NARRATIVE REVIEW

Beyond Classroom Academics: A School-Wide and Multi-Contextual Perspective on Student Engagement in School

Ming-Te Wang[1] · Tara L. Hofkens[2]

Abstract

School engagement researchers have historically focused on academic engagement or academic-related activities. Although academic engagement is vital to adolescents' educational success, school is a complex developmental context in which adolescents also engage in social interactions while exploring their interests and developing competencies. In this article, school engagement is re-conceptualized as a multi-contextual construct that includes both academic and social contexts of school. The authors begin by describing how the characteristics of these contexts provide the opportunities and resources for adolescents to engage in academic learning and social interactions throughout school. Motivational theories are then used as an operational framework for understanding how adolescents become engaged in school, which is followed by a discussion about how adolescents' academic and social engagement interact to shape their academic achievement. The article concludes with implications for practice and future research.

Keywords School engagement · Academic achievement · Academic engagement · Social engagement · Adolescent development

Introduction

School engagement has taken a prominent place in recent psychological and educational research because of its potential for addressing poor academic achievement, student misbehavior, and school dropout (Archambault et al. 2009; Li and Lerner 2011; Wang and Peck 2013). Broadly, the term "school engagement" refers to the quantity and quality of students' involvement in school and their interactions within school activities (Skinner and Pitzer 2012). In addition, school engagement is multi-dimensional, consisting of behavioral, affective, and cognitive components (Fredricks et al. 2004) as well as dynamic and reciprocal processes that influence and are influenced by the school environment (Wang and Degol 2014). Features of the school environment provide the opportunities and resources for engagement to occur, and students' skills, attributes, needs, and values determine how they engage in those opportunities. Understanding the types of opportunities and resources that support students' engagement has become a priority for informing education policy and practice (Wang and Eccles 2012a, b; Wang and Holcombe 2010).

While the past 30 years have seen an influx of research on school engagement, this research has historically focused on academic engagement, particularly engagement in academic coursework (Wang and Degol 2014). Although the significance of academic engagement cannot be discounted, academic learning in schools occurs in a fundamentally social context. Within classrooms, learning opportunities are embedded in the quality of social interactions between teachers and peers (Allen et al. 2011; Wang and Eccles 2012a). Furthermore, adolescents strive to develop their identity and form relationships while navigating complex social networks within and outside of classrooms (Eccles and Roeser 2011; Wang and Degol 2016). Thus, focusing exclusively on academic engagement neglects the fact that adolescents' involvement with a wide range of academic activities and social interactions work together to shape their identities as socially integrated, academically capable, and committed learners (Skinner and Pitzer 2012; Wang and Degol 2014). While

✉ Ming-Te Wang
  mtwang@pitt.edu

1 University of Pittsburgh, 230 South Bouquet Street, Pittsburgh, PA 15213, USA

2 University of Virginia, 405 Emmet St S, Charlottesville, VA 22903, USA

researchers have emphasized the salience of the social context as it pertains to academic achievement (Feldman and Matjasko 2005; Rodkin et al. 2013; Wentzel 1999), engagement in the social context has not yet been fully conceptualized or studied as an integral part of students' engagement in school, particularly for adolescents.

Developmental research has shown that student engagement declines significantly during the transition from elementary to secondary school, mainly because the academic and social contexts of secondary school are less aligned with the developmental needs of adolescents than those of elementary school (Eccles et al. 1993; Wang and Eccles 2012b). Indeed, the transition to secondary school presents both academic and social challenges for adolescents. Starting in middle school, academic work tends to be more passive and cognitively demanding (Juvonen 2007), and the content is often not presented in a way that is relevant, useful, or interesting to adolescents (Eccles 2009). Likewise, the nature and quality of social interactions changes dramatically in secondary school: Adolescents typically move to larger, less personal, and more formal schools. These schools tend to emphasize ability and competition (Wang and Degol 2016), especially when teachers use more social comparison-based standards. Secondary-school teachers themselves tend to be less emotionally supportive than elementary teachers (Zimmer-Gembeck et al. 2006), and the instructional practices used within the secondary-school environment (e.g., ability grouping) shape the types and variety of students with whom students interact (Crosnoe et al. 2004; Frank et al. 2008; Wang et al. 2018). These contextual changes foster competition and undermine a sense of belonging in school at a time when adolescents experience a significant need for successful peer and adult relationships (Ryan and Patrick 2001).

