

Parent versus teacher reports of children's adaptive abilities amongst an Australian clinical school-aged paediatric population

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ABSTRACT

Background: This study broadens clinicians' understanding of discrepancies between parent and teacher reporting related to the abilities of children's abilities, given the impact of these discrepancies on treatment planning and outcomes.

Objectives: To study the differences and magnitude of discrepancies between parent and teacher reports of children's abilities in a clinical population.

Methods: We investigated the parent and teacher Adaptive Behaviour Assessment Scale, Third Edition (ABAS-III) data of 122 children who attended a Specialist Paediatric Outpatient Clinic.

Results: Parents and teachers had similar opinions on their observations of children's symptoms in most ability areas, except for functional academics, self-care, and home/school living. Despite the significant differences in scores, the effect sizes were small. There was however, agreement about the general level of children's functioning.

Conclusion: When input is required from parents and teachers on the child's abilities with clinical concerns, they can generally be relied upon to notice and agree on the child's capabilities. However, when there are differences in opinions between parents and teachers' reports additional assessments and inquiries help to clarify the child's abilities, rather than relying solely on questionnaires.

Keywords: Adaptive behaviour, Children, Inter-rater, Parent, Teacher

1. Introduction

Australian paediatric out-patient clinics often include requests to investigate intellectual and/or behavioural concerns such as Intellectual Disability, Autism Spectrum Disorder (ASD), Attention Deficit Hyperactivity Disorder (ADHD), Learning Disabilities and Anxiety [1]. Multiple informants with an understanding of a child's development, adaptive behaviour and daily functioning, provide information which affects diagnosis and treatment planning [2]. Diagnosis and intervention planning for these disorders involve ascertaining whether the child has consistent functional deficits in both the school and home environment [3]. Discrepancies across environments require considering non-neurological or developmental causes. Reliable diagnoses are possible when cross-informant reports on the child are consistent. However, there are continual concerns around the consistency of agreement between informants such as parents and teachers [4].

Children's developmental abilities may be conceptualised as adaptive behaviours which are defined as the ability to independently engage in life skills relative to an individual's developmental stage, and to assist others in doing so [5]. Research findings between

informants on children's adaptive behaviours seem to vary. Some studies report that parents, as compared with teachers, tend to rate children with disabilities lower on motor competence and practical abilities [6-8]. Conversely, teachers have reported poorer children's adaptability, functional communication, and social skills [9, 10]. There are also reports of agreement between parents and teachers on children's abilities in the areas of socialisation, intellectual and learning disability, and perspective taking [7, 11, 12].

Discrepancies between parent and teachers reports alert clinicians that environmental influences may be impacting children's development and behaviours [13]. This enables the clinician to work with the family to understand how these discrepancies occur and use this understanding to improve clinical outcomes [14]. Given the conflicting research findings, this study aimed to examine the consistency of reports of children's abilities from two sources of information, namely the teachers and parents, and the magnitude of the differences which occur, within a paediatric out-patient clinic population.

2. Methods

2.1 Study Area

The study was conducted at the paediatric outpatient clinic at an urban public hospital in Queensland, Australia.

2.2 Study Design

A matched sample design was utilised. The data were drawn from a retrospective audit of parent and teacher ratings of children's ability questionnaires that were used by a paediatric psychology team within a paediatric outpatient clinic at an urban public hospital in Queensland, Australia.

The questionnaires were part of a standard procedure to ascertain children's ability levels. As part of the service, parents were administered an Adaptive Behaviour Assessment Scale, Third Edition (ABAS-III) [15]. Teachers of the students were also provided with the teacher version of the ABAS-III. As the data were being drawn from past medical records, there was no information available on the gender of the parent or teacher who completed the questionnaires.

