 (5.2) | 2 (1.7) | 1 (0.9) | 106 (92.2) |
| Has deliberately destroyed others' property | 68 (59.1)[d] | 49 (42.6) | 0.07 (–0.10 to 0.24) | (0.0; 0.2) | 37 (32.2)[e] | 18 (15.7) | 31 (27.0) | 29 (25.2) |
| Has broken into someone's home/building/car | 34 (29.6)[d] | 21 (18.3) | 0.41 (0.22 to 0.59) | (0.5; 0.1) | 19 (16.5)[e] | 6 (5.2) | 15 (13.0) | 75 (65.2) |
| Lies to obtain goods or to avoid obligations | 34 (29.6) | 38 (33.0) | 0.03 (–0.15 to 0.21) | (0.4; 0.0) | 22 (19.1) | 26 (22.6) | 12 (10.4) | 55 (47.8) |
| Has stolen items of nontrivial value without confronting a victim | 63 (54.8) | 62 (53.9) | 0.21 (0.03 to 0.39) | (0.1; 0.0) | 23 (20.0) | 22 (19.1) | 40 (34.8) | 27 (23.5) |
| Stays out at night despite parental prohibitions | 6 (5.2) | 7 (6.1) | 0.10 (–0.18 to 0.38) | (0.9; 0.0) | 5 (4.3) | 6 (5.2) | 1 (0.9) | 102 (88.7) |
| Has run away from home overnight | 37 (32.2) | 33 (28.7) | 0.39 (0.21 to 0.57) | (0.4; 0.0) | 17 (14.8) | 13 (11.3) | 20 (17.4) | 65 (56.5) |
| Truant from school | 11 (9.6) | 4 (3.5) | 0.23 (0.01 to 0.53) | (0.9; 0.1) | 9 (7.8) | 2 (1.7) | 2 (1.7) | 100 (87.0) |

[a]Based on the Diagnostic Interview Schedule for Children, Version IV. [b]Significantly more parents than youths reported symptom ($\chi^2$). [c]Significantly more parents than youths uniquely reported symptom (McNemar test). [d]Significantly more youths than parents reported symptom ($\chi^2$). [e]Significantly more youths than parents uniquely reported symptom (McNemar test).
Abbreviations: ADHD = attention-deficit/hyperactivity disorder, CD = conduct disorder, ODD = oppositional defiant disorder. Symbol: … = not determined.

not 1 symptom was reported significantly more uniquely by youths (McNemar test).

***CD-related symptoms.***

Prevalence. When compared to parent reports, youths reported significantly higher rates of the following 5 symptoms: "Has deliberately destroyed others' property," "Initiates physical fights," "Used a weapon that can cause physical harm," "Has stolen while confronting a victim," and "Has broken into someone's home/building/car."

Agreement. Moderate agreement between both informant reports was found for "Has broken into someone's home/building/car," while agreement for all other symptoms was poor. The strength of some κ coefficients was probably underestimated because of high prevalence indices.

Unique information. The 5 symptoms mentioned above were also significantly more uniquely reported by youths (McNemar test).

## DISCUSSION

This study examined diagnostic agreement between parents and minors in a sample of detained male youths. As expected, overall parent-child agreement was poor, and did not change substantially when impairment was considered as part of the definition of the disorder. The overall poor parent-child agreement at the disorder level was consistent with previous studies in incarcerated,[10] clinical, and community samples.[7,16]

When discrepant cases were examined, it was found that both informants added new and therefore unique diagnostic information at the disorder and symptom levels. Parents were found to report significantly more unique information on ADHD and ODD, probably because the disorder-related behaviors are most irksome for parents but might not be seen as troublesome by youths themselves.[17] Youths, in contrast, reported significantly more unique CD-related information. At first sight, this is in accordance with the covert pathway of antisocial behavior as described by Loeber and Stouthamer-Loeber.[18] However, a closer examination of Table 2 shows that youths predominantly reported more overt CD-related symptoms than their parents did, a finding that supports our suggestion that many overt CD-related behaviors in detained boys are concealed from their parents' view. Unique information, however, is not synonymous with accurate and valid information. The current study therefore could not indicate which informant was correct in discrepant cases. Nevertheless, as such discrepancies are inherent to clinical assessment of youth psychopathology, it might be more helpful to examine why informant discrepancies exist and what the clinical importance of these discrepant cases is, rather than awaiting the result of a never-ending search for 1 optimal informant. Keeping these two last remarks in mind, two conclusions can be drawn with regard to unique information. First, the large proportion of parents uniquely reporting ADHD supports previous concerns about the reliability of self-reported ADHD and suggests an essential contribution by parents to the accurate assessment of ADHD in adolescent detainees. Second, our finding of youths more frequently reporting unique CD (criteria only) and parents more unique ODD may indicate the relevance of assessing ODD and CD independently instead of combining both reports into 1 diagnostic category.[10]