In order to support adolescents' academic achievement in school and fully capture the holistic nature of student engagement, the authors propose a multi-contextual conceptualization that describes the academic and social contexts where engagement occurs (i.e., school as a multi-contextual setting for engagement), the individual and contextual characteristics that contribute to adolescents' ability and willingness to engage (i.e., motivational influences of engagement), and the relationship between engagement and academic achievement (i.e., outcomes of engagement). The authors begin by first defining what it means to engage in school from a multi-contextual perspective and elucidating the nature of and relationship between the academic and social contexts in school. Motivation theories are then used as an operational framework for understanding how and why adolescents engage in the academic and social contexts of school during the interplay of various personal and contextual factors that facilitate academic development. Finally, the authors examine how adolescents' attempts to coordinate their engagement in academic and social contexts can have important implications for their academic achievement by proposing four ways to model the effects of engaging in the academic and social contexts in school.

Multi-Contextual School Engagement

School is a complex developmental context in which adolescents strive to meet their developmental needs and establish their identity through participation in academic activities and social interactions (Eccles and Barber 1999; Wang and Degol 2016). While the academic and social aspects of school are considered important to adolescent development, extant studies have tended to equate school engagement with the quality of adolescents' involvement in their academic coursework (Durlak et al. 2011; Wang and Degol 2014). Indeed, the phrase "school engagement" has become synonymous with engagement in academic coursework in part because engagement research aims to understand how to support adolescents' academic achievement in school. However, if educators and researchers are interested in fully understanding the pathway(s) to academic success, then they must incorporate the "social side" of schools into the conceptualization of school engagement. This facet of school engagement is essential to understanding the fundamentally social nature of schools and the importance of social interactions to adolescents (Wang et al. 2018).

Throughout school, adolescents spend a considerable amount of time interacting and socializing with others (Ryan 2000; Wentzel 1997). Developmentally, adolescents are attuned to the nature and quality of social interactions (Midgley 2002; Wang and Eccles 2012a), and there is evidence that the quality of social interactions affects their achievement (Allen et al. 2013; Kiefer and Ryan 2011; Shin and Ryan 2012; Wentzel 1991; Wigfield et al. 2006). Adolescents who have developmentally supportive experiences in both social and academic contexts maintain their motivation and achievement after the transition into secondary school (Eccles and Roeser 2009, 2011). Accordingly, developing an integrated understanding of the importance of engaging in the academic and social contexts of school holds promise for supporting student engagement and achievement during adolescence.

Engagement in the Academic Context

The *academic context* refers to features of the school environment that structure and support students' participation in learning and pursuit of academic accomplishment. Within classrooms, instruction, course content, behavioral management, and the nature of academic work structure the ways in which students can engage academically. Previous research has shown that the quality of students'

involvement in academic activities within class is a strong predictor of academic outcomes (Hughes et al. 2008; Skinner et al. 2009; Wang and Eccles 2012b). For example, adolescents with higher engagement in class have better grades and aspire for education beyond secondary school (Wang and Eccles 2012b, 2013; Wang and Holcombe 2010). In addition to educational outcomes, students with more positive trajectories of engagement are less likely to be involved in delinquency and substance abuse (Henry et al. 2012; Li and Lerner 2011, 2013; Wang and Fredricks 2014). Collectively, these studies suggest that engagement in the academic context can be a protective asset that decreases the likelihood of adolescents engaging in problem behaviors and increases academic competence.

Outside of the classroom, school-sponsored academic supports and academic extracurricular activities can contribute additional opportunities and resources to engage in learning and attain academic success. Indeed, schools' supplemental programming, like library media programs, special education programs (Lance 2002), and academic extracurricular activities, has been associated with academic achievement (Fredricks and Eccles 2006; Mahoney et al. 2003). While students spend more time on academics inside than outside of class, out-of-class opportunities make important contributions to the overall quality of students' involvement in the academic context. However, out-of-classroom components of academics are isolated features of the global school context that are peripheral to student engagement in school (Farb and Matjasko 2012). Incorporating out-of-class learning opportunities and resources into the academic context can help identify what types of out-of-classroom activities contribute to the academic context and effectively support or hinder academic success in school.

