# Family background as a predictor of reading comprehension performance: An examination of the contributions of human, financial, and social capital

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## ABSTRACT

This study examines the relationship between students' family background, (i.e., human, social and financial capital), and the comprehension of struggling readers in grades 2–6. Decades of research have worked to further understand the relationship between background factors and achievement. However, few studies have focused on comprehension outcomes, or accounted for parent cognitive ability and intergenerational effects. Family background surveys and assessments of cognitive and reading skills were administered to the parents of struggling readers ($N = 51$). Correlation and regression analyses examined the relationship between family background variables and students' comprehension scores, identifying a significant relationship accounting for as much or more variability than the traditional socioeconomic measures. These findings have implications regarding how we currently examine the influence of socioeconomic status in intervention research and its role in identifying students at-risk for reading failure and their differential response to intervention.

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The ability to understand and gain knowledge from text is vital for success in school and everyday life. As students progress through school, the demand for independent reading and extraction of information increases (Snow, Porche, Tabors, & Harris, 2007); placing those experiencing comprehension difficulties at a serious disadvantage. The 2011 Nation's Report Card found 63% of U.S. fourth graders were not proficient in reading comprehension, a number that increased to 83% for low-income students and 89% for students with disabilities (National Center for Educational Statistics, 2011). Unfortunately, research has shown that these early reading difficulties often plague students throughout their academic careers (Lee & Burkam, 2002; Nation, Cocksey, Taylor, & Bishop, 2010; Snow et al., 2007), highlighting the need to better understand and address the factors leading to reading difficulties and disabilities.

Discussion regarding effective predictors of reading outcomes has been on-going on for several decades. However, legislation such as the Elementary and Secondary Education Act (2002) and the Individuals with Disabilities Education Improvement Act and its reauthorization (IDEIA, 2004, 2006) placed the need for effective predictive measures and interventions at the forefront of the educational research agenda. There is mounting evidence that early intervention can prevent reading difficulties in many children (Denton et al., 2010; Yell, Shriner, & Katsiyannis, 2006). However, in order to effectively intervene we must be able to accurately identify those students in need of intervention.

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Elbro and Scarborough (2003) note that 25–69% of students identified as at-risk for reading failure never develop reading difficulties and up to 9% of those who are not identified as at-risk display reading problems. This suggests that there is still work to be done in regard to developing efficient measures for identifying those at-risk for reading failure.

## 1. Socioeconomic status as a predictor of reading achievement

Low family income is frequently used in education to identify students at-risk for reading difficulty (Lubienski & Crane, 2010; Weinstein, Stiefel, Schwartz, & Chalico, 2009). Billions of dollars are spent annually on educational programming targeting children in poverty (e.g., Title 1 programs) with questionable results (see McDill & Natriello, 1998; Weinstein et al., 2009). Though social scientists have emphasized the link between parental socioeconomic status (SES) and student achievement (Berliner, 2005; Callahan & Eyberg, 2010; Lee & Burkam, 2002; Sirin, 2005) questions remain about the nature and magnitude of the relationship (Jeynes, 2002; Kieffer, 2012; Sirin, 2005). Sirin's (2005) and White's (1982) meta-analytic reviews reported a moderate, mean correlation between SES and achievement — .29 and .35, respectively. However, both meta-analyses note that studies have found the relationship between these variables to range from having no significant relation to a strong correlation. One explanation for the wide discrepancy is the lack of consensus with regard to how best to conceptualize and measure SES (Oakes & Rossi, 2003). White's (1982) review found that over 70 different variables employed individually or in combination were used as indicators of SES. In order to

successfully intervene and decrease the risk of reading failure for students of low SES we need to better understand what SES factors contribute to reading difficulty (Kieffer, 2012; Lubienski & Crane, 2010).

## 2. Indicators of socioeconomic status

Although there are a variety of conceptualizations of SES, three major indicators have garnered the widest acceptance: parental income, education, and occupation (Callahan & Eyberg, 2010; Hauser, 1994; Sirin, 2005). However, Duncan and Magnuson (2003) caution against "an aggregate, simplified, or superficial, treatment of SES (p. 83)" based on these indicators, calling instead for an emphasis on total wealth. Yet, when SES is reported in educational intervention research it is most often based on simple measures of parent education, income, occupation, or some combination of them (Author, 2007; Callahan & Eyberg, 2010).

In addition to the three primary indicators, many studies also incorporate measures of home resource into their definition of SES. Home resources refer to the possessions and activities available in the home (e.g., computers and books), as well as having a physical space to work and access to other educational activities (e.g., after school and summer courses or outings). Sirin (2005) found that measures involving home resources had the strongest correlation ($r = .51$) with academic achievement, compared to traditional measures of SES ($r = .28$–$.30$); and White (1982) found that they accounted for between 4 and 11 times more achievement variation than traditional SES measures. These findings suggest that we should expand the traditional approaches to determining SES to take into account resources beyond parent education, income, or occupation.

