

ASSESSMENT AND DIFFERENTIAL DIAGNOSIS OF COMORBID CONDITIONS IN ADOLESCENTS AND ADULTS WITH AUTISM SPECTRUM DISORDERS

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Successful treatment of individuals with autism spectrum disorders (ASD) is entirely contingent on an accurate diagnosis. Although many resources exist to help the clinician with differential diagnosis of children, particularly in early childhood, the resources available for evaluating adolescents and adults is far less prevalent. Clinicians often rely on multiple forms of data from numerous sources to make accurate diagnoses, which for adults is a complex process. Lack of availability of instruments that have been normed with individuals with ASD creates limitations for the clinician. In addition, gathering background information from adolescents and adults on the spectrum can be challenging for a number of reasons, including poor self-reporting and poor memory for events from parents or caregivers. To further complicate the matter, comorbid conditions become more and more common as the individual with ASD goes through adolescence and adulthood. This article aims to identify the challenges related to the evaluation of adolescents and adults with ASD, noting particular attention to the differential diagnosis of common comorbid conditions. Recommendations for how to conduct a thorough psychological evaluation with an adolescent or adult with an ASD are made. © 2013 Wiley Periodicals, Inc.

The complexity of the clinical presentation of individuals with autism spectrum disorder (ASD) is undeniable. With a wide range of abilities and challenges within this heterogeneous disorder, it is no wonder clinicians have difficulty with appropriate assessment and diagnosis. Differentiating between symptoms that are due to the core social deficits of ASD and those that might be due to a comorbid mental health disorder, such as anxiety and depression, is as challenging as solving the chicken or the egg conundrum.

There is argument within the literature about whether or not comorbidity in ASD exists. Some argue the diagnosis of ASD encompasses any symptoms of anxiety and/or depression by the nature of the disorder itself. For example, an individual with ASD may experience symptoms of anxiety in social situations because of the deficits that are core to the diagnosis (i.e., persistent social impairment and restricted, repetitive patterns of behavior). However, it would be inappropriate to imagine individuals with ASD are incapable of experiencing emotional dysfunction that might warrant the diagnosis of a mental health disorder. Therefore, we must establish a way of teasing out how much anxiety is a result of an ASD and at what point it becomes a clinically heightened level that would warrant an additional diagnostic label and more intensively focused treatment. According to the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; American Psychiatric Association [APA], 2013), the course of the anxiety must impair functioning but cannot be better accounted for by another diagnosis. We must be able to create a prototypic profile or set of symptoms that would allow us to make a decision about whether that level of psychological symptom is solely within the ASD or above and beyond that level. What clinical judgments must the school psychologist make to determine whether these symptoms are indeed beyond those expected for an individual with ASD in a given life circumstance? What objective measures exist to begin establishing this prototypic profile? We seek to explore these questions in this article.

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FORMAL EVALUATION OF ADOLESCENTS AND ADULTS

Although children are typically referred for an initial diagnosis (Shea & Mesibov, 2009), it is not uncommon for adolescents and adults to also be referred for an initial evaluation because of the need to make a differential diagnosis between an ASD and other mental health or cognitive conditions. Typically, adolescents and adults with less severe symptomatology are more difficult to detect and diagnose because their symptoms are less evident, particularly to the casual observer. High-functioning individuals with ASD are often diagnosed with a variety of alternate disorders, especially if they have achieved some professional success and have experienced suitable levels of social integration (e.g., marriage, family, career; Francis, 2012). Some clinicians assume individuals who have been able to demonstrate professional success or who have maintained a relationship would not meet the criteria for an ASD. This lack of understanding of the diagnostic criteria and of ASDs in general often results in a misdiagnosis when assessing adolescents and adults.

There appears to be a generational aspect to how well individuals with ASDs have been diagnosed and provided treatment. For example, individuals who were diagnosed 20 to 30 years ago who now are adults have generally poor outcomes on measures tapping into quality of life (Billstedt, Gillberg, & Gillberg, 2005). This is not surprising, considering the shortage of both measures designed specifically to assess ASDs and professionals trained to evaluate children with ASD 20 to 30 years ago. Although significant progress has been made in both diagnostics and treatment, professionals continue to struggle when assessing adolescents and adults with a primary diagnosis of ASD and, specifically for the current article, comorbid conditions.