Accordingly, engagement in the academic context consists of adolescents' behavioral, cognitive, and emotional involvement with coursework, academic-related activities, and learning supports throughout the school setting. This view of academic engagement synthesizes classroom engagement studies (e.g., Skinner and Belmont 1993) with literature that describes adolescents' positive conduct in school (Finn 1997) and participation in school-based activities (Finn 1997; Fredricks and Eccles 2006). Furthermore, the inclusion of both supports and opportunities/resources expands how research has traditionally thought of the academic context. Including these elements provides a comprehensive perspective of how schools strive to support academic success and the complex ways in which adolescents navigate schools to pursue their interests and develop competencies. Thus, the term *academic engagement* refers to the quality of adolescents' involvement in their school's academic coursework, curriculum, programs, and activities that support learning and achievement.

Engagement in the Social Context

The school's *social context* encompasses the features of school that provide students with opportunities for positive and productive interactions with their teachers and peers. Within academic courses, the social climate among students and teachers, nature of academic work, and instructional and relational strategies shape affordances for the types of social interactions that can contribute to achievement and achievement-related behaviors (Crosnoe 2001; Eccles and Barber 1999; Wang and Degol 2016). For example, when faced with academic and social challenges, engaging in social interactions with supportive teachers and peers serves as a positive outlet and resource for coping with these stressors adaptively (Finn and Zimmerman 2012). Students who enjoy, value, and feel competent in their social interactions are also more likely to enlist the support of others for academic tasks (Patrick et al. 2007; Wang et al. 2018) and cultivate friendships with mutual support and self-disclosure (Sanderson et al. 2005). Furthermore, social perspective-taking skills have been associated with productive collaboration with peers on academic work (Ryan and Patrick 2001) and academic performance (Caprara et al. 2000; Wang et al. 2018).

Outside of coursework, academic and non-academic extracurricular activities provide additional avenues for structured social interactions with peers and adults (Farb and Matjasko 2012), while lunchrooms, hallways, and gymnasiums offer unstructured micro-contexts within which students engage in relatively free and unsupervised interactions (Cash et al. 2015; LaRusso et al. 2009). Productive involvement in social interactions outside of class can generate the social resources, affiliations, and mentoring relationships that lead to success in academics (Mahoney et al. 2005).

Correspondingly, engagement in the social context refers to the quality of adolescents' involvement in social interactions with peers and adults throughout the school setting. This perspective synthesizes research illuminating that social interactions with adults and peers inside and outside of class are important to adolescents' academic achievement (Fredricks and Eccles 2006; Linnenbrink-Garcia et al. 2011; Rimm-Kaufman 2004). In addition, this viewpoint expands on extant literature that poses social engagement as pro-social behavior (Finn and Zimmer 2012) or affective social processes (Skinner et al. 2008). Focusing specifically on social interactions provides critically needed conceptual clarity that avoids confounding facilitators and outcomes with indicators of engagement in the social context (Skinner et al. 2008). For example, adolescents strive to establish and maintain interpersonal relationships in school, which influence and are influenced by the cognitive, behavioral, and emotional ways in which students interact with peers and adults. *School social engagement*, then, captures the fundamentally social nature of school in a way that provides a

framework for studying how social interactions shape adolescents' academic learning.

The Relationship Between the Academic and Social Contexts

Within schools, the academic and social contexts can relate to one another in a variety of ways. While schools are fundamentally academic and social, the relationship and quantity of overlap between these contexts can vary. Academic activities and social interactions can occur as relatively separate spheres of activity in schools, or they can overlap or be integrated by the school's organization and teachers' practices (Schunk et al. 2002).

For example, academic activities and social interactions may be compartmentalized where classes are highly structured and teacher-centered. In these settings, teachers may emphasize lecture and independent work in class, encouraging students to save social and academic interactions with peers for free or less structured time. In contrast, schools where teachers implement cooperative or collaborative learning provide semi-structured environments that integrate academic work with social interactions. Similarly, school-wide socioemotional programming can integrate the social and academic contexts by incorporating socioemotional learning with coursework and providing semi-structured academic opportunities that target social and emotional skills.