Few guidelines for the examination and reporting of SES exist. Research evaluating the validity of current measures, as well as a focus on the conceptualization and development of other valid and reliable measures of SES is needed (Oakes & Rossi, 2003). While SES is not a causal factor in itself, increasing our understanding of this construct and its relations to reading performance may help unveil the social factors involved in reading comprehension ability, and guide in the development of more intensive interventions and the identification of those in need of them. The current study attempts to add to this body of knowledge by examining the predictive validity of family background as an enhancement on traditional SES measures for students most at-risk for reading failure.

## 3. Family background

Coleman's model of family background (Coleman, 1988) serves as an expansion on the traditional measures of SES in that it focuses on both the resources available to individuals or families and their transmission (Havenman & Wolfe, 1995). Coleman's theory suggests that there are multiple forms of resources or 'capital' that serve to make achievement of certain ends possible, that would not be in their absence. Family background consists of three components: financial, human, and social capital (Coleman, 1988). Financial capital refers to a family's income or wealth, and speaks to the physical resources a family can provide to assist in development and achievement. Human capital is generally measured using parental education and refers to the provision of tacit knowledge, social competence, and a cognitive environment that promotes a child's learning. Social capital refers to approximated resources, such as time and individuals, available for support and intellectual tasks; as well as social norms and values (Coleman, 1988). As with SES, there is significant empirical data suggesting that family background may serve as an early predictor of student academic performance, attainment, and response to instruction (Berliner, 2005; Ferguson & Ready, 2011; Foorman et al., 1997; Petrill, Deater-Deckard, Schatschneider, & Davis, 2005; Snow, Barnes, Chandler, Goodman, & Hemphill, 1991).

## 4. Purpose of the present study

The purpose of this study is to assess the family background of struggling readers in grades 2–6 and examine how background factors influence their reading comprehension performance. This study addresses the following questions: (a) how does family background and its components (i.e., human, financial, and social capital) relate to student's reading comprehension?, (b) does one's social capital mediate the relations between comprehension and human or financial capital?, (c) does the relation between family background and reading comprehension vary by level of total capital?, (d) is family background more predictive of reading comprehension ability than traditional socioeconomic measures? and e) what does the examination of family background add to the prediction of reading comprehension ability above traditional cognitive and linguistic measures? Answers to these questions may guide in the development of a more refined tool for socioeconomic categorization in schools and accurately identifying those students most at-risk prior to formal reading instruction.

While numerous studies have considered components of family background as factors predicting academic achievement (Lubienski & Crane, 2010), few have attempted to examine all components of family background or to investigate their relations to the reading comprehension performance of struggling readers in the elementary grades. This study also adds to the existing research by including an examination of intergenerational influence of capital, controlling for parent general cognitive and reading ability, and by measuring social status at multiple periods in the child's development (e.g., birth, entry into first grade, and current status); all factors found to add to the prediction of reading achievement beyond traditional SES variables (Bowles, Gintis, & Groves, 2008; Ferguson & Ready, 2011).

## 5. Method

### 5.1. Participants

Study participants were 51 students assessed for participation in reading interventions conducted at a university in the southeastern United States and their primary caregivers. Of the 51 students, 57% were male. To identify students whose comprehension skills were low in comparison to their reading fluency, students included in the larger study scored at least one *SD* below the mean on two or more reading assessments and read more than 45 words per minute on second-grade passage fluency measures. The caregivers were 25–71 years old ($M = 40$), 96% were female ($N = 49$) with 86% ($N = 44$) identifying themselves as the students biological mother. See Table 1 for additional descriptive information on the participants.

### 5.2. Procedures

During initial assessment or intervention sessions parents were offered the opportunity to participate in this study. Of the 62 parents approached, 89% ($N = 55$) agreed to participate, with 93% of those participants completing all portions of the study.

Parents took part in two data collection sessions. During the first 35 minute session parents signed consent forms, completed a cognitive assessment (i.e., Wonderlic Personnel Test), reading measure (i.e., TOWRE), and received two take-home surveys regarding family resources and practices. During the second session the take-home surveys were collected and a one-to-one, 60 minute structured interview was conducted to gather information regarding the families' capital. All sessions were audiotaped, and conducted by the author or a trained research assistant. Completed measures were scored by two members of the research team, and all data were entered in duplicate to ensure accuracy. Agreement on the initial scoring of measures ranged from 86 to 95%. Discrepancies were examined a