There are several factors that often contribute to the complexity of evaluating an adolescent or adult with ASD. Referral questions are often too general, measures designed to assess adolescents and adults with ASDs are lacking, accurate developmental histories are difficult to obtain, a medical history of multiple treatments and diagnoses abound, and client refusal or incapacity to fully collaborate during the process often complicates assessments.

Vague Referral Questions

Poorly articulated referral questions often make it difficult to determine the measures, methods, and techniques that are most appropriate for answering referral questions. Physicians, school personnel, family members, and even the clients themselves often ask general referral questions (e.g., Does this individual have a mental disorder?) or are unsure what types of referral questions should be asked to maximize the benefits of an expensive evaluation. The purpose of conducting evaluations with adults is frequently multifaceted (Shea & Mesibov, 2009). For adolescents and adults already diagnosed with an ASD, referral questions often focus on identifying appropriate accommodations for the home and work settings; assessing specific self-care, vocational, and community living skills; and evaluating social/interpersonal skills (Nylander & Gillberg, 2001; Shea & Mesibov, 2009). Adults (or older adolescents) may also require evaluation to determine eligibility for specific programs (e.g., work programs, special housing, or government support) or to diagnose or determine the level of severity of comorbid psychiatric conditions (e.g., anxiety disorder, depression, attention disorder). When referral questions relate to comorbid conditions, the purpose for the referral is often to determine whether outpatient or inpatient services are warranted, assist in the development of a treatment plan, and consult with other professionals who provide treatment to the individual with ASD. Given the multifaceted and often complex issues related to assessing adolescents and adults with ASDs, it is essential to conduct in-depth conversations with the referral source to further refine and clarify the referral question to ensure high-quality evaluations.

Lack of Appropriate Measures

Although more measures have been developed in the last 10 years to assist in the diagnostic assessment of children with ASD, there continues to be a limited number of instruments available for the assessment of adolescents and even fewer well-normed tests or rating scales available for use with adults with an ASD. The few measures that can be used with adolescents and young adults (e.g., Autism Diagnostic Interview, revised [ADI-R; Rutter, Le Couteur, & Lord, 2003]; Autism Diagnostic Observation Schedule [2nd ed.; ADOS-II; Lord et al., 2012]) can be time-consuming to administer and may involve considerable training before reliability is attained. In addition, many published rating scales and questionnaires do not have standard scores based on a national standardization sample. Thus, the majority of rating scales and questionnaires demonstrate the extent to which individuals meet the diagnostic criteria of an ASD, but are unable to indicate the degree to which the symptoms deviate from those experienced by their typically developing peers (Naglieri & Chambers, 2009). Further, they do not reflect the variability in symptom presentation for a given client across different settings (e.g., work, community, home) or with different individuals (e.g., one colleague versus another). We provide a more comprehensive discussion regarding measures that differentiate ASD from other specific conditions below.

Obtaining Accurate Background Information

Obtaining an accurate background, developmental, and treatment history is crucial when making a differential diagnosis or diagnosing comorbid conditions. For example, despite the recent move to collapse all previous subtypes of ASD into one category in the *DSM-5*, research has demonstrated differences in the developmental histories of individuals diagnosed with autism versus Asperger's syndrome (Freeman, Cronin, & Candela, 2002), and this information may prove useful in the treatment selection process, as treatment for autism may require more intense treatment (e.g., full-time supportive services) versus that required for an individual with higher functioning Asperger's (e.g., outpatient activities of daily living training). Differences in childhood history can be essential in making a differential diagnosis between an ASD and schizophrenia (Nylander & Gillberg, 2001), supporting the need to obtain comprehensive histories when assessing adolescents and adults with an ASD. However, gaining accurate histories from an adolescent or adult with ASD is often difficult, especially with individuals who have comorbid severe psychiatric disturbance or intellectual disabilities.

