

Formulating Good (Diagnostic) Impressions: An Empirical-Clinical Approach to Formulating and Communicating Diagnostic Impressions in Psychological Evaluations of Children

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Abstract

Psychological evaluations of children are often guided by “diagnostic questions” (Hass & Carriere, 2014, p. 75), yet, diagnostic approaches have been criticized as mechanical, inaccurate and stigmatizing (Brasil et al., 2015; Mash & Wolfe, 2016). Inappropriate, or misinformed, use of diagnostic classification systems may be due to insufficient training of clinicians (Morrison, 2014b), and further compromise the validity of the diagnostic process. This article addresses a potential training gap and guides clinicians along an empirical-clinical approach to formulating diagnostic impressions. Utilizing a case illustration, the article describes how integrated, contextual, and construct-based interpretation of data from a comprehensive psychological assessment of children guides four steps of the FIND evidence-based assessment and diagnostic process: Formulating a hypothesis, interpreting the data narrowing down the diagnostic possibilities and achieving a diagnostic decision.

Keywords: psychological assessment; diagnostic impressions; empirical-clinical approach; diagnostic classification systems; evidence-based diagnosis

1. The Role and Challenges of Diagnosis in Psychological Assessment

Psychological evaluations of children are often guided by “diagnostic questions” (Hass & Carriere, 2014, p. 75), that seek to determine whether the child meets criteria for a specific disorder. This has legal implications in terms of the child’s potential eligibility to receive remedial services and accommodations as per the Individuals with Disability Act (IDEA; Wright & Wright, 2010). Conducting a psychological assessment that is geared towards answering a diagnostic question has clinical utilities as well, in that it can guide evidence-based interventions. A diagnostic approach to psychological evaluations also facilitate common language and can help to systematically describe a disorder and aid in choosing and designing a suitable intervention (Mash & Wolfe, 2016). Nevertheless, the purpose of psychological evaluations is more complex than merely offering a diagnostic code that captures the client’s clinical presentation (Goldfinger & Pomerantz, 2014). A rationale for conducting an evaluation might involve identifying areas of difficulties in functioning but also areas of competencies. An increased trend towards evidence-based psychological assessment emphasizes reliance on empirical evidence that guides the design of the assessment, and informs an empirically supported diagnosis (Goldfinger & Pomerantz, 2014). Towards that end, clinicians consider all data gathered in the evaluation process to understand the interaction among various factors that contribute to the psychological functioning of the child and to the diagnostic impressions (Wright et al., 2022).

The diagnostic approach to assessment poses several challenges. Categorically, diagnostic impressions focus on presence of behaviors, symptoms or syndromes that exist in the individual with the disorder, but not in individuals who do not have the disorder. Examples that are common in children include Attention Deficit Hyperactivity Disorder, (ADHD; Mash and Wolfe, 2016), or Oppositional Disorder (ODD) and Conduct Disorder (CD), respectively (Mcfarland et al., 2018). This approach has been criticized for failing to consider factors such as the effect of co-morbid conditions on the pattern of symptoms presentation, the impact of symptoms onset on understanding the probable etiology, severity of presentation, prognosis (Mcfarland et al., 2018) and overall functioning (Brazil et al., 2015; Mash & Wolfe, 2016). Cut off points to meet categorical criteria have been criticized as imprecise and poorly differentiating between clinical and non-clinical presentations.

The dimensional approach to diagnosis, which assumes the presence of certain behaviors or traits that exist on a continuum in all individuals, posts that a diagnosis of a disorder may be appropriate when problem behaviors manifest as an extreme point on one or more continuous dimensions (Hayden & Mash, 2014). This too can pose challenges due to fluctuations in contextual (e.g., culture, age, familial) factors that are inherent in the attempt to evaluate difficulties in psychological functioning. Problem-behaviors that may be considered extreme and potentially pathological in one context may be considered normal in another context (Hayden & Mash, 2014; McFarland et al., 2008; Morrison, 2014a).

