Early Childhood Research Quarterly 27 (2012) 104–114

Contents lists available at ScienceDirect

Early Childhood Research Quarterly

A multilevel model of child- and classroom-level psychosocial factors that support language and literacy resilience of children in Head Start

Michelle F. Maier*, Virginia E. Vitiello[1], Daryl B. Greenfield

University of Miami, Department of Psychology, P.O. Box 248185, Coral Gables, FL 33124, USA

ARTICLE INFO

Article history:
Received 14 August 2009
Received in revised form 15 June 2011
Accepted 17 June 2011

Keywords:
School readiness
Preschool
Protective factors
Head Start

ABSTRACT

Early exposure to the multiple risk factors associated with poverty is related to an elevated risk for academic difficulty. Therefore, it is important to promote academic resilience as early as possible and to identify factors that support resilience. Given the positive relation between early language skills and later academic outcomes, examining resilience in the domain of language and literacy is critical. Both exposure to a high-quality classroom environment and early child psychosocial strengths may serve as protective or promotive factors for low-income children, reducing the risk of poor language and literacy outcomes. Using a sample of 275 preschoolers from 29 Head Start classrooms, the current study examined the relations among teacher-reported child-level psychosocial strengths, observed classroom process quality, and growth in language and literacy. Furthermore, whether child and classroom factors had an additive or an interactive effect on outcomes was also investigated. Results indicated that child-level psychosocial strengths predicted initial levels of language and literacy, and classroom organization predicted growth. Results are discussed in terms of understanding how malleable child- and classroom-level factors are associated with language and literacy outcomes and emphasize the importance of intervening early on in young children's learning trajectories.

Young children exposed to sociodemographic risk factors, including poverty and low parental education, are at elevated risk for academic difficulty compared with peers not exposed to these risks (Brooks-Gunn, Duncan, & Maritato, 1997; Jencks & Phillips, 1998; Lee & Burkam, 2002; Ramey & Ramey, 2004; Reardon, 2003). While the link between risk and poor developmental outcomes is strong, many at-risk children continue to thrive (Fergusson & Horwood, 2003; Werner & Smith, 1992). Many children at risk demonstrate resilience; they attain positive outcomes despite exposure to adversity. One of the principal goals of research with at-risk children is to identify factors that promote resilience and to understand how these factors lead to positive outcomes.

The Head Start preschool program encourages resilience by providing low-income, at-risk children with warm and supportive classroom experiences that promote school readiness. Specifically, the Head Start program aims to increase children's competencies across multiple domains, with the goal of getting children "ready to learn" by the start of formal schooling (U.S. Department of Health and Human Services, 2003). Although Head Start strives for uniform, high-quality instruction in all of its programs, research has shown there is variability in the teaching, organization, and environment of different classrooms (Lambert, Abbott-Shim, & McCarty, 2002). Additionally, even very young children differ substantially in terms of the strengths and competencies they bring to the preschool classroom (Bowman, Donovan, & Burns, 2001; Zill et al., 2003). The current study sought to better understand the interaction between teacher-reported child-level and observed classroom-level factors in promoting resilience in early language and literacy among preschool children attending Head Start.

1. Risk and resilience

Resilience is a process through which individuals achieve positive outcomes despite adversity (Luthar, Cicchetti, & Becker, 2000). It has two central components: exposure to risk and evidence of positive outcome (Masten, 2001). Previous studies of resilience have varied in the types of adverse conditions (e.g., exposure to war, poverty), as well as the definition of positive outcomes that they examine (e.g., excel in multiple domains or just one domain, such as academic achievement; Luthar et al., 2000).

Given the potentially deleterious effects of poverty, much attention has been paid to its consequences on development and

* Corresponding author. Present address: Center for Advanced Study of Teaching and Learning, University of Virginia, 350 Old Ivy Way, Suite 100, Charlottesville, VA 22903, USA. Tel.: +1 434 243 3412.
E-mail addresses: mmaier@virginia.edu (M.F. Maier), virginia.vitiello@teachstone.com (V.E. Vitiello), dgreenfield@miami.edu (D.B. Greenfield).
[1] Now at Teachstone, 105 Monticello Ave, Charlottesville, VA 22903, USA.

0885-2006/$ – see front matter © 2011 Elsevier Inc. All rights reserved.
doi:10.1016/j.ecresq.2011.06.002

achievement. Research has demonstrated that exposure to poverty is associated with multiple negative outcomes for young children, including lower academic achievement (McLoyd, 1998; Yates, Egeland, & Sroufe, 2003), especially during the first five years of life (Duncan, Yeung, Brooks-Gunn, & Smith, 1998; Owens & Shaw, 2003). Lower achievement is also evidenced by higher rates of grade retention, more placements in special education, increased high school dropout rates, and fewer years of schooling overall (McLoyd, 1998). Although it is difficult to determine the actual level of risk to which young children are exposed, children living in poverty are clearly at risk for many negative developmental and academic outcomes. The majority of children who attend Head Start programs must meet established poverty criteria and, therefore, are part of such an economically and developmentally disadvantaged population.

