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ASD and Psychosis in Young People: Diagnostic Challenges and Clinical Implications

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Abstract

The clinical intersection of autism spectrum disorder (ASD) and psychosis in young people constitutes one of the most complex domains in modern psychiatry. This narrative-based review aims to delineate the historical background and diagnostic boundaries between these two conditions, particularly given the rising prevalence of ASD and the frequent occurrence of diagnostic overshadowing. By examining the nuanced phenomenological differences—specifically the distinction between autistic "self-talk" and true auditory hallucinations—this paper identifies key differentiators in social communication, reality testing, and functional trajectories. The review concludes that a neuro-affirming, stepwise clinical formulation is essential for reducing diagnostic errors. This approach informs earlier, individualized management strategies, including adapted psychological therapies and cautious pharmacological interventions, to better serve neurodivergent youth in mental health settings.

Keywords

ASD, Psychosis, Auditory Hallucinations

1. Background and Historical Context

Autism Spectrum Disorder (ASD) is an increasingly prevalent phenomenon, with diagnosed rates rising in the population every decade [1]. ASD manifests in various forms, but is generally characterized by social communication difficulties [2], and variations in sensory processing; this can be hyper-sensitivity or hypo-sensitivity to certain stimuli [3]. In addition, individuals with ASD can show an intense focus or interest on a specific topic or topics, an inclination towards routine and consistency, and difficulty coping with change [4].

In psychiatry, the definition of ASD has undergone numerous revisions over the past four decades, with incidence rates shifting from being considered unusual

in the 1990s to reasonably prevalent now. Over the past thirty years, estimates of ASD prevalence have significantly changed, from in 2,500 in the 1990s to about 1 in 36 in current surveillance studies [1]. These modifications are often considered to be evidence of advancing diagnostic methodologies and increased understanding rather than an increase in biological prevalence. Despite a rapid increase in diagnoses, a significant group of adults and youth, referred to as the "lost generation", exhibit symptoms of ASD and remain undiagnosed [5].

In clinical practice, it is not uncommon for clinicians to encounter young people with ASD who report self-talk, inner discussions, or even sensory experiences that are likely to be misinterpreted as psychotic experiences (PEs) or auditory hallucinations, especially if reviewed outside the specialized clinical setting [6]. Auditory hallucinations are defined as unusual experiences where the patient hears sounds, commonly voices, without the presence of any external stimuli [7]. Auditory hallucinations can be a symptom of a serious mental illness, such as schizophrenia, but may also occur due to a neurological disorder or drug use; however, they are not a core diagnostic feature of ASD but may occur as a comorbidity or via other mechanisms [7] [8]. Some modern psychological theories suggest that auditory hallucinations can arise from difficulties in distinguishing between inner talk and external voices, leading to inner verbal thoughts being misinterpreted as coming from outer space as opposed to the inner space [9].

Historically, ASD and schizophrenia were thought to be closely related and were conceptualized as a form of childhood schizophrenia. The term ASD was first coined by Professor Bleuler in 1911 to describe some of the negative symptoms of schizophrenia observed in adult patients [10]. The DSM-III was the first diagnostic manual to clearly separate ASD from schizophrenia, recognizing it as a distinct neurodevelopmental condition as opposed to a psychotic disorder [11]. Despite this separation, one can understand why it can be difficult for clinicians to easily differentiate between ASD and the negative symptoms of schizophrenia, especially when examined without consideration of the developmental history. At a superficial level, reduced social interaction, minimal speech, restrictive affect, and lack of reciprocity can look similar in the two conditions [12]. It should be pointed out that in schizophrenia, these difficulties are viewed as negative symptoms and are thought to be acquired, and represent a decline in functioning, whereas in ASD, these symptoms are typically observed from an early age, and are indicative of differences in social communication and emotional expression [12].