2. Addressing Challenges of Diagnostic Impressions in Psychological Assessment

Despite the challenges diagnostic approaches pose, diagnostic impressions remain important in Psychological evaluations of children, because a clinical diagnosis can inform the legal classification of a child as eligible for remedial services and accommodations as per the Individuals with Disability Act (IDEA; Wright & Wright, 2010; Hass, 2018) and can guide intervention choices (Goldfinger and Pomerantz, 2014). In some cases, a formal diagnosis is required for a third-party reimbursement of treatment cost (Sattler & Rapport, 2014). From the clinical perspective, offering a diagnosis may help referral sources and clients to understand the presenting psychological difficulties in the context of a specific syndrome, determining whether the problems in functioning are clinical and require intervention, or are mild and transient. A diagnostic approach to psychological evaluations also facilitates common language and can help to systematically describe a disorder and aid in choosing and designing a suitable intervention (Mash & Wolfe, 2016).

Some authors suggest that the problems associated with formulating diagnostic impressions may be related to the *use* (or misuse) of the diagnostic classification system, rather than the system itself (Mash and Wolfe, 2016, p. 107; Morrison, 2014a, p. 15). Therefore, clinicians must remain cognizant of the challenges associated with formulating diagnostic impressions and develop effective diagnostic skills for an optimal utilization of a classification system, such as the DSM-5-TR (APA, 2022). The literature offers several strategies that can help clinicians improve their use of classification systems when formulating diagnostic impressions. These include a pragmatic applied approach that considers the client's perspective (Brendel, 2008), and differentiating between observations (actual data) and interpretations (clinical impressions about the data) to ensure accuracy and minimization of bias (Brasil, 2015). Effective diagnostic formulation should rely on two main principles: Parsimony refers to seeking the single most appropriate diagnosis that accounts for all the data emerging from the evaluation (Kilgus et al., 2016, p. 70). Adhering to this principle increases the likelihood that the clinician formulates diagnostic impressions that are comprehensive and that rely on consideration and integration of all the information gathered in the assessment. The second principle, hierarchy, relies on the assumption that mental disorders exist on a hierarchy that progresses from most to least severe. When a client presents with a syndrome whose symptoms and signs may fit with several, less severe disorders, but also fit with one, more severe disorder, the latter is the most useful diagnosis, because it accounts for all the difficulties the client is experiencing (Kilgus et al., 2016, p. 70).

3. A Proposed Model for Formulating Effective Diagnostic Impressions

The challenges associated with formulating and communicating diagnostic impressions highlight a potential bias in the process of diagnosis formulation as well as threats to the validity of diagnostic classifications. There is a need to re-conceptualize the diagnostic process and treat it as a hypothesis-testing method (Pennington, 2009). Building on the notion of evidence-based psychological assessment (Goldfinger & Pomerantz, 2014), the strategies described below formulate a practical and systematic approach to guide evaluators along the empirical diagnostic process.

The goal is to increase diagnostic accuracy, minimize bias, and formulate diagnostic impressions that will be useful in understanding the child's psychopathology and inform his or her legal rights for interventions and accommodations. The proposed model conceptualizes differential diagnosis as both a *process* of diagnostic decision making as well as the clinical conclusion, naming the specific disorder that best explains the child's problem behaviors. This empirical-clinical sequential approach can help psychologists to make a better use of commonly accepted classification systems, such as the DSM-5-TR (APA, 2022), by following four sequential steps, forming the acronym FIND: Formulating a hypothesis; Interpretation of integrated assessment data; Narrowing down the possible diagnosis; and a Diagnostic decision. Each of these four steps involves evidence-based data-driven strategies.