Despite some methodological differences between the 2 studies, our findings also support the conclusion of Ko et al.[10] that the "AND rule" is not optimal for case identification because it clearly underestimates the prevalence of a disorder.[19] However, it may be incorrect to ignore the clinical importance of the "AND rule." When both informants agree on the presence or absence of a disorder, this agreement may carry higher significance than when informants are inconsistent reporters. Of course, the question of how to deal with uniquely reported disorders in detention facilities still remains. Guidelines for dealing with discrepant cases are provided by Jensen et al.,[16] who concluded that unique youth ADHD and ODD are less likely to be meaningful indicators of a clinically credible diagnosis than unique parent ADHD or ODD, while both parents and youths may be valid sources for CD. Consequently, parent reports of ADHD and ODD seem to be important for mental health assessment among detained juveniles. With regard to CD, it may be appropriate for clinicians in juvenile detention facilities to rely on youth self-report. However, future research should examine whether this finding stemming from a community study[16] also holds for juvenile detainees. Due to parental fear, embarrassment, or rage as a reaction to the detention of their child, the diagnostic contribution of parents of detained boys may be quite different than observations from parents of nondetained youth.[20] Therefore, future research on this topic is needed.

Informant agreement with regard to symptoms was poor for all symptoms but one. This finding is consistent with informant agreement for individual symptoms without additional diagnostic requirements such as duration or frequency.[21] As hypothesized and in line with disorder-specific information, parents reported significantly more unique ADHD-related and ODD-related symptoms, but fewer CD-related symptoms, than youths.

This study primarily concerned informant agreement on disruptive behavior disorders and symptoms. Given that parents of delinquent adolescents are difficult to reach and/or are not likely to cooperate, the authors decided not to jeopardize the main study objective by asking parents about their own mental health problems (these questions may enlarge resistance to participate). However, because the current state of the literature examining informant characteristics (such as age and parental

  

psychopathology) is marred by inconsistent findings,[22] the decision not to examine potential correlates of informant agreement does not undermine the current findings.

### Clinical Implications

Gathering diagnostic information on disruptive behavior disorders from parents may be expensive and time-consuming. We managed to contact 92% and to interview 77% of our total parent sample. In doing so, we demonstrated that, with some effort, parents of detained minors can be located, contacted, and interviewed. The high degree of accurate contact information in the current study suggests that it is more appropriate to ask juveniles to provide parent contact information rather than justice facilities themselves.[10] Because parents were informed about the confidential nature of our study and interviewed by an outsider, future research should investigate whether parents will report such important diagnostic information to personnel working in juvenile detention or incarceration facilities.

Furthermore, parents added new information on disruptive behavior disorders, in particular ADHD and ODD. Therefore, parental information could improve assessment, which in turn could result in better, more accurate treatment, for example with regard to ADHD.

Assessment of impairment is considered to be a fundamental diagnostic criterion for identifying those individuals whose psychiatric disorders are of clinical significance. Because juveniles are thought to be poor reporters of impairment,[3] parental information is of great importance. The current study, however, shows that all those juveniles reporting ADHD and ODD by criteria only also reported ADHD-related and ODD-related impairment. Therefore, parental information with regard to ADHD and ODD might be of more clinical importance for juveniles without self-reported ADHD and ODD.

Although the current study suggests that it is valuable to interview parents of all cases in which youth self-report is negative for ADHD and ODD, detention and incarceration facilities have limited resources to expend on locating and interviewing parents.[10] Observational information of detention staff, if collected systematically, can support the identification of ADHD and ODD when parental information is not available or not feasible. In addition, future research should investigate to what extent uniquely reported symptoms are reliable and good predictors for uniquely reported disorders. Such research could shorten the lengthy diagnostic evaluation of structured interviews. Furthermore, as parents and youths are likely to have different key symptoms that predict a disorder (or no disorder), researchers should take this unique and discrepant information into account when constructing screening questionnaires or alternative skipping patterns for diagnostic interviews.[23] Finally, the sparse research relying on youth self-report demonstrated that ADHD and CD have predictive validity for future offending.[24] Future research should examine the predictive validity of youth self-report, parent report, unique youth self-report, unique parent report, and agreement between both informants on the absence or presence of disorders.

### Limitations

Notwithstanding the findings of our study, some limitations need consideration. First, and for practical reasons (e.g., only 1 available researcher to interview parents), it was only possible to interview parents for a limited time period. Because questions remain regarding parents' ability to report internalizing symptoms and substance use in their children,[10,25] it was decided to interview parents about disruptive behavior disorders. However, information on internalizing disorders, in particular depression and suicide-risk,[20] is of clinical importance as well, and the contribution of parents regarding their detained or incarcerated child's internal emotional state warrants further research. Second, the parent version of the DISC-IV was administered in a phone interview, while good practice requires a face-to-face interview. Therefore, the DISC-IV validity for telephone interview may be somewhat different from the traditional DISC-IV interview. Third, despite the fact that youths of Moroccan origin are disproportionally represented in the Youth Detention Center, our sample was entirely of Belgian origin. Our findings, thus, may not be generalizable to detained youths and parents of other origins.

## CONCLUSION

The large proportion of parents uniquely reporting ADHD and ODD supports previous concerns about the reliability of self-reported ADHD and ODD and suggests an essential contribution by parents to the accurate assessment of these disorders in adolescent detainees. With regard to CD, it may be appropriate to rely on youth self-report.

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*Editor's Note:* We encourage authors to submit papers for consideration as a part of our Focus on Childhood and Adolescent Mental Health section. Please contact Melissa P. DelBello, M.D., at delbelmp@email.uc.edu.

  