At this stage of the discussion, it is important to make the distinction between several closely related terminologies that describe different phenomena within the psychosis spectrum. The PEs refer to subclinical, often transient, perceptual abnormalities or delusional ideations that do not necessarily meet the threshold for a psychiatric diagnosis [13]. In contrast, a Psychotic Disorder (e.g., Schizophrenia) involves persistent symptoms accompanied by a significant decline in global functioning and loss of reality testing [14]. Furthermore, Attenuated Psychosis Syndrome (APS) and Clinical High-Risk (CHR) terminology are employed to describe individuals—including those with ASD—who exhibit subthreshold psy-

chotic symptoms that may signify a heightened vulnerability to future transition into a full psychotic disorder, though such transition is not inevitable [14].

Methods

This paper is a narrative review synthesized from a comprehensive literature search conducted between June 2025 and January 2026. Databases including PubMed, PsycINFO, and Google Scholar were searched using keywords: "Autism Spectrum Disorder," "Psychosis," "Clinical High Risk," "Differential Diagnosis," and "Auditory Hallucinations." Studies were selected based on their relevance to adolescent and young adult populations. This review employs a narrative synthesis approach to integrate clinical phenomenology with neurobiological findings.

2. Psychosis in ASD: Prevalence and Presentation

Epidemiological evidence indicates that the prevalence of PEs is more common in individuals with ASD when compared to the general population [15]. A meta-analytic study suggested that the prevalence of PEs—when loosely defined—in individuals with ASD is estimated to be around 24% [15]. This figure should not be taken at face value, though; the author highlights some limitations, including the broad definition of PEs, the fact that different assessment measures were used across the studies, and many of these studies used self-reported questionnaires as opposed to clinical interviews. The author also reported that, on further analysis, it was discovered that it was the delusion-like experiences that drove up the prevalence figure reported in the study [15].

In addition to the established challenges in obtaining ASD assessments, numerous individuals may exhibit characteristics of ASD but do not meet the diagnostic criteria for an ASD diagnosis [16]. The term "ASD phenotype" refers to individuals exhibiting subclinical variations in social functioning, communication, and restricted interests and activities, usually suggesting common genetic markers associated with ASD [16] [17]. The challenges highlighted in this group are generally milder, and they do not meet the "diagnostic cut-off" for ASD as currently defined; consequently, these characteristics can be overlooked and may not be considered during the diagnosis or when formulating a treatment plan [18].

Young people who display subclinical autistic traits require mental health evaluation because these traits affect their understanding of social interactions, their ability to manage stress, and their capacity to express discomfort [1]. The combination of changes in social cognition, sensory processing difficulties, and rigid thinking patterns makes individuals more vulnerable to anxiety, social isolation, and unusual sensory experiences when they are exposed to high levels of developmental or environmental stress. The patterns observed in these cases may share similarities with psychotic symptoms, highlighting the importance of a careful assessment of developmental history [1] [19].

The diagnostic process becomes more complex during adolescence and early adulthood, when individuals are more likely to seek mental health services as psy-

chiatric symptoms begin to emerge [6]. At this stage, ASD-related features may present as subtle autistic traits or early psychotic symptoms, which can lead to delayed recognition of developmental needs and inappropriate treatment approaches. A clearer understanding of how ASD influences the emergence of psychosis across developmental stages can support earlier identification and more appropriate treatment planning [6] [20].

Kiyono et al (2020) also cautioned against utilizing the elevated pooled prevalence estimate (24%) as evidence for the significant incidence of PEs in individuals with ASD [15]. This aligns with the concerns outlined in the other literature, which indicates the potential for misunderstanding of ASD presentation in clinical settings [6] [8] [12]. Some children with ASD may describe their internal thoughts or self-talk in an unusual or excessively literal manner, and they are also more likely to respond to inquiries in a way that clinicians find unconventional. If clinicians are not careful, and if the interview is conducted in a way that does not consider the child's neurodevelopmental profile, one can understand how these symptoms, difficulties, or behaviours may be misinterpreted or misidentified as psychotic symptoms [6] [8].