1. *Formulating a hypothesis about a possible disorder*- the initial step is based on the client's presenting problems and reason for evaluation, in relationship to a classification system (e.g., DSM-5-TR; APA, 2022). At this point, the hypothesis tends to be general in nature. For example, if the child presents with learning difficulties and is falling below expected academic achievement level for her grade, the psychologist may hypothesize the presence of a learning disorder. However, the psychologist is not yet ready to draw conclusions about the specific learning disorder. Similarly, if the child presents with aggressive behaviors, the psychologist may hypothesize the presence of a disruptive disorder, but is not yet prepared to offer a definitive conclusion as to which of the disorders, listed in the classification system under this category, is present. To avoid confirmation bias at this stage, the hypothesis may include assumptions about the presence of more than one diagnosis or it may include assumptions about diagnoses that need to be ruled out (Van Meter, 2020). For example, a child who presents for a psychological evaluation may be exhibiting difficulties in learning, leading to an initial hypothesis about the presence of a learning disability. However, academic difficulties in children may be due to depression (Mash & Wolfe, 2016. P. 314), and the psychologist needs to test this diagnostic hypothesis as well. To formulate the initial hypothesis, psychologists rely on their knowledge of evidence-based psychopathology and should be familiar with the structure of the classification system (e.g., categories of disorders listed in the DSM-5 TR and basic symptoms associated with each category).

2. *Interpretation* – Once the assessment has been conducted, the psychologist tests the diagnostic hypothesis(es) through functionality-based, integrated interpretation of the results in relationship to relevant criteria as per the classification system. In this step, the psychologist considers data from all evaluation measures to better understand the client's functioning. The psychologist interprets the results in the context of the domain each measure assesses (e.g., cognitive, academic, and emotional functioning, respectively) and the specific underlying construct the assessment tool targets (Schneider et al., 2018), such as short-term memory, decoding skills, internalizing behaviors etc. The psychologist considers how, taken together, data from various assessment tools inform functioning along respective psychological domains, and whether emerging psychological functioning patterns fit with the classification system's diagnostic criteria as per the hypothesis.

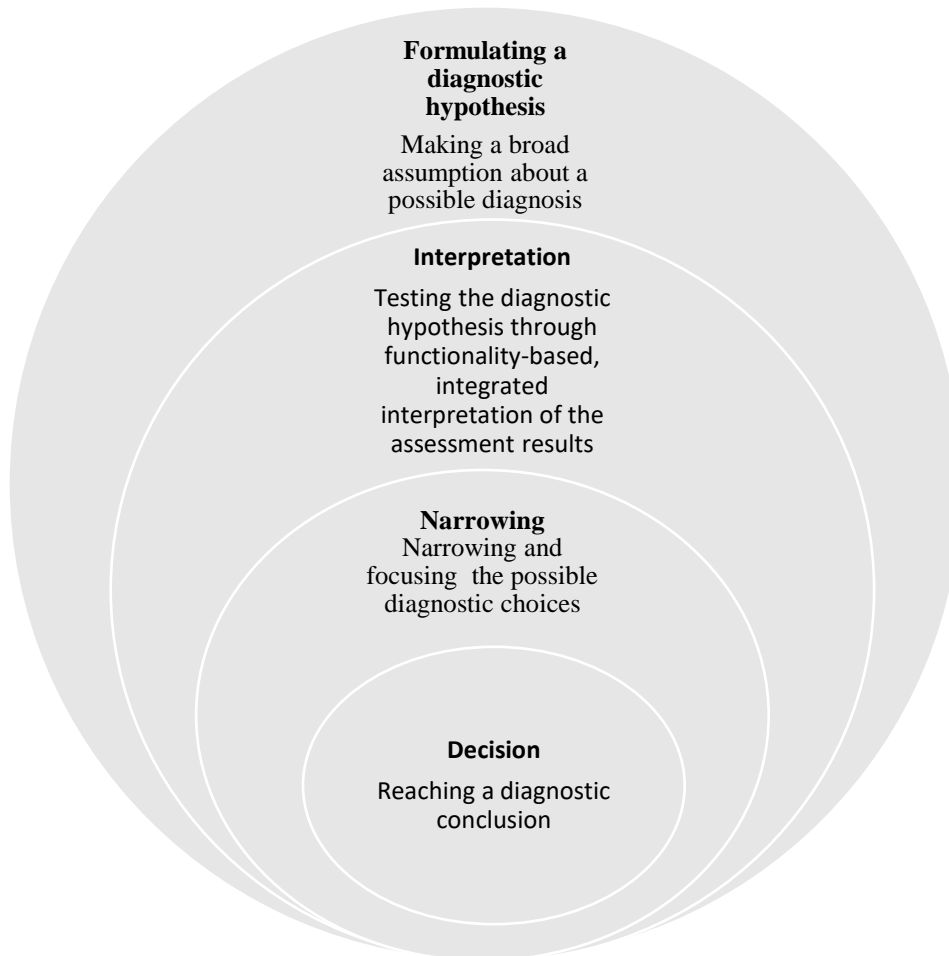
3. *Narrowing the possible diagnostic choices*- based on data interpretation, the psychologist narrows down the diagnostic choices that best explain the client's functioning. In this step, the psychologist eliminates diagnostic possibilities the data do not support, or fine-tunes the initial hypothesis to focus on a specific diagnosis within a certain category of listed disorders.

