A picture of strength: Preschool competencies mediate the effects of early behavior problems on later academic and social adjustment for Head Start children

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A B S T R A C T

In the current study, the authors tested the hypothesis that the relationship between early behavior problems and later academic and social outcomes is mediated by children's evidence of strengths during the transition to school. A locally representative and predominantly African American sample of 162 Head Start children was assessed at the end of children's Head Start experience and again at the end of their first grade year. Findings based on structural equation modeling revealed that both the partial and full mediation models better explained the data than the direct effects model, suggesting that the influence of preschool behavior problems is more fully understood in the context of children's concomitant strengths. The authors conclude with a discussion of the practical and policy implications of these findings and how they extend prior research on the relationship between early problem behavior and later school adjustment.

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1. Introduction

There is not much debate surrounding the evidence that early behavior problems place children on trajectories characterized by concurrent as well as long-term negative academic and social outcomes. Preschool children exhibiting behavior problems often show simultaneous disturbances across multiple developmental areas, such as in their language and cognitive development (Craig-Unkefer & Kaiser, 2002; Fantuzzo & McWayne, 2002) and in their approaches to learning (e.g., motivation, attention, and task persistence; Coolahan, Fantuzzo, Mendez, & McDermott, 2000). For elementary school children, these concurrent associations have been found to persist even adjusting for other child and family characteristics (Van Leeuwen, Mervielde, Braet, & Bosmans, 2004). Over the long term, early disruptive behavior has shown to be predictive of later difficulties in school functioning (August, MacDonald, Realmuto, & Skare, 1996). In the social–emotional realm, this may take the form of externalizing behavior, peer rejection, and delinquency (Kupersmidt, Coie, and Dodge, 1990; Mason, Cauce, & Gonzales, 1997; Vitaro, Larocque, Janosz, & Tremblay, 2001). In the academic realm, children exhibiting early problem behaviors display difficulties later engaging in classroom learning activities and with respect to overall academic achievement and attendance, as well as show elevated rates of high school drop out (Schwartz, McFadyen-Ketchum, Dodge, Pettit, & Bates, 1999).

At greatest risk for developing emotional and behavioral problems early in life are low-income children living in urban environments, who are disproportionately exposed to risks to their health and well being (Brooks-Gunn & Duncan, 1997; Mcloyd, 1998). In the United States, 4.9% of preschool children in the general population display moderate to clinically significant emotional and behavioral difficulties (National Survey of Children's Health, 2003). There is evidence that these rates are significantly higher (as much as 38%) for low-income preschool children (Feil et al., 2005; Lavigne et al., 1996).
Despite the preponderance of strong correlational evidence documenting negative outcomes, there is research to suggest that some children who display early behavior problems in preschool are able to achieve more positive social and academic outcomes in grade school (Downer & Pianta, 2006; Ladd & Price, 1987). Interestingly, it appears that across this important transition from preschool into elementary school, early behavior problems may correct themselves in ways that academic difficulties may not. A recent meta-analysis of studies measuring academic and social skills from preschool to early elementary school revealed that while early academic competencies were strong predictors of later academic outcomes, the effect size was not as strong between early social and behavioral competencies and later social and behavioral outcomes (La Paro & Pianta, 2000). This raises the question: What factors play a role in mitigating the influence of early behavior problems across this important developmental and school transition?

Resilience researchers stress the importance of child-level compensatory mechanisms that may serve to defray the impact of risks on later outcomes (Luthar & Cicchetti, 2000). Individual child differences evident prior to school entry have long been implicated in the quality of children’s future psychological and academic adjustment. Especially within the critical early childhood transition period, from preschool to more formalized educational settings, factors that exist within a child can exacerbate or diminish risk to their future school adjustment (Rimm-Kaufman & Pianta, 2000). Although whole-child evidence for compensatory effects is sparse, early childhood research increasingly provides support for the overlapping nature of young children’s skills across developmental domains (McWayne, Fantuzzo, & McDermott, 2004). For instance, in a recent study with preschool children, sustained attention during an independent cognitive task was associated with successful initiations of peer interactions and higher levels of social competence during peer play (Murphy, Laurie-Rose, Brinkman & McNamara, 2007). In another study, Kaiser, Hancock, Cai, Foster, and Hester (2000) found that the majority of Head Start children with language difficulties evidenced high behavior problems and lower-than-average social skills. Evidence from an intervention study within the same lab highlighted this interrelatedness by demonstrating that preschool children who experienced more modeling of positive social interactions developed more complex and sophisticated language skills than children who received less of this type of modeling (Craig-Unkefer & Kaiser, 2002).