Despite exposure to the risk factors associated with poverty, many young children demonstrate resilience, or attain positive outcomes, in one or more domains of development (e.g., social, emotional, academic). Definitions of "positive" outcomes have differed across studies, but one way of operationalizing resilience is to examine "the presence of positive adjustment (e.g., academic or social competence)" (Vanderbilt-Adriance & Shaw, 2008, p. 888). The current study focused on preschoolers' growth in early language and literacy as an indicator of resilience because it is one of the most highly emphasized school readiness domains in Head Start and has been associated with positive outcomes later on in schooling. Better language skills in preschool have been shown to mediate the association between multiple risk factors in early childhood and academic outcomes in elementary and middle school (Burchinal, Roberts, Zeisel, Hennon, & Hooper, 2006; Burchinal, Roberts, Zeisel, & Rowley, 2008). Similarly, children without language difficulties in preschool tend to have higher behavioral and social competence ratings in elementary school when compared to children with speech and/or language impairment (Beitchman et al., 1996).

Children from low-income homes, however, tend to be at high risk for language difficulties (Kaiser, Hancock, Cai, Foster, & Hester, 2000; Korenman, Miller, & Sjaastad, 1995; McLoyd, 1998; Smith, Brooks-Gunn, & Klebanov, 1997). This is likely due to a home environment with less-rich language experiences. Children from low-income homes tend to have lower scores on IQ measures at age three (Hart & Risley, 1992) as well as lower trajectories of language and reading achievement across elementary school, in comparison to their higher-income peers (Walker, Greenwood, Hart, & Carta, 1994). Acquiring better language skills in preschool may help improve later language and literacy outcomes and promote positive development in other areas such as math, social skills, and problem behaviors (Burchinal et al., 2006, 2008; IRA/NAEYC, 1998).

Regardless of the risk factors and positive outcomes examined, research has established that resilience can derive from positive psychosocial characteristics of the child and of the environment (Masten & Powell, 2003; Masten & Reed, 2002). The term *promotive factor* has been used to refer to child and environmental factors that directly promote positive outcomes (Gutman, Sameroff, & Cole, 2003). The term *protective factor* has been used as a generic term for individual and environmental factors that may act as moderators of risk and, therefore, promote positive outcomes (Werner, 1990). Both child-level and classroom-level factors may directly or interactively contribute to the development of language and literacy skills in at-risk preschool children.

2. Child-level factors

Longitudinal research on resilience has found many individual factors associated with positive outcomes. For example, some child psychosocial factors include an "easy" and outgoing temperament, low distress, and high sociability (Kim-Cohen, Moffitt, Caspi, & Taylor, 2004; Werner, 1990). Advanced self-help skills, average or above-average language and problem solving skills, a positive outlook on life, and strong achievement motivation have also been associated with resilience (Werner, 1990). Additionally, children's initiative, which refers to how they begin an activity, make decisions, and attempt to solve problems, has been considered a protective factor for at-risk children (LeBuffe & Naglieri, 1999).

Many of these psychosocial strengths have also been associated with academic competence and, specifically, with emergent language and literacy. For example, a greater ability to control attention and behavior can help a child to function properly in a classroom during activities and peer play interactions (Masten & Coatsworth, 1998). Research has found that preschoolers with better behavioral regulation show greater gains in language and literacy outcomes during the preschool year, controlling for age and sex (McClelland et al., 2007). Furthermore, attachment to a caregiver and, in particular, affectional ties that encourage trust, autonomy, and initiative in the child are important for positive outcomes (Owens & Shaw, 2003; Werner, 1990). Low language abilities, on the other hand, have been associated with more problem behaviors, fewer social skills, less initiation with peers, and shorter durations of engagement with assigned classroom activities in preschoolers attending Head Start (Kaiser et al., 2000; Qi, Kaiser, & Milan, 2006).

3. Classroom-level factors

In addition to individual psychosocial strengths, there are many environmental sources of protection, such as small family size, maternal education, parenting quality, and neighborhood quality (Masten & Powell, 2003; Werner, 1990). For children who attend preschool, the classroom is a particularly important environmental context that may have a unique role in fostering resilience. A substantial body of research supports the importance of high-quality preschool classroom environments in promoting school readiness. High process quality, in particular, is related to gains in language and literacy (Bryant, Burchinal, Lau, & Sparling, 1994; Dickinson & McCabe, 2001; Howes et al., 2008). Process quality refers to the provision of supportive and developmentally appropriate interactions, routines, and learning opportunities (Hamre & Pianta, 2005). Preschool classrooms with high process quality provide a variety of cognitively stimulating activities, warm exchanges between teachers and children, and behavioral strategies designed to prevent rather than punish poor behavior. Recent research suggests that process quality predicts academic school readiness and language skills beyond the effects of structural factors like teacher education and teacher–child ratios (Mashburn et al., 2008). Exposure to a high-quality classroom environment, therefore, may represent a significant environmental protective factor for young children at risk.

4. Additive or interactive effects

An unresolved question in early childhood research is the extent to which child and classroom factors jointly contribute to school readiness. Embedded within this issue is the question of whether child and classroom factors have an additive (i.e., promotive) or an interactive (i.e., protective) effect (Gutman et al., 2003). In other words, does high classroom quality matter equally for all children, or is it more important for children with lower levels of psychosocial strengths? Previous research has largely focused on interactions between classroom quality and static child