4. *Decision* – drawing on conclusions from step 2 and 3, the clinician reaches a decision about whether the diagnostic hypothesis is supported and offers a diagnostic impression. Note that concluding that no diagnosis is appropriate at the time of the evaluation is also a diagnostic decision.

Figure 1 illustrates the steps of the FIND diagnostic sequential model described above.

Figure 1

The FIND Empirical-Clinical Sequential Diagnostic Model



The 4-steps FIND model helps the clinician to formulate precise and well-supported diagnostic impressions that derive from testing diagnostic hypotheses and that are data-driven and evidence-based. The following case illustration demonstrates application of the FIND model when formulating impressions in psychological assessment of children.

4. JD- A Case Illustration

The following is a brief summary of data gathered during the evaluation process with JD, conducted under the supervision of the author in a university-based clinic. While the description below is based on a real case, identifying information and some clinical data have been omitted or altered to protect the privacy of the client.

4.1. Reason for the Evaluation

JD, a 15-year-old male with a previous diagnosis of Attention Deficit Hyperactivity Disorder (ADHD), was referred for psychological evaluation by his parents due to on-going academic difficulties. The purpose for the current evaluation was to assess JD's overall psychological functioning, in order to determine respective areas of strengths and challenges, and in order to inform appropriate interventions to best meet his needs.

4.2 Summary of Assessment Interview Data

During the assessment interview with JD and his parents, the following information was gathered:

JD is an only child and resides with his parents, and the family is of middle to upper class socio-economic status. JD attends 10th grade in a public school, and has a history of academic difficulties and disruptive behaviors in the classroom and at home since early childhood. His teachers report he does not achieve up to his potential. The parents reported that JD was diagnosed with ADHD during elementary school but were unable to elaborate on the specific type of presentation (i.e., inattentive or hyperactive-impulsivity).

Subsequently, JD was treated with psychostimulant medication (continued current treatment) and was awarded resource room twice a week with an emphasis on remedial reading instruction. At the time of presenting for the current evaluation, JD was no longer receiving resource room services but continued to receive extended time on tests. JD himself reports no special difficulties in school since the aforementioned interventions were put in place. He reported normative family and social life, with unremarkable medical history, save for the ADHD diagnosis.

4.3 Summary of Behavioral Observations Data

JD was not medicated when tested. He presented as motivated, inquisitive, and somewhat anxious to do well. No noteworthy test taking behaviors occurred. However, the evaluator noticed that JD's speech was rapid and pressured, and that he frequently fidgeted in his seat. JD's affect was appropriate and his thought process appeared normal and goal-directed. No interruptions in the testing environment occurred. The evaluator noted that the current evaluation results were considered valid.

4.4 Summary Cognitive Ability Data

The evaluator administered the Wechsler Intelligence Scale for Children, fifth edition (WISC-V, Wechsler, 2014) to evaluate JD's cognitive processes and functioning. The summary of data analysis below relies on procedures described in the WISC-V Technical and Interpretive Manual (Wechsler, 2014) and on Sattler's (2018) description of underlying constructs measured by various components of the battery.

The results indicated that JD's overall intellectual ability was in the high average range compared to his same-age peers, with a strength in verbal knowledge, and a weakness in his ability to process rote visual information quickly and accurately. The results further indicated that he functioned significantly better when processing information that did not require manipulation of verbal and visual information in short-term memory and quick and accurate response to rote visual motor tasks. Finally, the results revealed that JD was better able to process structured, rather than randomly presented, visual information.

