



Relating psychological and social factors to academic performance: A longitudinal investigation of high-poverty middle school students



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ABSTRACT

We investigated the relations between middle school students' psychological factors (academic commitment and emotional control), social perceptions (family involvement and school climate), and academic performance over time. Gender differences in these relations were also examined. Based on a two-year longitudinal data set of 942 middle-school students from a high-poverty district in the United States, we found that all four factors measured in 6th grade were predictive of GPA at the end of the 7th grade above and beyond gender, race, and home intellectual materials. Among these factors, emotional control had the strongest relation with GPA, and the importance of family involvement increased over time, especially for female students. The results also revealed the indirect effects of the social factors on GPA through the psychological factors, and mostly through emotional control. These findings highlight the complex relation between the social-emotional factors and academic outcomes in early adolescence.

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Academic performance in middle school has been shown to be strongly related to high school performance and later college readiness and career success (e.g., [ACT, 2008](#); [Allensworth, Gwynne, Moore, & Torre, 2014](#)). Moreover, recent studies have shown that students from low socioeconomic status (SES) backgrounds not only have lower academic performance than their more advantaged peers, but also a chronic risk of lower academic growth during early adolescence ([Cutuli et al., 2013](#); [Herbers et al., 2012](#)). Identifying determinants of academic performance for middle school students who come from a low-income background is crucial for the development of interventions and educational practices aimed at reducing the SES-achievement gap.

Prior studies have related psychosocial factors, such as family support and social skills, academic performance in low-income students (e.g., [Serbin, Stack, & Kingdon, 2013](#)). Longitudinal studies have examined both contextual factors and individual differences when predicting academic performance (e.g., [Byrnes & Miller, 2007](#); [Reeves, 2012](#)). Most of the research focused on either school (e.g., [Abbott-Chapman et al., 2014](#)) or family (e.g., [Serbin et al., 2013](#)) context, but not both. Also, most studies only examined the direct effects of contextual factors or students' individual differences; fewer studies have examined

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how *both* contextual and individual factors relate to academic performance (Li, Lerner, & Lerner, 2010). To help fill this void, the present study examined the relations between two psychological factors (academic commitment and emotional control) and two social perceptions (family involvement and school climate) with academic performance over time in a sample of low-income middle school students, with additional tests on the differential relations by gender.

1. Social-emotional process and academic outcomes in early adolescence

Research has found that middle school students experience marked declines in intrinsic interest and school grades (see Eccles, Midgley, & Adler, 1984, for a review). To prevent the decline in middle school students' academic performance, school and family environments where adolescents feel safe, supported, and in control have been suggested as key ingredients (Henrich, Schwab-Stone, Fanti, Jones, & Ruchkin, 2004; Hill & Tyson, 2009). Family involvement in education has been suggested to be one of the important factors influencing children's academic performance (Fan & Chen, 2001; also see Hill & Tyson, 2009, for a review). However, studies on the impacts of family involvement during adolescence have shown mixed findings. In a review, Eccles and Harold (1996) reported that family involvement decreases when children move into secondary school, as parents believe they have more influence when their children are in elementary school. Other research suggests that family involvement may particularly help students with disadvantaged backgrounds during the transition from elementary to middle school (Gutman & Midgley, 2000). Some recent findings using the 4-H Study of Positive Youth Development longitudinal dataset indicated that family involvement was linked to positive outcomes during adolescence such as academic competence (e.g., Li et al., 2010) and self-regulation (e.g., Bowers et al., 2011). Another notable longitudinal study revealed that family involvement was associated with increases in school grades from middle school to high school among African American and Caucasian American students (Wang, Hill, & Hofkens, 2014).

Other studies have examined the relation between school climate and adolescents' health and behavior outcomes (e.g., Catalano, Haggerty, Oesterle, Fleming, & Hawkins, 2004; Goldstein, Young, & Boyd, 2008; LaRusso, Romer, & Selman, 2008; Mayberry, Espelage, & Koenig, 2009). Studies found that school climate predicted middle school students' achievement (Ma & Wilkins, 2002; Papanastasiou, 2002), and that perceived school climate helps explain the SES-achievement gap (Chen & Weikart, 2008). Positive perceptions of the school environment may be particularly important for adolescents from a low-income background because they may not have an optimal physical environment at home to support their developmental needs, and they may face more challenges than their more advantaged peers.

To explain how social environment influences adolescents' development and academic performance, Bandura (1986) Social Cognitive Theory specified that environmental forces could influence actions through cognitive and emotional systems. With a post-behavioristic perspective that humans are more than the environmental stimuli to which they have been exposed, the theory also emphasizes that individuals are active agents and are able to generate influences to maintain their own motivation or efficacy. This self-generated influence can be partly reflected in goal-directed activities or self-regulatory behaviors, such as academic commitment and emotional control. Academic commitment represents students' willingness to achieve in school and to obtain a diploma. Emotional control represents students' tendency to manage negative feelings and to find appropriate outlets for expression. There is considerable evidence linking academic commitment and emotional control with academic outcomes (e.g. Cooper, Lindsay, Nye, & Greathouse, 1998; Fredricks, Blumenfeld, & Paris, 2004; Robbins, Allen, Casillas, Peterson, & Le, 2006). In a recent longitudinal study of 4660 middle school students, Casillas et al. (2012) reported that the correlation between academic commitment measured in middle school and early high school grades was 0.34, and the correlation between emotional control and high school grades was 0.26.

Investigating the link between students' perception of social factors, their internal self-regulation system, and their academic performance is crucial for understanding the sophisticated internal and external dynamics that determine adolescents' outcomes (Skinner, Furrer, Marchand, & Kindermann, 2008). Studies have suggested that social factors can influence students' academic commitment and emotional regulation (Brody & Ge, 2001; Englund, Luckner, Whaley, & Egeland, 2004; Furrer & Skinner, 2003; Whitlock, 2006). For example, Bowers et al. (2011) found that perceived positive parent-child relationships and high-level family involvement support the development of self-regulation. They further suggested that contextual changes affect adolescents' development, but each individual has different self-regulation strategies to manage these changes; and in return, these changes affect subsequent development of self-regulation. In a study of young children, Evans and Rosenbaum (2008) found that self-regulation mediated the effect of income on cognitive development. However, most research on low-income students has focused on social factors and placed less emphasis on the possible mediating role of individual psychological factors for explaining academic performance. According to Social Cognitive Theory, it is likely that social factors have indirect effects on low-income adolescents' academic performance through psychological factors.

Gender differences in academic performance have been documented with males performing worse than females in most subjects during middle school (e.g., Buchmann, DiPrete, & McDaniel, 2008). Some research suggests that the gender difference in academic performance is more evident in low-income students (Entwisle, Alexander, & Olson, 2007). Also, previous research suggests that the effects of environmental factors on adolescents' academic outcomes vary by gender. For example, Rueger, Malecki, and Demaray (2010) found that parental support was important for both males and females when predicting GPAs, but the effect was stronger for females. Another study found that females outperformed males at the end of elementary school and at the beginning of the middle school, and this gender gap was mediated by parental support, social skills, and spelling skills (Serbin et al., 2013). Eschenbeck, Kohlmann, and Lohaus (2007) proposed that females may value intimate relationships more than males, and may be more likely to use social support as a coping strategy.

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