Consideration of prior behavioral, medical, and educational treatments are essential in understanding current behavior and emotionality; developing future treatment programs (in school, the workplace, or other settings), and determining the likely effectiveness of recommended treatments. Because symptoms often create problems for the adolescent or adult with ASD or their care providers, many individuals with ASD have received an array of treatments (often with varied outcomes) prior to being referred for additional evaluation. In fact, the reason for referral for an initial assessment or a reassessment is often because individuals with ASD or their providers are frustrated from a series of ineffective interventions. Clinicians will want to rely on medical, behavioral, or educational histories to understand why some treatments were effective, whereas others were ineffective, so that they can develop a sufficiently comprehensive evaluation plan. For example, determining that an individual with an ASD began participating in therapy due to interpersonal problems with coworkers and therapy has not been highly effective can help guide the evaluation process. Perhaps clinicians may choose to spend more time focused on determining the reasons for the individual's interpersonal problems instead of administering a broad range of measures in hopes of identifying areas that would warrant psychological intervention. Specifically, the clinician may choose to include measures of personality and formal and informal assessments focused on the individual's social skills. In another

case, the treatment history and evaluation may also help determine whether cognitive-behavioral therapy might need to be altered by the therapist to be consistent with the way an individual with ASD processes verbal information (see Scattone and Mong, this issue, for more information on the modification of CBT to the ASD population).

Sorting through a History of Treatments and Comorbid Symptoms. Due to a large number of adolescents and adults with ASD receiving comorbid diagnoses, clinicians should explore the historical basis of these comorbid diagnoses to determine whether the comorbid diagnosis is appropriate. It is important to be accurate but flexible when interpreting the diagnostic criteria and to consider the fact that symptoms will present differently across clients or within the same client across conditions (e.g., setting, presence or absence of supports or other individuals). Individuals with ASD often present psychiatric symptoms differently or not at all compared with their typically developed peers (Deprey & Ozonoff, 2009). For example, increases in aggression or lack of meaningful verbalizations may actually be a better indicator of depression than a lack of interest in activities an individual once enjoyed because restricted, repetitive interests may be maintained during depressive episodes, given they are a core characteristic of ASD. Also, an adolescent who is socially introverted may increase social withdrawal, suggesting a depressive episode; however, the change may be either negligible to casual observers, causing the depression to be overlooked, or it may simply be the result of situational variables that uniquely trigger this behavior for the client with ASD (e.g., there are too many people wearing jeans at school). We recommend that clinicians involved in diagnosis carefully examine the chapter by Deprey and Ozonoff (2009) for an extensive review of common comorbid psychiatric conditions and the presentation of the symptoms related to these conditions among children with ASD.

Challenges in Client Participation

When assessing anyone, good clinical assessment should include multi-informant, multi-method data gathering of background information (Sattler, 2001). Although this is an easier process for younger populations whose parents are generally able to speak for them and give accurate information to clinicians, this process is far more complex for adolescents and adults. A thorough evaluation would include questioning the client with ASD about current behavioral, cognitive, and psychological symptoms. Because of difficulties with introspection and interpretation of social situations, individuals with ASD often have difficulty describing their own emotional experiences. Moreover, informed external sources are often critical because adolescents or adults with ASD may not have access to their early developmental or medical histories, or they may have inaccurate recollections of prior experiences.

Family members are often asked to provide historical accounts and anecdotal data about the individual's previous and current abilities and level of functioning. The clinician should remember that making such requests of family members to provide information for evaluation may be perceived as disrespectful by the individual with ASD. Thus, explaining the importance of obtaining additional information from other informants should be carefully discussed at intake (Stoddart, Burke, & King, 2012). Even if clients allow their parents to participate in the assessment process, parents may struggle to recall early development or educational histories due to decay of memory or the stress associated with that period of their lives. Although it may be impossible or inappropriate to get information from an adult client's parents (e.g., the parents may not be living or may not wish to join in the evaluative process) or peers (e.g., it may cause unwanted attention at the individual's place of employment) or the topic may not be deemed appropriate (e.g., safe sexual practices), it is still a crucial part of the evaluation.

COMMON COMORBID CONDITIONS AND DIFFERENTIAL DIAGNOSIS IN ADOLESCENTS
AND ADULTS

Although research on comorbid conditions in children is gaining momentum (Leyfer et al., 2006; Simonoff et al., 2008), the evidence of comorbidity in adolescents and adults on the spectrum is still emerging (Bradley, Summers, Wood, & Bryson, 2004). The most common comorbid condition for individuals with ASD is an intellectual disability (ID), so evaluation of intellectual functioning should always occur. A range of evaluation methods for psychopathology may also be essential due to high rates of mental health problems in ASD. For example, schizophrenia typically emerges during adolescence or early adulthood, and making a differential diagnosis may be particularly challenging when ASD is a plausible diagnosis. In addition, mood and anxiety disorders have been found to be the most prevalent comorbid psychological diagnoses among individuals with ASD. Adults with ASD, particularly those with Asperger's disorder, are at risk for anxiety and mood disorders (Howlin, 2000; Lugenard, Hallerback, & Gillberg, 2011). Each of these diagnoses, and the instruments that may assist in making differential or comorbid diagnoses, are addressed below.