4.5 Summary of Academic Achievement Data

The evaluator administered the Wechsler Individual Academic Test, Fourth Edition (WIAT-4, Pearson, 2020) to assess JD's scholastic achievement level compared to his same-grade peers and compared to his own potential. The summary of data analysis below relies on procedures described in the WIAT-4 Manual (Pearson, 2020). The results revealed that JD's overall academic achievement is above average compared to his same grade peers and that, in general, he achieved up to his potential when comparing his actual achievement level to his potential achievement level predicted from his general cognitive ability.

4.6. Summary of Executive Functioning Data

The evaluator administered the Conners Continuous Performance Test 3rd edition (CCPT 3, Conners, 2014) in order to evaluate JD's executive functions such as attention, impulsivity, and vigilance (Conners, 2014). Analysis of the results was guided by the CCPT 3 manual's description of the executive functions measured by the test and by manual's interpretation guidelines. The results revealed that, compared to non-clinical peers, JD exhibited significant difficulties regulating his attention, impulsivity and vigilance levels, respectively, when performing executive function tasks.

4.7 Summary of Emotional and Behavioral Adjustment Data

The evaluator administered multiple measures to assess JD's emotional and behavioral adjustment. The Attention Deficit Disorder Evaluation Scale, 5th edition (ADDES-5; McCarney & Arthaud, 2019 a,b) measuring characteristic and behaviors associated with ADHD was administered to JD's teachers (school Version; McCarney & Arthaud, 2019b) and parents (Home Version; McCarney & Arthaud, 2019a) respectively. The results indicated that JD's teachers reported he exhibited neither inattentive nor hyperactive-impulsive behaviors at school. There was a discrepancy between JD's parents' reports on his behaviors at home. The mother reported he exhibited significant behaviors associated with inattentiveness (e.g., difficulty remaining in task when doing homework, needing questions and instructions repeated several times, being disorganized with possessions), as well as with hyperactivity-impulsivity (e.g., not following directions, not waiting his turn, and ignoring consequences of his behavior) in the home. The father, however, reported that JD exhibited significant behaviors associated with inattentiveness (endorsing items similar to the mother's report), but not with hyperactivity-impulsivity in the home.

The evaluator administered the Behavior Assessment System for Children, Third Edition (BASC-3; Reynolds & Kamphaus, 2015) to assess JD's behaviors and self-perceptions (measured with the Self Report of Personality), as well as ratings of his problematic and adaptive behaviors in school (measured with the Teachers Rating Scale) and at home (measured with the Parents Rating Scale). Analysis of results summarized below relied on the BASC-3 manual's descriptions of the psychological constructs measured by the various components of the battery and on scoring and interpretation guidelines (Reynolds & Kamphaus, 2015).

The results revealed that JD's teachers reported his behaviors at school were normative with the exception of difficulties in the learning environment. JD's teachers reported that he sometimes performed poorly on school assignments, that he complained the lessons were progressing too fast, and that he had reading problems.

JD's parents varied in their ratings of his behaviors on this measure. The father reported that JD did not exhibit any unusual behaviors or emotions. The mother, however, reported that JD exhibited significant behaviors associated with hyperactivity (e.g., acting without thinking, having difficulties waiting his turn, interrupting others and exhibiting poor self-control), as well as inattention (e.g., distractibility, disorganization, short-attention span, and a tendency to miss deadlines). The mother also reported that JD exhibited over-sensitivity to relatively minor physical problems or ailments, and that sometimes he complained of being sick when nothing was wrong. Finally, JD's mother reported that he exhibited difficulties performing activities of daily living, such as self-hygiene and organizing his belongings.

JD completed the self-report version of the BASC-3, and reported no unusual behaviors or emotions with two noted exceptions. He reported a heightened level of engaging in risk-taking behaviors, and he conveyed a low level of achievement expectations. Specifically, he reported that doing his best was never good enough and that he could never quite reach his goals.