2.3 Sample size and sampling

The data were collected from medical reports of 122 children who attended a Specialist

Paediatric Outpatient Clinic requesting behavioural, developmental and cognitive assessments, over 12 months throughout 2021. Questionnaires were completed by both parents and teachers within 4 weeks of each other, which accounted for the time involved in the sending and returning of teachers' questionnaires to the hospital. As some teachers either did not return questionnaires, or provided incomplete responses, only the children who had completed questionnaires from both parent and teachers were included in this study. Each child's behaviours were reported by one parent and one teacher using questionnaires. Thus, the final sample had 122 parent and 122 teacher reports. The sample, was much higher than the minimum number of subjects ($n=33$) required to carry out paired sample t -tests based on a priori analysis of sample size, required to achieve a power of 0.8, and a medium effect size of at least 0.5 using G*Power 3.1.9.2 [16]. Children were aged between 6 and 16 years old (mean=8.97 years, $SD=2.5$ years). 73.2% of the children were identified as male. Referrals were from paediatricians and general practitioners, and included assessments to investigate ASD (53.6%), ADHD (25.9%), behavioural issues (22.3%), learning difficulties (12.5%), and anxiety (12.5%) (see Table 1). The referrals

were from a hospital catchment area which included housing suburbs considered to be very disadvantaged within the region. Within the sample, it was also observed that 17% of

parents reported a past history of domestic violence, and 38.4% had a parental history of mental health issues.

Table 1: Referral Reason

Referral Reason	Number (n)	Response Percentage (%)
Attention Deficit Hyperactivity Disorder	29	25.9
Autism Spectrum Disorder	60	53.6
Behavioural concerns (i.e., Aggression, Non-Compliance)	25	22.3
Learning difficulties	14	12.5
Emotional (i.e., Anxiety)	14	12.5
Other (i.e., Memory, Weight, Sleep issues)	3	2.7

Multiple response table

2.4 Data Collection

The Adaptive Behaviour Assessment Scale, Third Edition [15] is a comprehensive measure that assesses an individual’s adaptive functioning from early infancy onwards. The ABAS-III divides adaptive functioning into three major domains: Conceptual, Social, and Practical Domains, which also inform a global composite called the General Adaptive Composite (GAC). The GAC and domains are comprised of various specific adaptive skills including communication, community use, functional pre-academics, home living, health and safety, leisure, self-care, self-direction, and social skills. Raters provide ratings of ability and frequency using a Likert scale where scores range from “0” (is not able) to 3 (Always or almost always when needed). The scores are summed and converted into scaled scores. Higher scores indicate greater

adaptive behaviours. Coefficient alphas for the individual subscales are reported to range from 0.96 to 0.99, and average test-retest reliability is reported as 0.80 - 0.86.

2.5 Data Analysis

To answer the research questions, a series of paired samples t-tests were conducted, alongside effect sizes to determine the magnitude of any differences between parent and teacher ratings across the respective subscales of the ABAS-III using IBM SPSS Statistics (Version 27) [17]. Effect sizes of significant differences between scores were also calculated to assess the meaningfulness and practical significance of the research findings.

2.6 Ethical Clearance

Permission to analyse and publish the data was obtained from the hospital district’s The

Prince Charles Hospital Human Research Ethics Committee (Project ID68607), Metro North Hospital and Health Service, Queensland Health.

3. Results

Preliminary Analyses

There were no missing data within subscales and amongst the participants. There were no out-of-range scores nor skew or kurtosis detected. As there were no differences in the output with and without the outliers, all data were retained in the dataset.

Descriptive and Main Analyses

Paired-samples t-tests were conducted to assess the differences between parent and teacher ratings across the respective subscales of the ABAS. The only significant differences detected across the subscales included the parent (mean (M) = 6.55, Standard Deviation (SD) = 3.06) and teacher

(M = 7.26, SD = 3.75) ratings for functional academics, $t(111) = -2.3571$, $P < 0.01$, 95% CI [-1.30, -0.11], parent (M = 9.92, SD = 2.26) and teacher (M = 6.16, SD = 3.10) ratings for home/school living, $t(111) = 2.36$, $P < 0.01$, 95% CI [0.11, 1.41], parent (M = 7.46, SD = 2.79) and teacher (M = 8.30, SD = 3.13) ratings for self-care, $t(111) = -2.63$, $P < 0.01$, 95% CI [-1.45, -0.21].

Interpretation of the magnitude of the differences between the parent and teacher ratings was based on Cohen’s d effect size descriptions (i.e., small (0.20), medium (0.50), and large (0.80)) [18] (see Table 2). The majority of the subscales presented with small effect sizes between parent and teacher ratings. These included Functional Academics (d = -0.22), Home/ School Living (d = 0.22), and Self-Care (d = -0.25). In summary, despite the statistically significant differences in scores, the magnitude of these differences was small.