3. ASD and Psychosis: A Stepwise Clinical Workflow for Differentiation

To ensure an actionable and reproducible assessment, the differentiation between ASD traits and psychotic phenomena can be structured into the following clinical workflow:

Step 1: Establish the Developmental Baseline

A detailed clinical history is of utmost importance. Clinicians must document a long-standing history of self-talk, obsessing over certain topics, reduced speech, and limited reciprocity, which are more indicative of ASD [6] [12]. This baseline helps distinguish lifelong neurodevelopmental patterns from new-onset symptoms.

Step 2: Identify Functional Change and Decline

The mere presence of self-talk is not indicative of psychosis. Clinicians should look for a clear and significant decline from previous functioning over a period of time [6] [12]. While ASD traits are typically stable, the development of false, fixed beliefs held with delusional intensity or a sharp drop in daily living skills warrants a full assessment for psychotic disorders [6] [12].

Step 3: Analyze the Phenomenology of Attribution and Insight

Psychological theories suggest that hallucinations arise when thoughts from the inner space are mistakenly attributed to an external source due to impairments in self-monitoring and source attribution [21] [22].

- **In ASD:** Individuals often use self-talk during stressful situations or cognitive overload to maintain control [12] [21] [23]. They retain insight, recognizing these thoughts as originating from within the self [6] [12].
- **In Psychosis:** Patients report voices as coming from "outer space," which is accompanied by altered reality testing [6] [22].

Step 4: Conduct a Detailed Mental State Examination (MSE)

A paramount step is the exploration of the presence of formal thought disorder, bizarre or disorganized behaviors, and the careful exploration of perceptual experiences to identify attribution errors [6] [22]. This step focuses on the qualitative changes in how the individual perceives and interacts with their internal and external world.

Step 5: Integrate Biological and Genetic Context

Clinicians should consider underlying neurobiological substrates, such as overlapping copy number variant (CNV) genes (e.g., 22q11.2 deletion syndrome) and disruptions in the "social brain" network (amygdala and prefrontal cortex), which may explain shared social cognitive deficits across both spectrums [24] [25].

4. Differential Diagnosis of Unusual Experiences in ASD

Whenever young persons with ASD complain of voices or perceptual distortions, other non-psychotic reasons should be considered before reaching the conclusion that there is a major primary psychotic diathesis. These events are common in the presence of complicated comorbidities or physiological conditions [26]. A history of trauma, for example, may correlate with dissociative phenomena in which voices generated within the self-represent fragmented self-states rather than full-blown hallucinations [27]. Likewise, in severe anxiety or obsessive–compulsive disorder, intrusive thoughts can be so compelling and distressing that they are referred to as "voices" despite being internal and ego-dystonic [28]. Sleep disruption—very common in ASD—may lead to hypnagogic or hypnopompic hallucinations, and some medications, such as stimulant treatment for ADHD, can cause unusual sensory experiences [29]. Peripheral neurological diseases, albeit to a lesser extent than CNS disorders, can manifest with aura-like perceptual disturbances that mimic psychotic symptoms [30]. Furthermore, use of substances other than alcohol (e.g., cannabis or stimulants) may result in transient psychotic-like states that remit when the substance has been cleared from the body [31].

Clinical Screening Questions

To help differentiate these experiences from psychosis, clinicians can employ the following concrete questions during the assessment [32] [33]:

1) Source and Ownership: "When you hear this voice/thought, does it feel like it is coming from inside your own head (like a very loud thought) or from somewhere outside in the room?" (Differentiates inner speech/intrusions from externalized hallucinations).

2) Context and Trigger: "Does this experience usually happen when you are very stressed, about to fall asleep, or after taking a specific medication?" (Helps identify anxiety-driven or physiological triggers).