Intellectual Disability

ID occurs in approximately 70% of individuals with ASD (Frombonne, 2003; Magnusson & Saemundsen, 2001). Thus, clinicians will face the difficult challenge of discriminating between ID alone, ASD alone, or ID in combination with ASD. As is true for individuals with ASD, the range of functional skills for persons with an ID is highly variable. According to the *DSM-5*, ID involves impairment in three domains: conceptual domain (e.g., language, reading, writing, math, reasoning, knowledge, and memory); social domain (e.g., empathy, social judgment, interpersonal skills, friendships, etc.); and practical domain (e.g., adaptive skills such as personal hygiene, money management, recreation, etc.; APA, 2013). Differential diagnosis requires the clinician to carefully consider the significance of social communication impairments, which would be the core of an ASD diagnosis. These impairments must be disproportional to the developmental level of the client if an ASD diagnosis with accompanying intellectual impairment diagnosis is rendered.

Given the prevalence of ID in ASD, Matson, Wilkins, and Gonzalez (2007) developed a scale to differentiate individuals with autism and ID from individuals with only ID. Of the original 71 items on the Autism Spectrum Disorders–Diagnosis Scale for Intellectually Disabled Adults (ASD–DA), 31 of the items were able to differentiate between adults with comorbid ID and ASD and those with ID alone. Some of these items included “Engages in repetitive motor movements for no reason; Reads nonverbal cues (body language) of other people; Limited number of interests” (Matson et al., 2007, p. 574). By using this instrument in the diagnostic process, clinicians would have further evidence to suggest a diagnosis of ASD beyond that which could be explained by ID alone.

The Vineland Adaptive Behavior Scale (VABS) is commonly used to assess adaptive functioning in adults with intellectual disabilities, ASD, and other psychopathology. Adaptive skills instruments may be important diagnostic tools in determining a differential diagnosis among adults with ASD, adults with only ID, adults with ASD with accompanying ID, and adults with ASD and comorbid psychopathology. Adaptive skills deficits, as measured using the VABS, were greatest in adults with ID and ASD plus additional psychopathology (Matson, Rivet, Fodstand, Dempsey, & Boisjoli, 2009). Additionally, adaptive skills were strongest in their ID-only group compared with the ID-with-ASD group. This suggests the VABS may be an important tool in differential diagnosis for ASD.

Psychopathology

Currently, there are no objective measures specifically developed to assess comorbidity among individuals with ASD. There are measures to assist in the diagnosis of an ID (e.g., Wechsler Adult

Intelligence Scale–Fourth Edition [WAIS-IV]; Woodcock-Johnson III Normative Update [WJ III NU] Tests of Cognitive Abilities) and to assess psychopathology (e.g., Minnesota Multiphasic Personality Inventory-2 [MMPI-2], Beck Depression Inventory [BDI], etc.). However, these measures often do not include individuals with ASDs in their standardization samples, resulting in poor discriminant and predictive validity. This lack of psychometrically sound instruments specifically intended for use with the ASD poses significant challenges to clinicians. For example, if clinicians are unable to find appropriate instruments, they often rely on using multiple general measures of personality or ability (e.g., WAIS-IV, MMPI-2, BDI), which do not include norms with ASD or they conduct a more in-depth diagnostic intake without utilizing measures specifically developed for individuals with ASDs, which can be dangerously subjective, particularly for inexperienced clinicians. It is highly recommended that clinicians incorporate instruments (e.g., ADOS-II, ADI-R) designed specifically for individuals with ASDs, even when assessing for comorbid psychopathology. In addition, although we review a number of instruments whose psychometric properties with ASD are still emerging, the preliminary data show those instruments might provide important information beyond that of the clinical interview. These instruments not only can assist in confirming a diagnosis of ASD but also, indirectly, assess many areas of emotional functioning (e.g., mood, social skills, interpersonal interactions).