Table 2: Parent and Teacher ratings on the ABAS: Mean, Standard Deviations, Paired-samples t-tests, and Effect Sizes

Subscales	Parent M (SD)	Teacher M (SD)	t	d	P-value
General Ability Composite	78.76 (12.27)	80.46 (15.27)	-1.27	-0.12	0.20
Conceptual	77.13 (13.22)	78.18 (15.36)	-0.79	-0.07	0.43
Social	79.58 (12.67)	82.02 (15.23)	-1.86	-0.18	0.06
Practical	83.51 (2.79)	84.70 (16.25)	-0.51	-0.07	0.45
Communication	5.95 (2.92)	5.86 (3.02)	0.22	0.02	0.83
Community Use	7.81 (2.83)	8.52 (4.17)	-1.74	-0.16	0.08
Functional Academics	6.55 (3.06)	7.26 (3.75)	-2.34	-0.22	0.02***
Home/ School Living	6.92 (2.26)	6.16 (3.10)	2.36	0.22	0.02***
Health & Safety	7.12 (2.67)	7.31 (3.10)	-0.64	-0.06	0.54
Leisure	6.06 (2.71)	6.26 (3.26)	-0.69	-0.06	0.49

Subscales	Parent	Teacher	t	d	P-value
	M (SD)	M (SD)			
Self-Care	7.46 (2.79)	8.30 (3.13)	-2.62	-0.25	0.01***
Self-direction	5.77 (2.25)	5.31 (3.12)	1.57	0.15	0.12
Social	6.42 (2.59)	6.48 (3.11)	-0.23	-0.02	0.82

Note. M = Mean. SD = Standard Deviation. t = Paired-samples t-statistic. ***The t-statistic is significant at $P < .001$. d = Effect sizes reported using Cohen's d.

4. Discussion

This study aimed to ascertain if there were differences between parent and teachers reports of children's abilities and development, amongst an out-patient paediatric clinic population. Analysis of the results indicated that parents, compared with teachers, reported significantly lower abilities in the areas of Functional Academics and Self-Care, but significantly higher scores in the areas of Home/School Living.

Inspection of the differences between teacher and parent reports on children's abilities indicated that there were no significant differences between reports on all domains and sub-scales, except for three sub-scales. This suggests that there is agreement between teachers and parents on the children's abilities across most broad areas. This differs from many studies that report greater discrepancies between parent and teachers reports [19-21]. A further examination of the mean scores of the subscales indicates that most of the sub-scale scores are in the below average category which would be symptomatic of the types of referrals that

children are being referred for (i.e., ADHD, ASD, Learning Difficulties). In two out of three sub-scales where there was a significant difference, parents, compared with teachers, provided lower ratings of the children's abilities (i.e., Self-Care, Functional Academics). These observations are similar to studies that reported lower parent adaptive behaviour scores compared with teachers [7, 10, 22].

Parents, compared with teachers, reported that children performed significantly lower in self-care skills. Self-care skills include activities such as eating, dressing, bathing, toileting, grooming, and hygiene, etc. Both parent and teacher version of the sub-scales contain questions on behaviours that are observable at home and at school. While the skills questions focus on ability, the responses provided a request information on whether the child carries out these tasks all the time, or some of the time, suggesting that the frequency of carrying out these tasks may be related to compliance. This raises the possibility that the frequency of carrying out these tasks at home may be lower, as

compared to the school setting. As a major proportion of children in this sample have been referred for problems associated with ADHD and behavioural problems (48.2%), both of which involve symptoms of non-compliance [23], there is a possibility that these observed differences may be related to non-compliance rather than solely ability. This interpretation is supported by the mean scores on self-care which were within the below average range for parents ($M = 7.46$) and within the average range for teachers ($M = 8.30$). Furthermore, the discrepancies between teacher and parent scores may be due to the respondents' context. Informant reports may be influenced by informant biases and attributions, the amount of time they spend with the child, how they interact with them, in what environments, and how their presence affects the child's behaviour [24]. Thus the "mind-sets" of the parent and teacher may govern what an informant notices and remembers when rating the child's functioning [22].