3) Reality Testing: "What do you think is causing this experience? Does it feel like something your brain is doing, or does it feel like a real person or force is talking to you?" (Assesses insight and degree of delusional conviction).

5. Challenges and Uncertainty in Assessing Psychosis in ASD

In clinical practice, diagnostic ambiguity typically arises when young people with ASD present in crisis; autistic shutdowns are important to highlight here [34]. During periods of increased distress, sensory overload, or heightened anxiety, an autistic child may "shut down" and may present with reduced mobility, minimal speech, reduced oral intake, and may appear to be troubled or extremely preoccupied or consumed by worries [35] [36]. This presentation may resemble the negative symptoms of psychosis, and may look alarming, but they are typically a product of an acute stress response rather than a primary psychotic disorder [6] [12] [35].

Reduced interoceptive awareness means that young people with ASD may struggle to accurately identify, label or describe some internal bodily cues, such as hunger, tension or states of emotional arousal [37] [38]. In addition, difficulties in identifying and describing one's own emotions, which is referred to as alexithymia, further complicate the problem. This means that internal experiences like thoughts and emotions may be poorly differentiated and may therefore be interpreted as intrusive or described in concrete or externalised terms [37] [38]. In busy clinical settings, or if the clinician/ assessor is not used to the examination of individuals with ASD, these descriptions may be considered as symptoms or features of a psychotic disorder, and may even be treated as such.

Another issue that may add to the diagnostic uncertainty is the lack of a clear developmental history and lack of clarity about the baseline functioning [6] [12] [39]. This is true especially in individuals presenting in crisis with limited or even inconsistent information obtained from available informants. The lack of baseline data makes it challenging for clinicians to determine whether the reported or observed features are an extension of a previously diagnosed ASD disorder or a recent deterioration in functioning suggestive of psychosis [39].

In addition to these challenges, many widely used tools in the screening of psychosis and other mental health disorders have not been validated in the autistic population, and may perform poorly or inconsistently. This is attributed to differences in communication, social cognition, and differences in interpretation of questions [40]. There is no large, ASD-specific validation of some of the most commonly used psychosis screening tools, such as the Structured Interview for Prodromal Syndromes (SIPS) and the Comprehensive Assessment of At-Risk Mental States (CAARMS), and concerns about false positive results due to symptoms overlap have been raised in the literature too [41] [42].

6. Typical Presenting Features of Psychotic Symptoms in Young People With ASD

When a young person with ASD develops psychosis, the presenting symptoms tend to have subtle differences when compared to psychosis in neurotypical peers [8]. However, there is no significant difference with regard to the age of onset; psychosis typically manifests during adolescence and early adulthood in both autistic and neurotypical individuals. In neurotypical children, perceptual abnor-

malities (e.g., hallucinations) are reported more commonly than delusions, especially in early or transient presentations [43]. The literature suggests that the opposite is true for young people with ASD; they are more likely to report delusions than hallucinations [15]. These delusional beliefs can be concrete and systematised beliefs that may reflect the young person's pre-existing circumscribed interests or can also be about topics that the young person has been worrying about for a long time. For example, the delusional beliefs of young people with ASD may have centred on themes or subjects of intense interest, perceived threats associated with disruptions in routine or sensory sensitivities, or inflexible interpretations of social interactions [6] [12].

Studies indicate that persons with ASD have an increased risk of concurrent psychotic symptoms, while those with psychotic disorders may display elevated autistic features [44]. The presentation of psychotic symptoms in ASD can differ from that observed in the general population, often emphasizing emotional symptoms, exhibiting a more rapid onset, and displaying a sudden trajectory [45].