It is also important to note that academic and social contexts overlap less and become less integrated in secondary schools. Compared to elementary schools, the secondary school schedule is highly structured: More time is devoted to academic learning, and students spend less time with any given group of peers or adults as they change courses throughout the day. Within secondary classrooms, instruction is more teacher-centered and less oriented towards adolescents' social and emotional development. Furthermore, secondary school teachers often emphasize lecture and independent work while engaging in fewer socially supportive interactions with students than primary school teachers (see Eccles and Roeser 2009, 2011; Wang and Degol 2016). Considering that student engagement declines after the transition from primary to secondary school (Eccles et al. 1993), this decline may relate to how students coordinate their engagement in the academic and social contexts and how engagement in both contexts facilitates academic achievement.

In summary, academic and social contexts do not refer to specific spaces or activities in schools. Instead, they refer to the developmentally salient features of the school context (i.e., academic activities and social interactions) that contribute to student academic engagement and success. Within and outside of classes, students are provided structured and unstructured opportunities to participate in academics and social interactions. Together, these organizing features (i.e., within versus outside of class; structured or unstructured) map the territory for student engagement in academics and social interactions throughout school. In addition to the nature of domains themselves, however, students' ability and willingness to engage is further influenced by the relationship between academic and social domains in schools.

Motivational Frameworks for Adolescent Engagement in School

While the school's academic and social contexts provide affordances for engaging in school, motivational factors influence how much and in what ways adolescents leverage these opportunities to engage. In this section, the authors integrate *self-system theory* (Skinner et al. 2009) with *expectancy-value theory* (Eccles 2009) to explain the psychological processes underlying students' engagement in school while shining a light on motivationally salient features of the academic and social contexts.

Self-System Theory

Self-system theory helps us understand the fundamental motivational processes driving student engagement in school by positing that (a) adolescents are motivated to learn and succeed, and (b) adolescents engage in school to fulfill their psychological needs for competence, autonomy, and relatedness (Connell 1990). These psychological needs are motivational processes that drive students toward tasks and interactions as well as inform their self-beliefs and appraisals of how competent, autonomous, and related they feel within particular contexts (Connell and Wellborn 1991; Deci and Ryan 2000).

Both academic and social contexts provide opportunities for adolescents to fulfill these psychological needs and personal goals. For example, adolescents develop academic competence by engaging in challenging and meaningful work (Eccles and Roeser 2009, 2011), pursue autonomy by expressing their views and making choices regarding academic work (Niemiec and Ryan 2009), and attain relatedness by engaging in interactions with peers and adults that elicit the support needed to be successful and connected in school (Ryan et al. 2001; Wentzel 2002). Socially, adolescents seek opportunities to engage in cooperative and collaborative interactions with peers and adults within and outside of class (Roeser et al. 2000). The experiential quality of activities and interactions with others provides adolescents with feedback about their social competence to interact with others, relatedness to others in activity settings, and social autonomy to fulfill personal goals.

Conversely, self-system theory also explains that adolescents may fail to engage in academic work or social interactions if their psychological needs are hindered or thwarted in either the academic or social contexts. For example, while structure that scaffolds understanding, progress, and collaboration can contribute to adolescents' sense of competence and relatedness, structure that is overly controlling can constrain adolescents' ability and willingness to pursue autonomy and develop competence (Wang and Holcombe 2010). Likewise, policies and practices emphasizing performance over mastery of academic skills and relying upon socially comparative evaluation can alienate adolescents from their academic work and peers, thus undermining competence and relatedness in school (Wang and Eccles 2013). Therefore, the provision of academic and social opportunities within the school setting is the first step in supporting student engagement in school.

Expectancy-Value Theory

While self-system theory explains the needs driving school engagement, expectancy-value theory illustrates how adolescents coordinate their engagement in school. Often, adolescents can pursue their psychological needs in multiple ways in each school-related context, resulting in situations in which adolescents must decide where to focus their effort and energy. Expectancy-value theory posits that students make achievement-related choices based on how likely they are to succeed (e.g., expectations for success) and how much they value and enjoy the task (Eccles 2009; Wang and Degol 2014). Usually applied to the academic context, subjective task values are comprised of interest, utility value, attainment value, and cost, and they can apply to tasks within or outside of academic classes (Eccles 2009). When students feel confident that they can learn and be successful in a particular task, they are more likely to engage in deeper-level cognitive strategies, which are then associated with increased academic achievement (Wigfield and Eccles 2002). However, being capable or good at a given activity does not necessarily mean that the student will pursue the activity or even enjoy doing it (Wang and Degol 2014). In addition to confidence in one's abilities to succeed, expectancy-value theory suggests that achievement-related choices also depend on the value one attaches to various subject domains and future goals associated with these domains. Indeed, subjective task values are predictive of academic achievement and are even stronger predictors of educational choices than competence beliefs (Eccles 2009).