5. Formulating Diagnostic Impressions for JD: The FIND Model

This section offers a step-by step formulation of diagnostic impressions for JD, based on the proposed FIND model. Figures 2 and 3 summarize the DSM-5-TR (APA, 2022) criteria for the two main diagnoses the clinician is considering: Attention Deficit Hyperactivity Disorder (ADHD), and A Specific Learning Disability (SLD).

Figure 2

A Summary of DSM-5-TR Diagnostic Criteria for Attention Deficit Hyperactivity Disorder

Criterion A: A persistent pattern of inattention and/hyperactivity-impulsivity that interferes with functioning of development as characterized by (1) and/or (2)	
1. Inattention: Six or more (5 or more for individuals 17-years old and older) symptoms (per DSM-5-TR list) of symptoms that are persistent for at least 6 months and that are inconsistent with developmental level and that negatively impact social or academic/occupational activities.	2. Hyperactivity-impulsivity: Six or more (5 or more for individuals 17-years old and older) symptoms (per DSM-5-TR list) of symptoms that are persistent for at least 6 months and that are inconsistent with developmental level and that negatively impact social or academic/occupational activities.
Criterion B: Several inattentive or hyperactive-impulsive symptoms were present prior to age 12 years.	
Criterion C: Several inattentive or hyperactive-impulsive symptoms are present in two or more settings.	
Criterion D: There is clear evidence that the symptoms interfere with, or reduce the quality of, social, academic or occupational functioning.	
Criterion E: The symptoms do not occur exclusively during the course of schizophrenia or another psychotic disorder and are not better explained by another mental disorder.	
Presentation Specifications:	
Combined presentations: If both criterion A1 and A2 are met for the past 6 months.	
Predominantly inattentive presentation: If Criterion A1, but not A2, is met for the past 6 months.	
Predominantly hyperactive/impulsive presentation: If Criterion A2, but not A1, is met for the past 6 months.	
Remission Specification: <i>In partial remission</i> when full criteria were previously met, fewer than full criteria have been met for the past 6 months, and the symptoms still result in impairment in social, academic, or occupational functioning.	
Severity Specification:	
Mild: few, if any, symptoms in excess of those required to make a diagnosis are present and symptoms result in no more than minor impairments in social or occupational functioning.	
Moderate: Symptoms or functional impairment between “mild “and “severe” are present.	
Severe: Many symptoms in excess of those required to make the diagnosis, or, several symptoms that are particularly severe, are present, or the symptoms result in marked impairment in social or occupational functioning.	

Figure 3

A Summary of DSM-5-TR Diagnostic Criteria for Specific Learning Disorder

Criterion A: Difficulties in learning and using academic skills, as indicated by the presence of at least 1 out of the following 6 symptom that has persisted for at least 6 months, despite the provision of interventions that target the difficulties:	
Difficulties with reading:	1. Inaccurate or slow and effortful word reading
	2. Difficulty understanding the meaning of what is read
Difficulties with writing:	3. Difficulties with spelling
	4. Difficulties with written expression
Difficulties with math:	5. Difficulties mastering number sense, facts or calculations.
	6. Difficulties with mathematical reasoning.
Criterion B: The affected academic skills are substantially and quantitatively below those expected for the individual’s chronological age and cause significant interference with academic or occupational performance, or with activities of daily living, as confirmed by individually administered standardized achievement measures and comprehensive clinical assessment.	
Criterion C: The learning difficulties begin during school-age years, but may not become fully manifested until the demands of those affected academic skills exceed the individual’s limited capacity.	
Criterion D: The learning difficulties are not better accounted for by intellectual disabilities, uncorrected visual or auditory acuity, other mental or neurological disorders, psychosocial adversity, lack of proficiency in the language of academic instruction, or inadequate educational instruction.	
Type Specification	
With impairment in reading:	Word reading accuracy
	Reading rate or fluency
	Reading comprehension
With impairment in written expression:	Spelling accuracy
	Grammar and punctuation accuracy
	Clarity or organization of written expression
With impairment in mathematics:	Number sense
	Memorization of arithmetic facts
	Accurate or fluent calculation
	Accurate math reasoning

