



# Adaptive behavior of children and adolescents with visual impairments

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## ABSTRACT

The present study explored the total adaptive behavior of children and adolescents with visual impairments, as well as their adaptive behavior in each of the domains of Communication, Daily Living Skills, and Socialization. Moreover, the predictors of the performance and developmental delay in adaptive behavior were investigated. Instrumentation included an informal questionnaire and the Vineland Adaptive Behavior Scales (Survey Form). Forty-six children and adolescents with visual impairments participated. The results reveal the effect of age on total adaptive behavior and on each of the domains of Communication, Daily Living Skills, and Socialization; the older individuals with visual impairments present better performance but also a higher rate of delay in comparison with younger individuals. Moreover, the ability of independent movement is a predictor of performance and developmental delay on the Daily Living Skills and Socialization. The more independent the mobility of individuals with visual impairments is the better the performance and the lower the level of developmental delay. Moreover, the educational level of parents is a predictor of performance and developmental delay on the Communication and Socialization. The higher the educational level of parents the better the performance and the lower the developmental delay.

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## 1. Introduction

Adaptive behavior has been defined as “the performance of the daily activities required for personal and social sufficiency” (Sparrow, Balla, & Cicchetti, 1984), as well as “the ability to meet daily living responsibilities and to respond to the needs of others” (Ditterline & Oakland, 2009). Examples of domains in which individuals strive for sufficiency include: self-help, interpersonal relationships, home-management, recreation, work, and community life (Ditterline, Banner, Oakland, & Becton, 2008).

Adaptive behavior is diverse by definition, as it mirrors a person’s efforts to adjust to the various environmental demands he/she is faced with (Denrell, 2007). This diversity necessitates the conceptualization of adaptive behavior not only as a unitary construct, but also as a composite one, in order for the results of studies looking at the different expressions of behavior to be fully exploited and rightly generalized. An example of how adaptive behavior can be approached both as a single-dimensional and a multi-dimensional construct is given by one of the most popular instruments of measuring adaptive behavior, namely by the Vineland Adaptive Behavior Scale (VABS) (Sparrow et al., 1984; Sparrow, Balla, & Cicchetti, 2005). VABS, which was the instrument used in the present study, measures total adaptive behavior (adaptive behavior

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composite) as well as adaptive behavior in the domains of Communication, Daily Living Skills, Socialization and Motor Skills (Sparrow et al., 1984).

The issue of adaptive behavior of students with visual impairments is important for purposes of classification and placement, as well as for program planning and intervention (Ditterline & Oakland, 2009; Meacham, Kline, Stovall, & Sands, 1987). Adaptive behaviors are part of the Expanded Core Curriculum (EEC) for learners with visual impairments (see American Foundation for the Blind, 2010).

Research shows that students with visual impairments may present considerable difficulties in their total adaptive behavior (Bradway, 1937; Maxfield & Fjeld, 1942; Parsons, 1987) or in each of the sub-domains of Communication (Dodd & Conn, 2000; Douglas, Grimley, Hill, Long, & Tobin, 2002; James & Stojanovik, 2007), Daily Living Skills (Haymes, Johnston, & Heyes, 2002; Lewis & Iselin, 2002), and Socialization (Celeste, 2006; Leyser & Heinze, 2001; Lifshitz, Hen, & Weisse, 2007).

## 2. Impact of visual impairment on adaptive behavior

Few studies have assessed the total adaptive behavior of children with visual impairments using standardized measures. In the study of Bradway (1937) the Vineland Social Maturity Scale (Doll, 1935) was used to assess children and adolescents with visual impairments, aged 5 to 20 years. It was pointed out that younger children had an age-appropriate Social Quotient (SQ), but as chronological age increased SQ declined. In the study of Maxfield and Fjeld (1942), an adaptation of Vineland Social Maturity Scale was used with children with visual impairments aged from 9 months to 7 years. Items that presented the greatest difficulties fell into self-help category (eating, dressing) and occupation category (play, cutting with scissors). Moreover, the SQ variability within the group was wide. Parsons (1987) studied adaptive behavior of children with congenital visual impairments who were all students of a residential school. Using VABS, she found that younger children (under 13 years old) had lower age equivalent scores in daily living skills, socialization and adaptive behavior composite (a global measure of an individual's adaptive functioning).

Summarizing a series of studies, Warren (1994) argues that social adaptation of visually impaired children is influenced by a number of factors traced both to the child's environment and the visual impairment itself. According to Warren (1994), factors relative to the visual impairment constitute the "status variables" which cannot be modified through intervention. These variables are the severity of the visual impairment, the age of visual loss, the presence of any residual vision, the presence of additional disabilities, and the cause of the visual impairment.

### 2.1. Communication

Previous studies have shown that blind children have fewer opportunities to practice their language skills (Kekelis & Prinz, 1996), present qualitative difficulties in vocabulary development (Webster & Roe, 1998), and their language is related more to past experiences than to the ongoing activities of their peers, thus leading to breakdowns in communication (Kekelis, 1992). Furthermore, children and adolescents with visual impairments had lower than average performance on language structure and pragmatics (James & Stojanovik, 2007). Moreover, students with visual impairments have been found to use gestures without any communicational function for a longer time than their sighted peers. These gestures were negatively correlated with the severity of visual impairment, and there was a decline in their use as the school grade increased (Frame, 2000).

According to the findings of project PRISM (Ferrell, 1998), a longitudinal study of developmental patterns of children with visual impairments aged birth to 5 years, five milestones that required expressive and receptive communication were acquired within the range for typically developing children. Also, the milestone 'relating past experiences' was acquired earlier than typical children.

In reference to reading performance of children and adolescents with visual impairments, several studies have revealed that in many cases it is severely compromised, and has a negative impact on these persons' communicative ability (Dodd & Conn, 2000; Douglas et al., 2002; Douglas, Hill, Long, & Tobin, 2001; van Bon, Adriaansen, Gompel, & Kouwenberg, 2000). In the study of van Bon et al. (2000), the participants were 15 blind children who were braille readers. The other three studies (Dodd & Conn, 2000; Douglas et al., 2001, 2002) included a higher number of participants with low vision (between 150 and 480 students in approximate) who were allowed to use low vision aids during the administration of the tests.

### 2.2. Daily living skills

Little information is available concerning the daily living skills of children with visual impairments. Bishop (2004) mentions that sighted children learn many activities of everyday life naturally through imitation (e.g. dressing, washing, and eating). In order to perform these activities, though, they have to possess the necessary motor skills. Thus, children with visual impairments who have difficulties in observing the activities of others are likely to show a delay in daily living skills.

Jan, Freeman, and Scott (1977) pointed out that children with visual impairments encountered difficulties in dressing, walking, washing and feeding. Children with low vision became independent in these domains earlier compared to blind children. Lewis and Iselin (2002) addressed the matter of independent living skills of twenty children (ten with visual impairments and ten with normal vision), aged 6–9 years. They concluded that the children with visual impairments performed independently only 44% of the 101 daily living activities, compared with 84% of their sighted peers, while the level of competence was higher for the sighted children.

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