A similar process could unfold in the social context. Given that expectancy-value theory is a generalizable theory of human motivation, adolescents' motivation to engage in social interactions within or outside of their classes may depend in part on their sense of social competence (or expectations for having a positive or productive interaction) and how much they value social interactions. A subjective value of a given social interaction could include the ease or flow of the interaction, intrinsic value of the interactions, usefulness of the interaction, influence on the student's identity, and cost of the social interaction in the way of taking up time, using resources, or presenting a conflict with other people or goals (Eccles 2009). In these ways, expectancy beliefs and subjective task values contribute to levels, patterns, and quality of engagement in the academic and social contexts.

Furthermore, expectancies and task values provide individuals with specific reasons for engaging in school, and as such, they have the potential to explain why students engage in one context (i.e., academic or social) to a higher degree or with more persistence than another (Eccles 2009). For example, to engage in mathematics learning, a student not only needs to believe they are math-capable, but they also need to enjoy doing mathematics and recognize the importance of being good at mathematics. The level and quality of engagement, therefore, depend on personal values, particularly those related to individual perceptions of how important, desirable, or useful it is to achieve a specific goal. Students can believe that many outcomes are important, useful, or enjoyable, but students may not necessarily engage in activities if they feel such activities are incongruent with their perceived competence or personal values (Schunk et al. 2002). In terms of conceptualizing and studying student engagement, the question is how adolescents' coordination of their engagement in the academic and social contexts relates to their achievement over time.

Understanding How School Engagement Affects Student Achievement

Engagement research has focused on identifying and measuring contextual and motivational influences on students' engagement in school (Wang and Degol 2014). The underlying assumption of research and theory is that student engagement contributes to achievement; therefore, more engagement is better. Indeed, given the documented effects of engagement in academic activities and social interactions on academic achievement, it would seem like a pattern of high engagement in each context would be optimal for academic success.