5.1 Step 1- Hypothesis

In formulating an initial hypothesis about the possible diagnosis in JD’s case, the clinician took into consideration the reason for the referral, which included a direct question about ADHD. Additional information was provided during the assessment interview with JD and his parents about a previous diagnosis of, and on-going medical treatment for, ADHD, as well as presenting symptoms that might be attributed to the disorder. The clinician is therefore justified in her hypothesis that a diagnosis of ADHD is indicated. However, note that the evaluation battery has a broader focus, namely, to assess JD’s overall psychological functioning, in order to determine respective areas of strengths and challenges, and in order to inform appropriate interventions to best meet his needs. Thus, the clinician intended to evaluate for a myriad of other issues that might be at play here. These include the possibility of another disorder, such as a specific learning disorder, that could explain JD’s pattern of difficulties at school. The clinician designed an evaluation that measured functioning along multiple dimensions to test the hypothesis that JD met criteria for ADHD, and/or a specific learning disorder. The clinician included measures that yielded information about signs (patterns of cognitive, academic, and executive functioning, respectively), symptoms (JD’s self-report of behaviors and emotions and his narratives in response to ambiguous social scenes), as well as behavioral ratings from parents and teachers to evaluate the social context of JD’s psychological functioning. Information in response to questions during the assessment interview helped to evaluate onset of symptoms, duration, and impact of symptoms on daily life.

5.1.1 Step 2- Interpretation

In testing the diagnostic hypotheses, the clinician utilizes a functionality-based, integrated interpretation of the assessment's results in relationship to the relevant diagnostic criteria of the classification system. In this case, and as per the hypotheses stated in the previous step, the clinician examines data from JD's assessment in relationship to DSM-5- TR respective criteria for ADHD and for SLD.

5.1.2 Testing the ADHD Diagnostic Hypothesis, Utilizing the DSM-5-TR (APA, 2022)

5.3.1 **Criterion A:** Data from the rating scales completed by the parents (ADDES-5 and BASC-3) suggested behavioral manifestations of problems with attention and hyperactivity-impulsivity. Based on the mother's report, JD was exhibiting six symptoms of inattention as per criterion A1 as well four symptoms of hyperactivity-impulsivity as per criterion A2. The evaluator also noticed another symptom of hyperactivity, namely fidgeting behaviors during testing, although this behavior might have been specific to the test-taking environment. According to the father, JD was exhibiting four symptoms of inattention as per criterion A1, but no symptoms of hyperactivity-impulsivity as per criterion A2. JD himself reported symptoms of inattention but not of hyperactivity. Taken together, JD displayed symptoms and signs that fit with criterion A1, but not with criterion A2.

5.1.3 **Criterion B:** While the current results did not indicate which of symptoms and signs of ADHD were present prior to age 12, information from the assessment interview indicated that JD was diagnosed with ADHD during elementary school, presumably prior to age 12. The data, therefore, supported criterion B.

5.1.4 **Criterion C:** The data from rating scales completed by JD's teachers did not indicate that he was exhibiting inattention or hyperactivity-impulsivity symptoms in school. Thus, the data did not seem to support presence of symptoms in two or more settings and criterion C was not met.

5.1.5 **Criterion D:** In interpreting results from the WISC-V, the clinician noticed that JD functioned significantly better when processing information that did not require manipulation of verbal and visual information in short-term memory and quick and accurate response to rote visual motor tasks. The fact that he was benefitting from extra time on tests and assignments at school, as per information from the assessment interview, further supported the presence of impaired processing speed that was interfering with his functioning. The CCPT-3 data further suggested that JD was exhibiting deficits in executive functions related to attention, impulsivity and vigilance. Note that difficulty in executive function is not explicitly included in Criterion A for ADHD. Instead, these data may be used to support how ADHD may be affecting JD's functioning, as per criterion D (APA, 2022). The functionality-based, integrated interpretation of these data suggests that Criterion D is met.

5.1.6 **Criterion E:** There were no data to support that JD's symptoms occurred in the course of schizophrenia or another psychotic disorder. However, another disorder might be present and responsible for JD's difficulties. Therefore, the clinician proceeded to test the second hypothesis before deciding whether criterion E was met.