As individuals with ASD grow older there are increasing social and occupational demands that increase the probability of psychopathology (Tantam, 2000). For instance, the social demands become greater for adolescents as abstract emotions of puberty in self and others are more prevalent. Also, the demands on young adults to move out of the home and become independent can cause difficulties with anxiety and/or depression (Barnhill, 2007; Ghaziuddin, 2005; Stoddart, 1999). Moreover, as adolescents and adults become increasingly aware that they are “different” from others, psychiatric symptoms may become more prevalent (Hedley & Young, 2006; Wing, 1981). Adolescents with ASD who were referred to a clinic-based psychiatric program experienced more psychiatric impairment than a clinic-referred non-ASD sample (Joshi et al., 2010). Researchers used the Epidemiologic version of the Assessment of Affective Disorder and Schizophrenia for School-Aged Children and determined that the ASD group had greater occurrence of multiple anxiety disorders, language disorders, and encopresis.

Given the large percentage (up to 70%) of individuals with ASD who have comorbid psychiatric conditions (Tonge & Einfeld, 2003), psychological evaluations must include measures to assess personality and social-emotional status, despite the fact that the majority of personality and social-emotional measures available have not been standardized for use with the ASD population. In fact, the majority of measures do not include individuals with ASDs in their standardization samples. The challenge for clinicians is to interpret scores that fall within the clinical range on psychiatric measures and determine whether the score falls within the clinical range due to ASD, due to the presence of a comorbid condition (Deprey & Ozonoff, 2009), or because the tools are not accurately measuring the intended symptoms for this population. For example, an adolescent or adult on the spectrum may report that they “always” or “never” engage in a behavior, which can result in a high score on a lie scale. But individuals with ASD may be accurately reporting their perception of their behavior, which often falls in extremes like “always” or “never.” Deprey and Ozonoff (2009) discussed several problems in using self-reports measures when assessing individuals with ASDs. Most notable was that individuals with ASD often have limited insight or ability to discuss their emotions and internal thought processes. However, higher functioning adolescents and adults do appear to have some ability for introspection. Regardless, Deprey and Ozonoff recommend cautiously using self-report measures when assessing individuals with ASDs.

Whether the psychiatric impairment is part of the expression of the ASD or due to a comorbid psychiatric condition is still debated (Frazier et al., 2001; Mazzone, Ruta, & Reale, 2012), but

recognition of symptoms must occur so treatment plans and interventions can adequately address all of the individual's symptoms. Assessment of psychiatric impairment in individuals with ASD is often difficult because many assessment measures utilize self-report techniques, and individuals with autism often lack insight to adequately self-report their symptoms (Ozonoff, Garcia, Clark, & Lainhart, 2005). Additionally, standardization techniques of these various questionnaires often did not include individuals with ASD (Mazzone et al., 2012). Therefore, some researchers have begun to develop specific scales to assess psychiatric impairment in adolescents and adults with ASD.

Anxiety

One of the most common comorbid conditions clinicians are willing to treat in outpatient settings is anxiety. This may include social anxiety, generalized anxiety, and obsessive-compulsive disorder. It is very common for individuals with ASD to experience anxiety, particularly in social or novel situations, but a separate diagnosis is only warranted if the level of anxiety has significant negative impact on the individual's daily functioning (White, Oswald, Ollendick, & Scahill, 2009) and the symptoms are not better explained by the ASD diagnosis (e.g., pacing *might* be the result of ASD if it has been a long-standing symptom). The *DSM-5* suggests that the diagnosis of social anxiety disorder not be made in conjunction with an ASD (APA, 2013). However, recent exploration has started to create a clearer distinction between these two disorders (Social Anxiety Institute, 2007). From this, a short checklist of social anxiety symptoms that may assist in differentiating social anxiety from ASD in a clinical setting has been created (Stoddart, 2010). The Multidimensional Anxiety Questionnaire is an instrument that is used to measure anxiety but has limited evidence with ASD in general and even less with adult with ASD (Reynolds, 1999). Because measures of anxiety in adults with ASD may not always be readily available, clinicians should make concerted efforts to complete observations of the individual's anxious behavior, such as changes in repetitive behaviors, sleep disturbance, and/or avoidance behaviors (King, Fay, Turcotte, Wheildon, & Preston, 2002). Sleep disturbance is of particular note, as it could be a common symptom of both anxiety and depression. Encouraging individuals with ASD, or their caregivers, to complete a regular sleep diary or a brief sleep questionnaire (e.g., the Athens Insomnia Scale; Soldatos, Dikeos, & Paparrigopoulos, 2000) may be warranted to assist in making a differential diagnosis between an anxiety or depressive disorder.

