Transition and protective agency of early childhood learning behaviors as portents of later school attendance and adjustment☆

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ABSTRACT

This article reports on the study of differential change trajectories for early childhood learning behaviors as they relate to future classroom adjustment and school attendance. A large sample ($N = 2152$) of Head Start children was followed through prekindergarten, kindergarten, and 1st grade. Classroom learning behaviors were assessed twice each year by teachers who observed gradual declines in Competence Motivation and Attentional Persistence as children transitioned through schooling. Cross-classified multilevel growth models revealed distinct transitional pathways for future adjustment versus maladjustment and sporadic versus chronic absenteeism. Generalized multilevel logistic modeling and receiver operating characteristic curve analyses showed that teachers' earliest assessments were substantially predictive of eventual good classroom adjustment and school attendance, with increasing accuracy for prediction of future sociobehavioral adjustment as time progressed.

1. Learning behaviors

One of the most compelling aspects of America's Head Start program is its enduring commitment to early educational experiences intended to enhance children's academic achievement and social adjustment (U.S. Department of Health and Human Services, 2003a; U.S. Department of Health and Human Services, 2010a). This commitment is motivated primarily by the observation that the typical child among Head Start's nearly one million enrollees is functioning at the 15th to 20th percentile in most areas of school readiness (U.S. Department of Health and Human Services, 2003b; also see Fantuzzo et al., 2009). Thus curricula are engineered to directly build basic literacy, language, and mathematical skills (often referred to as cognitive skills) as well as sociobehavioral adjustment skills. At the same time, Head Start and many other early education programs have found it beneficial to fortify the process of learning such cognitive and adjustment skills by promoting children's more foundational approaches to the learning process itself. These skills are variously known as approaches-toward-learning, learning-related behaviors, learning-to-learn behaviors, or more commonly, learning behaviors (Matthews, Kizzie, Rowley, & Cortina, 2010; McDermott et al., 2011; Stott, McDermott, Green & Francis, 1988).

Learning behaviors essentially define the effortful and goal-directed means by which children go about classroom learning processes, as distinguished from the cognitive skills and sociobehavioral adaptations that might emerge from those learning processes. Typical areas of learning behavior are competence motivation, sustained focus and endurance in learning situations, strategic planning, interpersonal responsiveness in learning contexts, vocal engagement in learning, acceptance of novelty and risk, and cooperation in group learning efforts (McDermott et al., 2011). More specific sample behaviors that would contribute to competence motivation include continuing difficult tasks when solutions are not forthcoming and voluntarily engaging in activity that was previously found challenging. Because they are observable and essentially behavioral by nature, learning behaviors are regarded as potentially teachable through modeling or programmed instruction, such that their improvement is linked to improvements in the cognitive and sociobehavioral skill sets that flow from them (Barnett, Bauer, Ehrhardt, Lentz, & Stollar, 1996; Heckman, 2006; Hyson, 2008; Kagan, Moore, & Bredekamp, 1995; McDermott & Watkins, 1985; Shure & DiGeronimo, 1996; Stott, McDermott, Green, & Francis, 1988). Consequently, Head Start has long fostered the development of learning behaviors (National Education Goals Panel, 1997; U.S. Department of Health and Human Services, 2003a; U.S. Department of Health and Human Services, 2010a). The importance of learning behaviors has also been highlighted in broader policies influencing all early childhood education (National Association for the Education of Young Children & National Association of Early Childhood Specialists in State Departments of Education, 2003) and the formal standards enacted by most state departments of education (Scott-Little, Kagan, & Frelow, 2005). Most recently, a consortium of federal agencies under the USDHHS and the U.S. Department of Education has also sponsored randomized field trials assessing Head Start curricula on cognitive skills that are interwoven with instructional modules on foundational learning behaviors (Fantuzzo, Gadsden, & McDermott, 2011).

