

The Need for Research on Intellectual Disabilities and Severe Psychiatric Disorders in Children and Adolescents

James B. McCarthy^{1*} and Baptiste Barbot²

¹Department of Psychology, Pace University, New York, USA

²Pace University, New York, Yale University Child Study Center, New Haven, USA

Abstract

The co-existence of intellectual disability (ID) and psychiatric disorders is fairly common throughout the lifespan, but there is only limited research on children, adolescents, and young adults with ID and co-occurring, severe psychiatric disorders. Children and adolescents with ID or very low Full Scale IQs are often excluded from studies of psychopathology, including many that investigate Schizophrenia, Psychosis Not Otherwise Specified, other psychotic disorders, Posttraumatic Stress Disorder, Bipolar Disorder, Major Depressive Disorder, and other mood disorders. As a result, the co-occurrence of ID and many disorders in childhood and adolescence is not well understood. In spite of current knowledge about the impact of both childhood maltreatment and psychotic disorders on cognitive development, there are also relatively few studies that explore specific cognitive deficits in youth with ID and psychosis, and few that investigate trauma variables in youth with ID and severe psychiatric disorders. At present, there is similarly little research on the implementation of evidenced supported treatment with dually diagnosed children and adolescents with ID who experience severe psychopathology. This article outlines the importance of further research on the interaction between ID, cognitive impairments, psychotic disorders, mood disorders, and PTSD as a necessary condition for informing and guiding the treatment of children, adolescents, and young adults with co-occurring ID and severe psychiatric disorders.

Keywords: Intellectual disability; Dual diagnosis; Psychotic disorders; Mood disorders; Cognitive deficits; Trauma-related symptoms

Introduction

Investigators frequently exclude individuals with intellectual disability (ID) from studies of severe psychopathology in order to focus on homogeneous populations and to avoid the risk that the inclusion of dually diagnosed patients will lead to diagnostic uncertainty. Studies of psychiatric disorders in adults with ID suggest that the overall incidence of psychopathology is between 14% [1] and 41% [2]. While investigations of severe psychiatric disorders in children and adolescents with ID are scarce, they estimate the rate of comorbid disorders as between 30% and 50% [3]. In fact, epidemiological studies indicate that the overall prevalence rates of psychiatric disorders in youth with ID are higher than those in the general population with similarly high incidence rates for children and adolescents with IQs equal to or lower than 50 [4]. Meta-analyses also demonstrate that individuals with ID are at least three times more likely to experience psychosis than those with higher cognitive functioning [5]. However, the prevalence rates of Schizophrenia Spectrum Disorder (SC), Bipolar Disorder (BD), Posttraumatic Stress Disorder (PTSD) and Disruptive Mood Dysregulation Disorder (DMDD) in children and adolescents with ID all seem uncertain. There is more evidence that Major Depressive Disorder (MDD) is relatively prevalent in youth with ID even though depression can be difficult to diagnose in individuals with a limited ability to describe subjective, internal mental states [6].

Among adults with ID, comorbid psychosis and low IQs are associated with poor global functioning [7]. For youth aged 5 to 15, those with ID have higher rates of anxiety disorders (AD), Conduct Disorder (CD), and Pervasive Developmental Disorder (PDD) than comparison groups [8]. Differentiating PDD and ID from psychosis can present diagnostic challenges because the under-diagnosis and over-diagnosis of co-morbid psychopathology need to be avoided in the assessment of individuals with ID [9]. The limited extant research

on specific cognitive deficits associated with ID and severe disorders suggests that individuals with ID have neuropsychological impairments, such as in verbal memory, communication skills, and executive functioning [10]. Our twofold goal is to very briefly summarize current knowledge about ID, severe disorders, and cognition in children and youth, and to emphasize the need for research on co-occurring ID and psychopathology that emphasizes cognitive deficits and trauma variables.

The Need for Research on ID and Cognitive Deficits in Children and Adolescents

Even though low IQs are inevitably linked with cognitive deficits, there is considerable variability among individuals with and without psychiatric disorders. Children with ID generally have worse phonological functioning, sensory motor skills and working memory than youth with higher IQs [11]. Heterogeneous cognitive deficits are also commonplace in adolescents with ID, including verbal memory, working memory, and executive functioning impairments [12]. Deficits in verbal memory, comprehension, and executive functioning are similarly common in adults with ID [13]. Among adults with SC, ID is associated with marked problems in executive functioning as well as cognitive inhibition deficits [14]. Children and adolescents with psychotic disorders often experiences cognitive deterioration in

*Corresponding author: Department of Psychology, Pace University, New York, USA, Tel: +1-212-346-1796; E-mail: jmccarthy@pace.edu

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concert with episodes of psychosis, particularly youth with SC, but it is less clear whether youth with ID decline in cognitive functioning in conjunction with psychotic episodes of mood disorders. In addition, although a minimum of 40% of adolescents with ID have at least one psychiatric disorder [15], the associations between ID, cognitive deficits, and psychotic disorders, MDD, BD, PTSD, and DMDD have rarely been examined empirically.

