Ability to identify, explain and solve problems in everyday tasks: preliminary validation of a direct video measure of practical intelligence

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Abstract

Recent developments in the definitional literature on mental retardation emphasize the need to ground the concept of adaptive behavior in an expanded model of intelligence, which includes practical and social intelligence. Development of a direct measure of practical intelligence might increase the likelihood that an assessment of this domain would be included in the diagnostic process of mental retardation. The current paper reports on the preliminary exploration of the validity and utility of using a videotaped portrayal of everyday tasks, with built-in errors, as a measure of practical intelligence. A correlation of .79 was found between the practical intelligence video score and the Vineland domestic and community sub-domains score in 50 adults with mild and moderate mental retardation. This suggests that the instruments are essentially measuring the same domain of human competence. The unexplained variance may be attributed to the fact that the video measure is more directly measuring cognition.

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1. Introduction

The current definition of mental retardation (MR) requires significant limitations both in intellectual functioning and in adaptive behavior as expressed in conceptual, social and
practical adaptive skills (Luckasson et al., 2002). Recent developments in the definitional literature on MR have emphasized the need to ground the concept of adaptive behavior less in the realm of socio-emotional adjustment and more in an expanded model of intelligence (Widaman & McGrew, 1996). In this way, MR would be portrayed as an intellectual disability, characterized by relative deficiencies in various aspects of intelligence. In particular, two aspects of everyday (or non-academic) intelligence have been identified for inclusion in an expanded intelligence construct: (a) practical intelligence (understanding of physical objects and processes) and (b) social intelligence (understanding of people and interpersonal relationships) (Greenspan, Switzky, & Granfield, 1996).

Practical intelligence refers to the cognitive underpinning of everyday function. Preliminary research endeavors consisted mainly of anecdotal examples of specific tasks thought of as unique representations of practical intelligence (Carraher, Carraher, & Schliemann, 1985; Ceci & Liker, 1988; Lave, Murtaugh, & de la Roche, 1984). The most comprehensive body of data stems from the exploration of the role of practical intelligence in the successful manifestation of various advanced occupational pursuits (for review, see Sternberg, Forsythe et al., 2000; Sternberg, Nokes et al., 2000; Wagner, 2000), with the accumulating data suggesting that practical intelligence is psychologically distinct from academic intelligence (Sternberg, Forsythe et al., 2000; Sternberg, Nokes et al., 2000). However, none of the above mentioned studies were conducted among people with MR, and therefore, the relevance of both their measures and finding in the definition of MR is questionable at best. The development of a direct measure of practical intelligence for people with mental retardation is thus essential and should be based on a comprehensive theoretical model. The Model of Human Competence (Greenspan, 1979, 1981; Greenspan & Driscoll, 1997) portrays intelligence within a broader model of personal competence, incorporating all the skills that contribute to attaining goals or solving challenges. Within this model, practical intelligence is defined as the ability to think about and understand mechanical, technical or physical problems found in everyday settings and may be further differentiated into the underlying processes of problem identification, insight and problem-solving (Greenspan & Driscoll, 1997). Problem identification refers to the ability to recognize that a practical problem has occurred. Insight or problem explanation refers to the ability to reflect upon and understand the nature of the problem and its underlying processes. Problem solving refers to the ability to deal effectively with a practical problem.

Measures of adaptive behavior, with their emphasis on self-care and community-use activities, are seen as relatively heavy on practical intelligence (or practical skills) content, and relatively light on social intelligence (or social skills) content, such that adaptive behavior could be confused (or considered synonymous) with practical intelligence. Adaptive behavior instruments, whether norm-referenced or criterion-referenced, are usually measures of overt behavior as represented in observed or typical performance (Schalock, 1999). Measures of practical intelligence on the other hand, should attempt to tap the covert, underlying cognitive components that may contribute to competence but are not synonymous with performance.

Another limitation of many widely used adaptive behavior instruments in making a diagnosis of MR, however, is their reliance on third-party ratings. These instruments thus suffer from the potential for bias and inaccuracy, depending on a rater’s knowledge of and attitude towards the individual being rated, or the additional factor of the excessive time
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