Furthermore, there is a small but growing literature suggesting potential child-level mediators of the relationship between early behavior problems and later social and academic success. For example, a study conducted with children exhibiting early aggressive behavior provided evidence that targeting cognition and social problem-solving skills can lead to stronger academic performance and positive school behaviors for elementary school-age boys (Lochman & Wells, 2002). This and other studies highlight the potential mediating role of underlying cognitive abilities (Gerard, Buehler, Franck, & Anderson, 2005; Halpern, 2004). A number of studies also suggest that, for at-risk children—such as those living in poverty or those diagnosed with ADHD—attention abilities have mediational effects between early behavioral and cognitive difficulties and later academic and social outcomes (Arnold, 1997; Hamre & Pianta, 2005; National Institutes of Child and Human Development, 2003; Rapport, Denney, Cheung, & Hustace, 2001; Rapport, Scanlan, & Denney, 1999). In addition, Wentzel (1993) found that the associations between social skills and achievement were explained partly through the influence of social behavior on a general set of academic behaviors. DiPerna, Volpe and Elliot (2001) extended her findings by documenting the mediating effects of academically-enabling behaviors (or approaches to learning)—including motivation, study skills, and task engagement—on reading achievement. This accumulating evidence suggests that strengths in one domain may counteract limitations in another. However, though this body of literature proposes mediational links among multiple skill domains for an elementary school-age population, more evidence is needed for preschool children, especially as state support for Universal PreK across our nation provides opportunities to narrow achievement gaps before formal schooling begins.

Studies have shown that early interpersonal experiences prior to school entry predict first-grade academics as a function of associations with emergent academic and cognitive skills at the end of preschool (Downer & Pianta, 2006; Trentacosta & Izard, 2007), suggesting that the processes involved with social interactions are transferable across domains. Based on the studies of elementary school students reviewed above, concurrent cognitive and social strengths may indeed buffer against the short-term and long-term consequences of problem behavior exhibited in the preschool classroom setting. However, to date, there are few empirical studies that test child-level mediation effects for a low-income preschool population, and none that considers the effect of simultaneous, multiple strengths across developmental domains as possibly mediating the relationship between early behavior problems and later outcomes.

Therefore, the purpose of this study was to examine whether key preschool competencies in the cognitive, social, and approaches to learning domains mediated the relationship between early behavior problems (as evidenced in children’s peer play interactions) and later social and academic outcomes across the transition to first grade for a low-income, preschool population. We chose to focus on problem behaviors exhibited during classroom play, because we know that for young children, peer play serves as a natural developmental context to observe emotional and behavioral functioning (Gallagher, 1993). Peer play interactions in preschool have demonstrated strong relationships with concurrent skills shown to be important for learning, such as active classroom engagement, task persistence (Coolahan et al., 2000; Fantuzzo, Perry & McDermott, 2004), communication (Craig-Unkefer & Kaiser, 2002; Mendez & Fogle, 2002), sustained attention (Murphy, et al., 2007), emotion regulation, and coping behaviors (Blair, Denham, Kochanoff & Whipple, 2004; Halpern, 2004), as well as to later skills, such as flexibility in problem-solving (George & Greenfield, 2005) and decreased externalizing and internalizing problem behaviors (August et al., 1996; Blair et al., 2004; Vallance, Cummings & Humphries, 1998). Early intervention programs designed for low-income children, like Head Start, provide natural opportunities to observe children’s emotional and behavioral skills as they navigate peer relationships during play. Guided by a whole-child approach and empirical evidence to date, we hypothesized that the relationship between peer play behavior problems and first grade academic and social outcomes would be mediated, at least partially, by children’s evidence of strengths across multiple domains.
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