Depression

Common symptoms of depression, such as sleep disturbance, abnormal eating habits, apathy, and social withdrawal, also are quite common in individuals with ASD (Stewart, Barnard, Pearson, Hasan, & O'Brien, 2006). Common measures of depression, such as the BDI-2nd edition (BDI-II; Beck, Steer, & Brown, 1996) and the Hamilton Depression Inventory (HDI; Reynolds & Kobak, 1995), may provide useful information but should be interpreted with caution and as only a piece of the diagnostic puzzle because they have not been standardized with ASD. Research investigating depression in adolescents with Asperger's syndrome using the original version of the BDI-II indicated adolescents with Asperger's syndrome had elevated scores on the social comparison items, and interventions addressing depression in this population should focus on these traits (Hedley & Young, 2006). However, "sense of social self in comparison to others" could be different in the Asperger's population without being a sign of depression (Mazzone et al., 2012). Inferring mental states from their own behaviors may also be problematic, given perspective-taking is absent or limited in many individuals with ASD.

One study using the MMPI-2 with adults with high-functioning autism found profiles that were marked for significant differences from control participants in social isolation, depressed

mood, interpersonal difficulties, and coping deficits. This could be the beginning of developing a prototypic profile for the MMPI-2 with this population, but additional exploration is required (Ozonoff et al., 2005). Withdrawal and interpersonal impairment are key features of depression in neurotypical adults; however, adults with ASD describe feelings of isolation, loneliness, alienation, and depression secondary to difficulties with initiation and maintenance of conversations and social relationships (Causton-Theoharis, Ashby, & Cosier, 2009; Müller, Schuler, & Yates, 2008). Thus, using a screening tool such as the BDI-II or the HDI would be a good place for the clinician to start by looking for endorsed items specifically related to depressive symptoms that are above and beyond those related to an ASD diagnosis alone. For instance, daily report of subjective loneliness or sadness would be one symptom that is not commonly reported by adolescents or adults with ASD alone. In addition, clinicians will want to follow up with clients whose MMPI-2 content scales, such as anxiety, obsessiveness, and social discomfort suggest a problem that may reach clinical levels.

Schizophrenia

The ADOS-II Module 4 was designed to assess symptoms of ASD in adolescents and adults with fluent speech (Lord et al., 2000). The ADOS-II Module 4 has good psychometric properties (i.e., criterion-related validity) when used with an adult population with high functioning autism, schizophrenia, or no diagnosis (Bastiaansen et al., 2011). The negative symptoms of schizophrenia were found to overlap with symptoms of autism, making a differential diagnosis difficult in some cases; however, adults with ASD used less reciprocal communication, used more stereotypical language, had poorer rapport, and had fewer qualitative social responses than did adults with schizophrenia. Lord et al. (2000) suggested that some core social items (e.g., lack of directed facial expressions and shared enjoyment) and stereotyped language may be useful in determining a differential diagnosis.

Problem Behaviors

The Autism Spectrum Disorders-Behavior Problems for Adults is the first behavioral screening tool specifically designed to assess adults with ASD for problem behavior, such as aggression, self-injury, and stereotypes, which demonstrates good reliability and validity (Matson & Rivet, 2007). The Autism Spectrum Disorders-Behavior Problems for Adults should only be used as part of a comprehensive evaluation of psychiatric comorbidity in adults. Challenging behaviors in adults with ASD interfere with educational, vocational, and training opportunities and thus require accurate assessment to be able to plan for appropriate interventions (Matson & Rivet, 2008). Although evaluation of aggression and self-injury may not prove useful in making a differential diagnosis, it is critical in making appropriate recommendations. A functional analysis is the gold standard in identifying the function (or purpose) of the problem behavior because it is the only technique that can demonstrate a causal relationship between environmental conditions and the problem behavior (Mueller, Nkosi, & Hine, 2011). The functional analysis is distinct from the descriptive and narrative approaches used in a functional behavioral assessment (which only provides correlational data). At the conclusion of a functional analysis, the clinician typically knows whether the behavior occurs because the client accesses tangible items or activities, social attention, escape from aversive conditions, or automatic reinforcement as a result of demonstrating the problem behavior. Only a highly trained behavior analyst or behavioral psychologist should conduct this form of assessment because it places both the client and the clinician at risk, so additional consultation may be required in some cases.