However, coordinating engagement in the academic and social contexts can be motivationally challenging for adolescents. Pursuing engagement within multiple contexts requires adolescents to coordinate their engagement into an organized system of behavior and cognition, potentially requiring adolescents to set aside personal values at times to discover, coordinate, or compromise with the personal
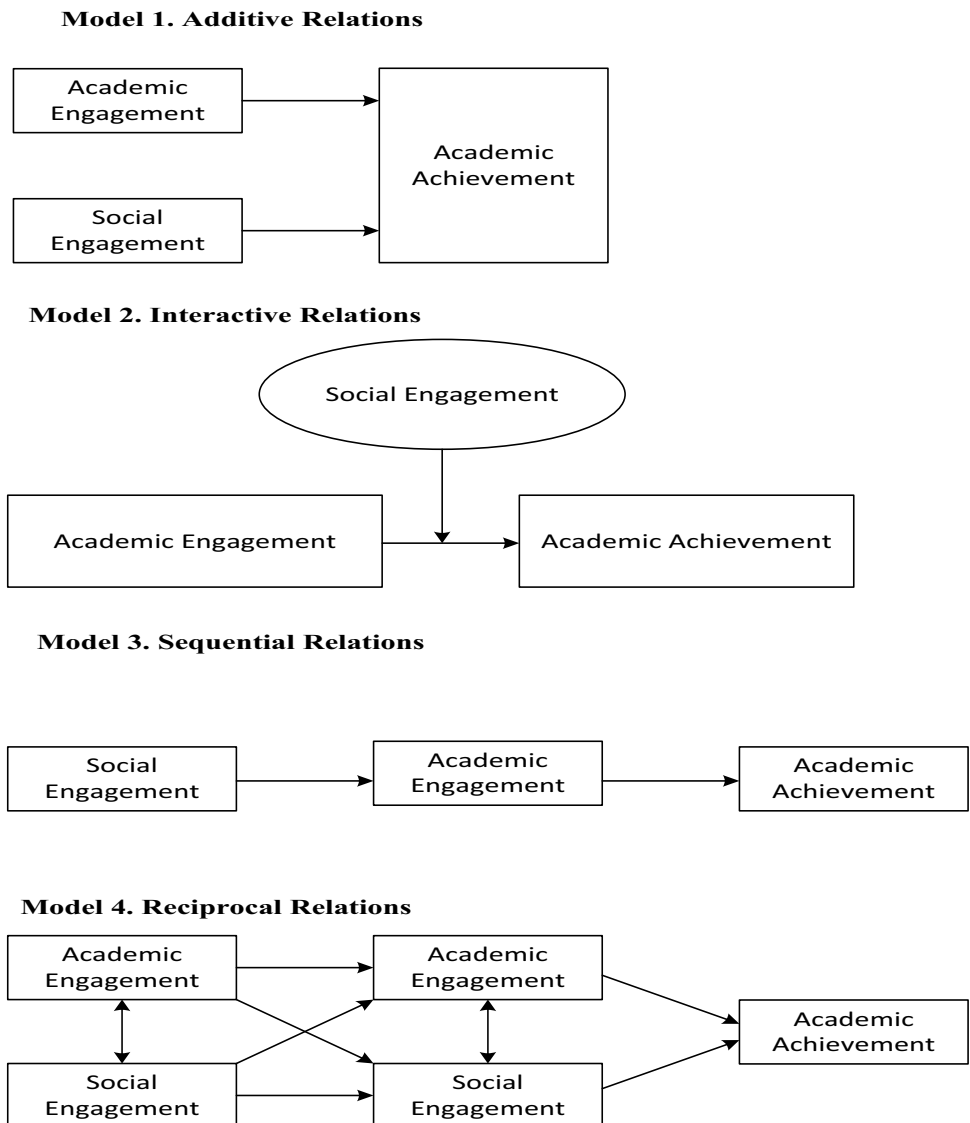
values of others (Ford 1992; Wentzel 1999). Adolescents with effective coordination skills balance priorities across contexts, for instance, by doing homework with peers and budgeting time for both schoolwork and academic activities with friends. Contrastingly, adolescents who are unable to coordinate their engagement often experience frustration or stagnation.

To understand what patterns of coordinated engagement to support, it is necessary to consider the multiple ways in which engagement in academic and social contexts relate or interact to shape academic achievement. In other words, it may not be the case that sustaining and coordinating a high level of engagement in both contexts is the only or even the most effective path for achieving academic success. While engagement in the schools' academic and social contexts contributes uniquely to academic achievement, conceptualizing school engagement as an integrative construct consisting of academic and social contexts will help researchers and educators to better understand the diverse engagement mechanisms leading to academic success in school.

To elucidate the relationship between school engagement contexts, four models are proposed to describe how engagement in the academic and social contexts could shape adolescents' academic achievement throughout school (see Fig. 1). The first model frames engagement in the academic and social contexts as independently acting on achievement. The second positions social engagement as moderating the effect of academic engagement on academic achievement. The third presents relations among the contexts of engagement as sequential, with fundamental orientations toward the self and social engagement guiding competency efforts in the academic context. Finally, in the fourth perspective, associations between academic and social engagement are described as reciprocal or bidirectional in nature.

Fig. 1 Hypothesized multi-level, multidimensional models describing the interactions and effects of academic and social engagement

Model 1. Additive Relations

Model 2. Interactive Relations

Model 3. Sequential Relations

Model 4. Reciprocal Relations

Taken together, the four models introduce mechanisms and pathways that represent the dynamic relations between engagement in the academic and social contexts and lay the groundwork for studying school engagement in a way that reflects school as a complex developmental context for youth. Importantly, these models are not considered to be inferior or superior to one another in an absolute sense. Each model has distinct strengths and weaknesses, and which is appropriate to use depends on the theoretical perspective(s) and hypotheses being tested in conjunction with consideration for developmental periods and settings. Furthermore, additional research is needed to determine if a specific model(s) has the best fit or explains the most variance in academic achievement. Thus, the following sections describe each of the four models along with any associated applications, benefits, and challenges of using each analytic approach.