Parents, compared with teachers, reported that children performed significantly lower on functional academic skills. Functional academics include the foundations for reading, writing, mathematics and other related skills required for daily independent

functioning. Teachers may be assessing how the child is performing, in relation to the class, and thus, compared with parents, may have a clearer understanding of what constitutes normal and abnormal performance in these areas. This could explain the slightly higher scores from teachers. Furthermore, the lower reported performance by parents may be a symptom of the stressors that parents are experiencing given that there are a high proportion of the parents in the sample reporting mental health issues (38.4%), and a history of experiencing domestic violence (17%). These stressors may have affected parents' expectations and subsequent reporting of their child's academic abilities. Parental anxiety has been associated with poorer academic performance amongst adolescents [25, 26]. Additionally, exposure to domestic violence is associated with children having more difficulty learning [27]. Regardless of these hypothesised explanations of the difference in scores, it is noted that the overall below average reported academic skills are very much to be expected, given the number of children referred for ADHD (25.9%) and learning disabilities (12.5%), both disorders are associated with poorer academic performance. It is important to note both parent and teacher scores are below average

and that the differences between scores are less than 1 SD, suggesting that both parties agree on the observed deficits in these academic skills.

Parents, compared with teachers, reported that children performed significantly higher in home/school living skills. These skills involve self-care tasks in a home/living or school/classroom setting including cleaning, straightening, property maintenance and repairs, food preparation, and performing chores. The differences in scores may be attributed to the distinct nature of home and school environments. The score discrepancies may reflect how the child functions either on their own, or in a home environment with less children and more supervision, versus a school environment with more children, less supervision, and greater need for collaboration in routine tasks. Children with greater attention deficits, in environments with more distractions, and less supervision, may be more likely to go off task, easily forget, have more difficulties socialising, and struggle with completing tasks [28]. These differences may also relate to the specific clinical population and context. High-Functioning ASD children have been rated by parents as having poorer social-communication abilities, and overall

adaptive behaviours, whereas in general ASD populations parents provided higher ratings on initiating interactions while teachers, provide higher ratings on maintaining interactions [29, 30]. This sample includes a sizeable proportion of children with ASD (53.6%) and ADHD (25.9%). However, despite the differences between parent and teacher scores, the reported scores were below average, indicating that observed deficits may be related to the referral problems.

The small effect size suggests minor disagreement between parents' and teachers' observations of children's functional academic, home/school living, and self-care abilities. The practical implications relate to when data from either parent or teacher is not available. Thus, there is a high possibility, in clinician populations that the parent would be making similar observations as the teacher. However, in the absence of quantitative data, verification of these assumptions may require some qualitative information from the person whose questionnaire information is missing. This could be in the form of an intake, conversation, or a report outlining the concerns about the child's abilities from the person. In most cases, additional data on the child is usually collected through clinic

observations, cognitive, emotional and ability assessments which provides additional information to aid with diagnoses [31, 32].

This study has several limitations, each providing ideas for future research. Firstly, there was no indication as to which teacher and which parent completed the questionnaires. Whilst the primary caregiver (i.e., mother) may have been the main respondent for parents, the teacher respondents could vary from school to school, potentially including the class teacher, subject teacher or the school guidance counsellor. The differing roles these respondents play in child's life may have affected perceptions of the child's abilities. Age group was not controlled for, and would be informative in future research given that there is some evidence indicating differences in children's behaviours across age groups [33]. In addition, future studies could collect information on parent socio-economic status, and the experience of teachers which may have the potential to influence reporting of scores [34, 35]. Finally, the study focused only on a clinical population, limiting the generalisability of conclusions due to the absence of a "general non-clinical

population" control group. The severity of behavioural and emotional problems have been observed to be related to greater differences in parent-teacher reported scores [36]. Thus, not controlling for severity of symptoms, may have influenced parent-teacher agreement. Further research could continue to examine discrepancies between parent and teacher reports, where both clinical and non-clinical samples.

5. Conclusion

The results suggest that in a clinical setting, clinicians can generally expect agreement between parents and teachers regarding child's abilities, across most areas. When there are differences in observations, they are not expected to be substantial. However, when discrepancies do arise, such as in functional academics, self-care and home/school living, it would be beneficial to conduct additional inquiries and assessments, as the child's behaviour may vary across environments. Thus, paediatric clinical decision-making that relies on feedback from parents and teachers, should not solely depend on psychometric reports, but should also incorporate other forms of assessment.

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