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# Trajectories of teacher-student warmth and conflict at the transition to middle school: Effects on academic engagement and achievement

ABSTRACT

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Using piece-wise longitudinal trajectory analysis, this study investigated trajectories of teacherreported warmth and conflict in their relationships with students 4 years prior to and 3 years following the transition to middle school in a sample of 550 academically at-risk and ethnically diverse adolescents. At the transition to middle school, teacher reports of warmth showed a significant drop (shift in intercept), above age-related declines. Both warmth and conflict declined across the middle school years. Structural equation modeling (SEM) tested effects of the shifts in intercept and the post-transition slopes on reading and math achievement, teacher-rated engagement, and student-reported school belonging 3 years post-transition, above pre-transition levels of the outcome. For warmth, a drop in intercept predicted lower math scores and engagement, and a more positive slope predicted higher engagement. For conflict, an increase in intercept and a negative slope predicted lower engagement. Implications of findings for reducing normative declines in academic engagement in middle school are discussed.

#### 1. Introduction

Teacher warmth

Teacher conflict

Considerable research over the past two decades has demonstrated the benefits of an emotionally supportive teacher-student relationship during the elementary grades to students' academic and psychosocial adjustment (for reviews see Hughes, 2012; McGrath & Van Bergen, 2015; Sabol & Pianta, 2012). The majority of this research has investigated teacher-perceived teacher-student relationship quality (TSRQ). These studies document benefits of a supportive teacher-student relationship on diverse outcomes, including classroom engagement and achievement (Hughes, Luo, Kwok, & Loyd, 2008; Roorda, Spilt, Spilt, & Oort, 2011), liking for school and academic self-efficacy (Hughes & Chen, 2011; Ladd, Birch, & Buhs, 1999), and peer acceptance (De Laet et al., 2014; Hughes & Im, 2016). Studies of changes in teacher-perceived TSRQ across the elementary grades document that average levels of TSRQ decrease from preschool through grade 5 (O'Connor, 2010). When teacher-perceived support (i.e., closeness) and conflict from kindergarten to Grade 6 were investigated separately, a consistent decrease in closeness was found, whereas conflict increased in the early grades before declining after grade 5 (Jerome, Hamre, & Pianta, 2009).

A paucity of research has examined changes in teacher-perceived TSRQ across the transition to elementary school. A study conducted with the same longitudinal sample as the current study found that teacher-perceived warmth and conflict declined from age 6 to 14 (Wu & Hughes, 2014). Because this study did not model the transition to middle school, and students transition at different ages and grades, it was not able to test whether the transition to middle school was associated with a drop in mean level of

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warmth and conflict above the effect of age-related declines, nor did the study investigate the effects of changes in teacher-perceived warmth and conflict at and following the transition to middle school on students' school adjustment.

In light of these gaps in knowledge of the course and consequences of teacher-perceived TSRQ as students move from elementary to middle school, the current study examines trajectories of teacher-perceived relationship warmth and conflict during the four years prior to and the three years following the transition to middle school. We then investigate effects of a shift in level of warmth and conflict at the point of transition (i.e., change in intercept) and the post-transition slope in warmth and conflict on students' academic engagement and achievement three years after the transition to middle school.

#### 1.1. Theoretical perspectives on effects of TSRQ

Researchers have drawn from diverse theories in explaining an effect of an emotionally supportive relationship with one's teacher. Drawing from attachment theory (Bowlby, 1980), researchers have suggested that a close and supportive relationship with one's teacher promotes a child's emotional security and confidence, thereby serving as a resource that permits young students to actively explore their environment and to cope more effectively with academic and social stressors (Pianta & Steinberg, 1992; Verschueren & Koomen, 2012). Attachment perspectives on the effects of TSRQ are most common in studies of preschool and elementary students. Drawing from bio-ecological models of development (Bronfenbrenner & Morris, 2006), researchers have focused on the embedded nature of the teacher-student relationship in classrooms and the reciprocal influences of teacher-student relationships and peer relationships (De Laet et al., 2014; Gest & Rodkin, 2011; Hughes, Cavell, & Willson, 2001). Social motivation theorists (Connell & Wellborn, 1991; Furrer & Skinner, 2003; Hughes et al., 2008) postulate that a supportive relationship with one's teacher provides a child with a sense of belonging and of being valued at school, which engenders effortful engagement in the classroom and conformity to school rules.