The earliest development of the learning behaviors concept and its empirical measurement began with the work of Stott, McDermott, and colleagues in Great Britain, Canada, and the United States (Birrell, Phillips, & Stott, 1985; Green & Francis, 1988; McDermott, 1984; McDermott & Beitman, 1984; Stott & Albin, 1975; Stott, Green, & Francis, 1983; Stott et al., 1988). This development work culminated in the national standardization of normatively representative teacher-rating devices for pre-kindergarten children (the Preschool Learning Behaviors Scale [PLBS]; McDermott, Leigh, & Perry, 2002) and for kindergarten through 12th-grade students (the Learning Behaviors Scale [LBS]; McDermott, 1999). Scores obtained from scales such as Competence Motivation, Attention/Persistence, and Learning Strategy have been found to maintain high internal consistency, temporal stability, and interrater agreement (Buchanan, McDermott, & Schaefer, 1998), to augment substantially the explanatory power of general intellectual ability measures in forecasting subsequent academic achievement and sociobehavioral adjustment (McDermott, Mordell, & Stoltzfus, 2001; Schaefer & McDermott, 1999; Yen, Konold, & McDermott, 2004), to signal statistically significant risk reduction for future school failure and learning disabilities in elementary and secondary education (McDermott, Goldberg, Watkins, Stanley, & Glutting, 2006), and to produce assessments that are devoid of intercept or slope prediction bias by child gender or ethnicity (Schaefer & McDermott, 1999). The PLBS and LBS dimensional structures and predictive efficiency have been demonstrated through many national and international replication and generalization studies (e.g., Canivez & Beran, 2011; Fantuzzo, Perry, & McDermott, 2004; Hahn, Schaefer, Merino, & Worrell, 2009; Worrell, Vandiver, & Watkins, 2001), with the scales presently translated and applied in French, Spanish, Greek, Nepali, Chinese, and Portuguese.

2. The transitional view

Leading research has established the capacity of early learning behavior to forecast academic achievement in elementary school (Li-Grining, Votruba-Drzal, Maldonado-Carreño, & Haas, 2010; Matthews et al., 2010; von Suchodoletz, Trommsdorff, Heikamp, Wieber, & Gollwitzer, 2009). Such research is quite informative because it illustrates a longitudinal link between preschool learning behavior and important outcomes in formal schooling. It is also limited because the earliest predictions are made during kindergarten with no perspective on the more developmentally critical prekindergarten period. Moreover, learning behavior is represented by merely a few items that evince no dimensional structure. Perhaps more importantly, such research typically pools observations from two time points in kindergarten, thereby forming a solitary index that is insensitive to temporal transition. That is, instead of viewing learning behaviors as dynamic phenomena which themselves undergo characteristic patterns of change throughout prekindergarten and kindergarten and on into formal schooling, the available research has tended to treat learning behavior as a static indicator (such as birth weight or ethnicity) that may be related to subsequent performances.

The alternative or transitional view of learning behaviors has been until recently impeded by the absence of longitudinal measures of learning behaviors. For example, the PLBS was designed specifically for prekindergarten and the LBS for kindergarten and beyond. Thus there has been no continuity of scaling as children progress through early education. Additionally, whereas both the PLBS and LBS provide national norms, none of those norms include Head Start attendees, thus raising questions about the propriety of the scales' dimensional structures and scoring routines when applied to the most at risk preschool populations.

New research has mitigated these limitations. First, McDermott, Rikoon, Waterman, and Fantuzzo (2012) refined the dimensional structure of the PLBS for a large representative Head Start population, and Rikoon, McDermott, and Fantuzzo (2012) did the same for Head Start alumnae who had moved on into kindergarten and 1st grade. Two of the derived dimensions, Competence Motivation and Attentional Persistence, were substantially congruent (i.e., Head Start Competence Motivation compared to kindergarten/first grade Competence Motivation, and Head Start Attentional Persistence to kindergarten/first grade Attentional Persistence) in behavioral content and associations with concurrent and future measures of academic achievement and school adjustment. Competence Motivation measures phenomena such as acceptance of novelty, dependence on adults in problem solving, voluntary energetic initiative, helplessness, acceptance of challenges, interest in learning activities, and using devices to avoid activity, while Attentional Persistence includes paying attention, frustration tolerance, settling into activities, distractibility,