RECOMMENDATIONS FOR CLINICIANS

The following approaches are suggested to facilitate the assessment of adolescents and adults with ASDs. When conducting intakes, clinicians should request releases from parents or clients to obtain medical records, psychological reports, treatment notes, and educational records after carefully reviewing the need for acquiring information from outside sources. Although this process may result in voluminous information, it is only through a review of records and reports that the progression of behavior or symptoms presented by individuals with ASDs at the time of intake can be fully understood. By becoming familiar with the client's history, the clinician can crosscheck the accuracy of the information being provided by the parents or the individual being evaluated. However, symptom differences reported by different sources should not be automatically interpreted as representing inaccuracies. For example, a teacher and a parent might report significantly different symptoms because the unique environmental conditions evoke different levels of symptomology. If prior psychological or educational evaluations have been conducted, the information can serve as baseline data, allowing comparisons with current assessment data; however, consideration should be given to the environmental conditions associated with these data. For example, symptom presentation may differ depending on the informant, the task demands in a given setting, and the people present in a given environment. Reviewing treatment notes and medical records might also provide clues regarding the effectiveness of prior psychological and medical treatments. Timelines might be necessary to establish the onset of symptoms or significant changes in behavior, which could assist in making a differential diagnosis or determination of comorbidity.

If background data are limited or difficult to obtain, it might be helpful to conduct the evaluation over a period of several weeks to increase opportunities to observe symptom presentation. In some cases, recommending psychological or behavior therapy and working directly with the providers for three to six months so they can monitor specific psychiatric symptoms could prove helpful when making a differential diagnosis. For example, the school psychologist providing counseling with adolescents or adults with ASD could explore symptoms of depression during each counseling session with the goal of developing a baseline, so intensity of the depressive symptoms could be continually assessed.

When measures are used that do not include individuals with ASD in the standardization sample, the results should be interpreted with caution but should not be ignored altogether. Personality profiles may look strange or result in a misdiagnosis if used without discretion. But these instruments may be especially useful in facilitating a discussion of symptoms in conjunction with a review of the variability of symptom presentation within the general population (e.g., one person may overeat and another person may not eat enough when depressive symptoms are present). Adolescents and adults with ASD may feel alone in their experience and may not understand their symptoms as within or outside normal limits due to deficits in perspective-taking. Items on assessment tools can be used to guide a discussion that not only helps to make a critical differential diagnosis but also begins the therapeutic process. Thus, clinicians should follow up with the individual being assessed on any critical items endorsed on personality and other self-report measures to clarify their interpretation of the items. Clinicians must secure the best available information from multiple sources using multiple methods before making a difficult differential diagnosis or a determination of comorbidity.

In summary, the assessment of comorbid conditions among adolescents and adults can be quite challenging. The clinician must consider several factors when developing an evaluation plan. Starting with a highly defined referral question, obtaining an in-depth developmental and medical history, and having a good understanding of current functioning and prior treatments can assist the clinician in this process. The biggest challenge will be identifying and incorporating instruments that have been specifically developed for use with adolescents and adults with ASDs as part of an evaluation.

Clinicians may need to adapt, or interpret with caution, instruments created for use with other populations or disorders. Nonetheless, these instruments can provide a roadmap for the clinician, as well as advance the knowledge of formal evaluation of adolescents and adults with ASD in the future.

It also is important to note that many of the current instruments for diagnosis of an ASD were designed based on the *DSM-IV* diagnostic criteria and as a result may not fully align with the *DSM-5* ASD diagnostic criteria. Therefore, clinicians should be careful, even with current instruments designed for use in assessing adolescents and adults with ASDs, when interpreting results and making diagnostic decisions. Like any other diagnostic evaluation, an appropriate diagnosis for adolescents and adults with ASD is based on sound clinical judgment resulting from a well-constructed integration of comprehensive sources of the best available information.

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