The Need for Research on ID, Cognitive Deficits, and Psychotic Disorders

Although there is considerable literature on the cognitive functioning of youth with SC, including associated patterns of thought disorder, neuropsychological deficits are infrequently examined in relation to co-occurring ID and SC. Individuals with SC generally have IQs that are about one-half of a standard deviation below the mean [16]. When youth with SC demonstrate neuropsychological impairments, such as in information processing, abstraction ability, attention, memory, and shifting sets, the deficits are often present from the first episode of psychosis [17], and include greater verbal memory and executive functioning deficits than in youth with affective disorders [18]. Biswas, Malhotra, Malhotra, and Gupta [19] reported that in contrast to adolescent-onset SC, childhood-onset SC is associated with worse attention, concentration, and memory, and weaknesses in intentional thinking. Adolescents with SC often have greater functional impairments and more compromised judgment than individuals with adult-onset SC, and the severity of their cognitive deficits is associated with a worse prognosis and more negative symptoms [4]. Longitudinal studies have demonstrated that children and adolescents with low IQs have a greater risk of developing SC than youth with higher cognitive functioning [19]. In addition, youth with Psychosis, Not Otherwise Specified (Psychosis, NOS) and ID seem to have a worse outcome than those with Psychosis, NOS without ID, and the combination of Psychosis, NOS and moderate to severe ID may lead to considerable functional impairment [7]. However, the potential impact of specific cognitive deficits has seldom been investigated in studies of youth with ID, and Psychosis, NOS, or distinct psychotic disorders.

The Need for Research on ID, Cognitive Deficits, and Mood Disorders

The prevalence of MDD and other mood disorders is high in adolescence, but there are only a few studies of cognition in co-occurring MDD and ID. Adolescents with ID seem to have a greater incidence of depression than adolescents with higher IQs. In fact, the prevalence rate of depression in youth with ID is approximately 20% [20]. Masi, Mucci, Favilla and Poli [20] found that a negative self-image and considerable concentration problems are common in depressed youth with ID, and the compromised concentration ability might be suggestive of attentional and working memory deficits. Studies of adolescents with BD have revealed common working memory [21] and processing speed deficits [22], but very few studies of BD have included youth with low IQs [23]. Adolescents with BD reportedly reveal worse attention, processing speed, and verbal abilities than youth without BD, but one study found that these impairments aren't significant in youth with ID [24]. Investigations of cognition in adolescents with BD and psychotic features have rarely examined the cognitive profiles of youth with co-occurring ID and BD, even though BD with psychotic feature seems to be fairly common and a more severe disorder than BD without psychotic symptoms [25]. Since mood disorders with psychotic features represent the most frequent psychotic disorder in children and

adolescents [26], the need for further research on ID, cognitive deficits and mood disorders is critical.

The Need for Research on ID, Cognitive Deficits, and PTSD

Childhood maltreatment significantly increases vulnerability for many psychiatric disorders and adversely impacts brain development in childhood and adolescence with alterations in white matter and gray matter volume, the amygdala and the hippocampus [27]. Physical abuse, emotional abuse, neglect, and sexual abuse all increase the risk of psychotic disorders [28], as well as SC [29], and MDD [30], and they contribute to compromised cognitive functioning in maltreated youth [31]. Physical abuse and neglect in childhood are associated with poor problem solving ability and attentional problems, and can also be associated with long-lasting cognitive consequences [32]. Studies of high risk children and adolescents likewise indicate that those who have been subject to maltreatment have worse executive functioning, visual memory and lower IQs than high risk youth who haven't been subject to abuse and neglect [33]. Maltreatment in childhood negatively impacts working memory, attention, and processing speed [34], and it can be associated with cognitive deficits independent of psychiatric disorders [32]. Furthermore, a history of neglect in combination with PTSD is associated with low IQ and academic achievement [35]. A review of studies on the cognitive correlates of neglect and abuse suggests that the length, severity, and timing of when the maltreatment occurred are key moderating variables since traumatic stress can impede brain development [36]. The potential relationships between childhood maltreatment, PTSD, and neurocognitive deficits thus need to be more thoroughly examined in youth with ID.

Conclusions

Patterns of cognitive deficits of children and adolescents with ID and co-occurring, severe psychiatric disorders require additional investigation. Further studies are necessary for a better understanding of the interaction between ID, cognitive impairments, psychotic disorders, and mood disorders in children and adolescents. Treatment planning for youth with ID and severe psychopathology should include awareness of cognitive deficits and trauma-related symptoms, as well as their influence on functional impairment. Studies of psychosocial supports, behavioral interventions, and cognitive behavioral approaches for youth with ID and psychiatric disorders also need to be expanded to include trauma-related variables in order to base treatment on strong empirical evidence.

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