Research has shown that ASD and psychotic disorders share several observable behavioural characteristics, although their neurocognitive patterns show important differences. Both conditions are associated with social cognitive difficulties, but their underlying causes appear to differ [46]. People with ASD tend to show persistent Theory of Mind difficulties, as neurodevelopmental differences affect their ability to interpret social cues. In contrast, people with psychosis show social cognition deficits that represent a deviation from a previously typical developmental trajectory, often accompanied by abnormal attributional styles and increased threat perception. Executive functioning profiles also differ between ASD and psychosis. Individuals with ASD often demonstrate rigid patterns of thinking and a focus on detail, whereas psychosis is associated with broader cognitive disturbance and variable or unpredictable attention [47] [48]. Considering these characteristics can improve the accuracy of clinical formulation when symptoms overlap [49].

7. Diagnostic Challenges: Overshadowing and Misdiagnosis

Although the current diagnostic criteria for ASD and psychosis show fewer similarities, the practical distinction between these conditions can be challenging [6] [50]. Complications may arise when the exhibited symptoms indicate multiple conditions, including ASD [50]. Doctors may miss signs of ASD because they look like signs of psychosis [51]. This is because ASD features and psychosis often happen together and show up in similar ways [1].

To assist in clinical decision-making, **Table 1** provides a comparative overview of the shared clinical features between ASD and psychosis. It highlights how similar presentations, such as social withdrawal or unusual speech, can manifest differently across both conditions, offering key diagnostic clues to help clinicians distinguish between lifelong neurodevelopmental traits and the acute onset of psychotic phenomena.

Table 1. Clinical features that may overlap between ASD and psychosis, and key differentiating clues.

Clinical Feature	Possible Presentation in ASD	Possible Presentation in Psychosis	Key Differentiating Considerations
Social withdrawal [52]	Lifelong pattern linked to social communication differences and sensory overwhelm	Recent decline from previous level of functioning due to paranoia, negative symptoms, or depression	Developmental history and timing of change are crucial
Reduced eye contact/flat affect [53]	Baseline social-communication style	Negative symptoms or affective blunting	Was this present since early childhood?
Unusual speech patterns [54]	Pedantic, literal, or idiosyncratic language style	Disorganized speech, derailment, or thought disorder	Look for formal thought disorder vs consistent communication style
Intense interests/preoccupations [6]	Circumscribed, often pleasurable, and identity-consistent interests	Delusional preoccupations with impaired reality testing	Degree of conviction, distress, and impact on functioning
Sensory experiences [55]	Sensory hypersensitivity or misinterpretation (e.g., discomfort with noise, lights)	Hallucinations (perceived voices, visions without external stimulus)	External attribution and loss of reality testing suggest psychosis
Suspiciousness [56]	Social confusion or past experiences of bullying leading to mistrust	Persecutory delusions with fixed false beliefs	Flexibility of belief and response to reassurance
Repetitive behaviors [57]	Self-regulation, routine, predictability	Possible response to internal stimuli or disorganization	Developmental persistence vs new onset

This table was created by the author to summarise findings from the existing literature. All studies referenced are cited within the table.

A substantial diagnostic challenge exists in the "shadowing" effect, which complicates the differentiation between psychotic features, such as delusional ideation or disorganized speech, and fundamental ASD symptoms, particularly Restricted and Repetitive Behaviours (RRBs) [58]. Recent studies reveal that individuals with ASD/APS frequently exhibit elevated RRB scores, suggesting that the severity of these neurodevelopmental characteristics may serve as a precursor to elevated psychotic risk [59].

There is also evidence to suggest that some individuals originally diagnosed with a psychotic illness may be better understood through a lens of ASD [19] [51] [60]. In re-evaluating cases of young people diagnosed with psychosis, it was discovered that the clients' presentations might be more comprehensively understood via an understanding of their ASD symptoms, including repetitive behaviours and preoccupations [60]. A qualitative study published in 2019 revealed that individuals with ASD considered themselves as having been misdiagnosed with mental disorders, attributing this to a deficiency in awareness about ASD among mental health professionals [51].

