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Review article

Screening for intellectual disability in persons with a substance abuse problem: Exploring the validity of the Hayes Ability Screening Index in a Dutch-speaking sample

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ABSTRACT

There is an increasing interest in screening instruments to detect intellectual disability (ID) in a quick and accurate way in mental health services as well as in the criminal justice system in order to provide appropriate support for people with undetected needs caused by ID. An instrument that has been proven to be useful in both settings is the Hayes Ability Screening Index (HASI). This study assessed the validity of the Dutch version of the HASI in persons with a substance abuse problem residing in mental health services, whether or not mandated to treatment by court order. The HASI was conducted along with the Wechsler Adult Intelligence Scale III as the criterion for validity to 90 participants. Additionally, the influence of psychiatric disorder and medication use on the HASI result was examined. A significant positive relationship was found between the two instruments, demonstrating convergent validity. Using a Receiver Operating Characteristic (ROC) curve analysis, the discriminative ability of the HASI with a cut-off score of 85 was found to be adequate, yielding in a good balance between sensitivity and specificity. The HASI was not distorted by the presence of the substance abuse problem or other psychiatric illnesses and medication did not influence the HASI scores in this study. These findings indicate that the HASI provides a time-efficient and resource-conscious way to detect ID in persons with a substance problem, thus addressing a critical need in mental health settings.

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1. Introduction

There is an increasing interest in the early identification of intellectual disability (ID) in persons who come in contact with the criminal justice system (CJS; e.g. Ford et al., 2008; Hayes, 2002; McKenzie, Michie, Murray, & Hales, 2012; Sondenaa, Rasmussen, Palmstierna, & Nottestad, 2008) and/or the mental health system (MHS; e.g. Sondenaa, Bjorgen, & Nottestad, 2007; Sondenaa, Nygard, Nottestad, & Linaker, 2011).

In criminal justice settings, some authors have suggested that intellectual disabilities might reduce the ability to cope with the demands of the CJS (Clare & Gudjonsson, 1993; Gudjonsson & Sigurdsson, 2003; Hayes, 2005; Jones, 2007). For example, clients with ID tend to be unaware of their legal rights, tend to over-estimate the power of police and other authority figures, and tend to be more compliant or suggestible, especially in relation to authority figures (e.g. Clare & Gudjonsson, 1993; Gudjonsson & Sigurdsson, 2003; Hayes, 2005; Jones, 2007). Therefore, it is of great importance to timely and accurately identify ID, so that appropriate interventions, protective measures and dispositions can be implemented at all stages of the criminal justice process (Hayes, 2005).

In mental health settings, the failure to systematically identify clients with ID might interfere with standard treatment protocols, which often do not systematically take into account the specific needs of individuals with ID. Early identification is important in order to provide appropriate support and treatment that takes into account clients' cognitive limitations. When the presence of ID is not recognized, the individual may wrongfully be considered as being uncooperative, behaviorally disordered, or psychological disturbed (Hayes, 2005, 2007). A misinterpretation of behavior or misdiagnosis, e.g. of a mental illness instead of ID, may lead to a placement in a unit which is inappropriate to meet the needs of the individual and will ultimately result in ineffective interventions (Hayes, 2005, 2007). More specifically, this appears to be critical in mainstream addiction services, where the appropriate resources to identify and treat this specific population are often lacking (Degenhardt, 2000; Lance & Longo, 1997; Lottman, 1993; McGillicuddy, 2006; Ruf, 1999; Slayter & Steenrod, 2009; Sturmey, Reyer, Lee, & Robek, 2003; Taggart, Huxley, & Baker, 2008; Tyas & Rush, 1991; VanderNagel, Kiewik, Buitelaar, & De Jong, 2011). It is acknowledged that compared to substance abusers without ID substance abusers with ID are less likely to receive treatment or to remain in treatment (Chapman & Wu, 2012). During treatment, cognitive impairments in persons with substance abuse problems contribute to poorer treatment outcomes, including decreased treatment retention and less abstinence (Copersino et al., 2009). Interestingly, research has shown a possible link between substance abuse and offending behavior in persons with ID, indicating that substance (ab)use in persons with ID may be a risk factor for involvement in the CJS (McGillivray & Moore, 2001; To, Neirynck, Vanderplasschen, Vanheule, & Vandevelde, 2014).

A routine screening or comprehensive assessment for intellectual disability is, however, not a standard procedure in the criminal justice and mental health systems, including addiction services. A diagnosis of 'intellectual disability' is defined by three aspects: (1) Significantly impaired intellectual functioning (i.e. an intelligence quotient of 70 or below), (2) Significantly impaired adaptive functioning, and (3) With onset before the age of 18 (American Association of Intellectual & Developmental Disabilities, 2010). Further, a diagnosis should be made by using valid and reliable assessments of intelligence (e.g. Wechsler Adult Intelligence Scale III) and adaptive functioning as well as taking the developmental history into account to determine if the disability was present before age 18. Such assessment of intellectual disability is often time-consuming, resource intensive and requires qualified personnel. Usually, referrals for full-scale diagnostic assessment generally only occur when intellectual difficulties are suspected, leading to an underestimation of the prevalence of intellectual disability in these settings (Hayes, 2007; Herrington, Hunter, & Harvey, 2005). Therefore, valid and reliable screening tools that provide an indication of intellectual disability should more globally be implemented in CJS and MHS. This might make professionals aware of possible ID, and assist in decision-making about further diagnostic assessment.

A screening tool that has been used in the criminal justice and mental health systems is the Hayes Ability Screening Index (HASI; Hayes, 2000). It is a brief instrument to screen for intellectual disability. The HASI can be administered by any trained staff in 5–10 min. The screening results in a score or index which, when compared with an age-appropriate cut-off score, suggests whether referral for further assessment is necessary or not. The HASI has been shown to be a valid, user-friendly and time-saving instrument for screening ID in the Australian criminal justice system (Hayes, 2002). The study of Hayes (2002) found significant relationships with large effect size between the HASI and the Kaufman Brief Intelligence Test (KBIT; $r = 0.627$; $p < 0.05$) and the Vineland Adaptive Behavior Scales (VABS; $r = 0.497$; $p < 0.01$), indicating convergent validity. The Receiver Operating Characteristic (ROC) curve analysis with a HASI cut off score of 85 showed a sensitivity of 82.4% for the KBIT, 71.2% for VABS and specificity of 71.6% for the KBIT and 71.2% for the VABS. However, in an adolescent offender sample