Research with adolescents often draws on self-determination theory (Deci & Ryan, 2000), a variant of social motivation theory, in explaining an effect of TSRQ on students' academic motivation and engagement (Allen, Pianta, Gregory, Mikami, & Lun, 2011; Danielsen, Wiium, Wilhelmsen, & Wold, 2010; Wang & Eccles, 2013). Self-determination theory posits that the more students' basic psychological needs for a sense of belonging (i.e., relatedness), autonomy, and competence are met in the classroom, the more students will identify with school and its goals and put forth effort in the classroom (Wigfield, Eccles, Schiefele, Roeser, & Davis-Keane, 2006). Finally, according to social referencing theory (Hughes, Cavell, & Willson, 2001), classmates rely on their observations of teachers' interactions with classmates in forming perceptions of classmates' attributes and likability. Thus, positive teacher-student interactions may improve students' social standing in the classroom and classroom engagement (Hughes & Im, 2016). It is important to note that these various theoretical perspectives are complementary rather than exclusionary, and researchers often draw on more than one theory in explaining effects of TSRQ (Hughes, Cavell, & Jackson, 1999; McGrath & Van Bergen, 2015).

#### 1.2. The transition to middle school and teacher support

The transition to middle school is difficult for many students and is often associated with a decline in students' academic motivation, psychosocial adjustment, and grades (Anderman, 2003; Barber & Olsen, 2004; Roeser, Eccles, & Sameroff, 1998). Importantly, if an adolescent has difficulty during the middle school transition, this trajectory often continues throughout adolescence (Blyth, Simmons, & Carlton-Ford, 1983; Cantin & Boivin, 2004).

According to the Stage-Environment Fit Theory (Eccles et al., 1993), the decline in student engagement at the transition to middle school is due to a mis-match between the psychological needs of adolescents and the structure of middle schools. At a developmental period characterized by an increased desire for autonomy and enhanced sensitivity to peers' reactions to them (Brown & Larson, 2009), early adolescents experience less choice over academic tasks and encounter a larger and more diverse peer context. Additionally, the transition to middle school brings increased demands on students' planning and organizational skills as they encounter a departmentalized curriculum. Furthermore, as students move from elementary to middle school they report less availability of adults to provide support and guidance in meeting these challenges (Bokhorst, Sumter, & Wetenberg, 2009; Furrer & Skinner, 2003). Teachers may have less close relationships with students due to the multiple classes each student attends.

Prior research has found that both student-report and teacher-report of teacher emotional support decline across early adolescence (Way, Reddy, & Rhodes, 2007; Wentzel, Battle, Russell, & Looney, 2010; Wu & Hughes, 2014). However, a normative decline in average level of teacher emotional support does not necessarily indicate that teacher support is less important to adolescents' school adjustment than it is to elementary students' adjustment. In adolescence, an emotionally supportive teacher-student relationship may communicate acceptance, confidence in a youth's ability, and respect for the youth's autonomy (Davis, 2006). Consistent with this view, middle school students who perceive supportive relationships with teachers report more positive changes in school adjustment (Wang & Dishion, 2012; Wang & Holcombe, 2010; Way et al., 2007).

In a cross-sectional sample of Slovenian students, both teacher- and child-perceived TSRQ declined from grade 4 to grade 7 (Košir & Tement, 2013). Interestingly, across grade groups, teacher reports were more consistently predictive of changes in achievement than were child reports. In a longitudinal study of urban youth from grades 7 to 11, Wang and Eccles (2012b) found that, on average, teacher reports of support to students declined; however, smaller declines (or increases) in teacher support protected students from the normative decline from grades 7 to 11 in school compliance, school identification, and valuing of school.

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