8. Clinical Implications

To summarise, the literature highlights the importance of a detailed, developmentally informed clinical assessment in attempting to diagnose psychosis in young people with ASD [42]. Clinicians should not look at the current presentation in isolation from the baseline functioning and collateral information from multiple sources (parents, teachers, other services involved in the care of the young person, etc) is paramount in differentiating between longstanding difficulties in context of ASD and new onset decline in level of functioning resulting from psychosis [6] [12] [39].

In youth and adult mental health environments, it is uncommon for clinicians to possess knowledge in developmental disorders such as ASD [61]. Numerous clinicians experience difficulties in distinguishing the symptoms of ASD from other mental health disorders [51] and may neglect to consider ASD characteristics when designing treatment strategies for clients [62].

It is challenging to determine the exact number of individuals who may remain undiagnosed or exhibit subclinical characteristics of ASD, as clinicians responsible for compiling statistical data regarding their clients' clinical diagnoses may be less inclined to recognize a lifelong neurodevelopmental disorder that they have not evaluated, and more susceptible to identify cross-sectionally assessed conditions such as anxiety, depression, psychosis, and bipolar disorder [63] [64].

A practical clinical methodology may encompass simultaneous evaluation of developmental history and present symptoms [63]. The main steps are: 1) making a detailed early developmental profile, 2) figuring out if current problems are a change from baseline functioning, 3) testing reality and the level of conviction that comes with strange beliefs or perceptions, and 4) putting together information from family and school settings. Instead of seeing ASD and psychosis as two separate things, a formulation-based approach that lets them happen at the same time can help with staged, personalized intervention planning.

If comorbid ASD and a psychotic disorder are diagnosed, clinical treatment should be adjusted to the person's neurodivergent profile.

- **Referral to EIP services:** Young people should be referred to specialist Early Intervention in Psychosis (EIP) services at the point that a sustained functional decline becomes evident or there is a clear transition into a psychotic state. Yet it is critical that EIP services closely liaise with neurodevelopmental services in order to ensure young people's developmental needs around their sensory and social world do not get lost during this psychiatric crisis intervention [65].
- **Modification of Psychological Therapies:** Traditional psychological treatments, such as Cognitive Behavioural Therapy for Psychosis (CBTp), need to be adapted for autistic patients. This includes using more visual supports, more concrete communication, less reliance on metaphor, and greater attention to sensory sensitivities. Therapists should additionally emphasize "Theory of Mind" bridges that may allow individuals to negotiate social misconceptions that lead to paranoid ideation [66].

- **Pharmacological considerations:** When antipsychotic drugs are prescribed, a clinician must weigh therapeutic benefit against additional susceptibility to side effects. Patients with ASD tend to be more sensitive to extrapyramidal side effects (EPSE), weight gain, and sedation. A "start low, go slow" strategy should be adopted, and metabolic and neurological profiles should be regularly monitored [67].

9. Limitations of the Review

There are multiple limitations to this review despite its clinical implications. First, the majority of the studies described in this manuscript utilized cross-sectional assessments, limiting understanding of the longitudinal transition from subclinical ASD traits to overt psychotic conversion. Second, no validated clinical screening instruments have been developed specifically for use with autistic individuals, which could potentially introduce bias into prevalence estimates and diagnostic accuracy. Third, this is a narrative synthesis of the literature, so there may be some selection bias, and further systematic reviews or meta-analyses will need to be conducted on specific biomarkers and treatment outcomes for this group of patients.

10. Conclusion

The combination of ASD and psychosis in young people constitutes a complicated clinical boundary. Despite the ongoing issue of diagnostic overshadowing, a shift towards neuro-affirming formulation and integrated assessment can facilitate the connection between developmental and psychiatric treatments. The following investigations must focus on longitudinal studies to identify specific biomarkers and clinical predictors of psychotic conversion within the ASD community. Ultimately, improving our understanding of the invisible links between autistic and psychotic events is essential for providing developmentally informed, individualized, and ethically sound care.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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