5.2 Testing the SLD Diagnostic Hypothesis, Utilizing the DSM-5-TR (APA, 2022)

5.2.1 **Criterion A:** Information from the assessment interview indicated that JD had a long history of academic difficulties despite receiving interventions at school such as resource room and extended time on tests. Data from the BASC-3 TRS indicated that JD's was experiencing difficulties in the learning environment, especially in the area of reading. JD himself reported, as per the BASC-3 SRP, a low level of achievement expectations. However, findings from the WIAT- 4 revealed that JD's academic skills were above average compared to his peers. Thus, Criterion A was not conclusively met.

5.2.2 **Criterion B:** Data from the WIAT- 4 and WISC-V indicated that, although JD's academic achievement was above average compared to his peers, his speed and accuracy of language decoding was significantly below his potential. Note that discrepancy analyses, comparing potential and actual scholastic achievement, does not, by itself, suggest a presence of a learning disability (Lewandowski & Lovett, 2014) and is not included as a criterion for SLD in the DSM-5-TR. However, evidence that JD was achieving below his potential in this scholastic area, along with evidence of a weakness in processing rote visual information quickly and accurately, suggested that JD was experiencing learning challenges unique to word reading. Data from the assessment interview, and from the BASC-3 TRS, PRS and SRP, respectively, indicated that these difficulties interfered with JD's academic achievement and that he was experiencing psychological distress associated with his academic difficulties. The clinician concluded that the data offered partial support for Criterion B.

5.2.3 Criterion C: The data from the assessment interview, the WIAT- 4 and the BASC-3 indicated that JD was experiencing academic difficulties since his elementary school years and possibly earlier. The data supported this criterion.

5.2.4 Criterion D: There was no evidence that JD had intellectual, sensory, environmental or cultural challenges that might account for his academic difficulties. However, it is possible that a neurodevelopmental disorder, such as ADHD, interfere with his scholastic achievement. The clinician concluded that Criterion D was not conclusively met. The clinician then proceeded to narrow down the diagnostic possibilities.

5.3. Step 3: Narrowing the Diagnostic Choices

In this step, the clinician examined which diagnostic criteria were, or were not, met, as per the previous step, eliminating diagnoses that did JD's assessment data did not support. The SLD hypothesis was not fully supported, as the data did not completely satisfy criteria A and B, respectively. Using the principles of parsimony and hierarchy (Kilgus et al., 2016), the clinician recognized that JD's academic difficulties might be due to poor attention processes, interfering with speed and accuracy of language decoding, but that his attention issues were not likely to be explained by a specific learning disorder diagnosis. The Clinician narrowed down the diagnostic possibilities to a disorder within the ADHD category of the DSM-5-TR. Because criterion A2 of the ADHD diagnosis was not met, the clinician eliminated the hyperactivity and impulsivity presentation of ADHD. Because Criterion C was not met, the clinician eliminated a diagnosis of ADHD, but still considered other diagnoses within this category.

5.4 Step 4: Decision

In making the diagnostic decision, the clinician considered whether the diagnostic hypothesis was supported, based on conclusions from step 3. In JD's case, the diagnostic hypotheses were partially supported. The assessment data did not support a diagnosis of a Specific Learning Disorder, and only partially supported a diagnosis of Attention Deficit Hyperactivity Disorder. The clinician arrived at the following diagnostic decision, utilizing the DSM-5-TR classification system:

F90.8 Other Specified Attention-Deficit/Hyperactivity Disorder, without manifestation across settings.

6. Implications for Practice

Formulating valid and clinically useful diagnostic impressions is a complex process that involves two seemingly contradicting perspectives: On the one hand, the clinician must deconstruct the client's presenting problem in order to identify and categorize specific symptomatology. On the other hand, the clinician engages in a comprehensive conceptualization of the client's presenting problem in relationship to contextual factors. The FIND model, a hypothesis-testing, empirical-clinical sequential diagnostic approach, facilitates formulation of valid diagnostic impressions through a synergy between the precise focus on signs and symptoms in relationship to the diagnostic criteria of the classification system, and the broad lens that considers the real-life multifaceted psychological functioning of the client.

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