Model 1: Additive Relations Between Contexts

The first model explores the relatively independent role each context plays in the development of school engagement (see Model 1 in Fig. 1). This model emphasizes academic activities and social interactions as unique developmental contexts, each of which harbors the potential to meet adolescents' needs and develop expectancies and values that affect academic success (Eccles and Roeser 2009, 2011). The academic and social contexts each represent an occasion for engaged adolescents to participate as well as an opportunity for developing motivation in adolescents who are disengaged. Hence, the effects of engagement in multiple contexts are additive: Students who are engaged in both academic and social contexts experience the highest probability of academic success.

According to this model, students who are heavily invested in academics may limit their overall level or quality of academic achievement if their academic engagement comes at the expense of engagement in social interactions; however, since each context is equally weighted in terms of developmental importance, it is possible that increased investment in one context could compensate for relatively less investment in the other. The challenge, though, is that this model likely does not apply at the extremes. There may be thresholds in the extent to which engagement in each context can be compensatory or additive. Very low or no engagement in a domain may indicate the presence of disengagement, which is a distinct process with its own negative and recursive effects on academic achievement (Skinner et al. 2009, 2008; Wang et al. 2015; Wang and Fredricks 2014). Thus, adolescents may need a minimal amount of academic and social engagement to be academically successful in school.

Furthermore, there may be a limit to how much very high levels of engagement in the social and/or academic context(s) can contribute to achievement. Over-engaging in the academic or social context could undermine achievement if it exceeds students' ability to maintain engagement while meeting expectations relating to academic achievement (Wang et al. 2015). High levels of academic engagement contribute to burnout from school, which can have detrimental effects on students' overall engagement, achievement, and psychological wellbeing (Salmela-Aro et al. 2009; Wang et al. 2015). For example, participating in extracurricular activities or upper-level coursework may increase students' value of and supports for academic success; yet, if students are involved in several activities and upper-level courses, they may struggle to coordinate their engagement to meet the multiple and competing demands on their time and energy. These highly academically engaged students could be further strained if they also attempt to maintain a very high degree of involvement in social interactions, the combined effects of which could undermine achievement over time. However, up to the point that students are over-taxed, high levels of engagement in the academic and social contexts could have additive effects on achievement.

Model 2: The Moderating Role of Social Engagement

In the second model (see Model 2 in Fig. 1), engagement in the academic context affects academic achievement directly, while engagement in the social context moderates the effect of academic engagement on academic achievement. Unlike Model 1, this model requires academic engagement for academic success, which can be enhanced or undermined by the level and quality of students' engagement in productive and positive social interactions. Engaging in productive social interactions can influence the amount of time students spend on schoolwork and whether they seek help when needed (Farb and Matjasko 2012; Patrick et al. 2007), thereby contributing to the effectiveness and persistence of academic engagement.

Additionally, engagement in the social context may influence the extent to which academic engagement shapes achievement because interacting with others in the context of doing academic activities can fuel motivation for academic achievement (Wentzel 2009). For example, when teachers incorporate group work or allow students to choose how they work in class, students can maximize their learning by explaining their ideas to others, asking questions, and considering multiple perspectives or strategies (Resnick et al. 2015). In these settings, students whose academic engagement occurs in the context of productive social interactions are more likely to have their psychological needs fulfilled, making them more motivated to persist through challenging work and re-engage after setbacks or failure (Ryan and

Patrick 2001; Wang and Eccles 2012a, b). Alternatively, students who avoid social interactions during group work or consistently choose not to work with others could undermine their ability to feel a sense of relatedness (Martin and Dowson 2009). Over time, this disconnection could erode their motivation and academic success, even among students who are otherwise highly academically engaged (Furrer and Skinner 2003).

Ensuring school engagement and academic achievement in this model requires understanding of how to best support sustained engagement in academics that coordinates with participation and investment in positive and productive social interactions. This model describes how socially and academically integrated classroom environments can enhance student achievement by harnessing students' active participation in social interactions in the context of academic learning and, conversely, how these environments can be disadvantageous to students who fail to effectively engage in social interactions in school.

This model is challenged by developmental differences in the alignment and importance of academic and social contexts as well as differences in how students engage in these contexts. Students' developmental stage and skills may determine the amount of structure needed to achieve significant moderating effects of social engagement on achievement. For example, while children in the early elementary school years are still developing core social skills for interacting productively with classmates and teachers, they may benefit more from structured social interactions (e.g., practice and modeling offered in responsive classrooms; Rimm-Kaufman et al. 2007). Adolescents in middle school, on the other hand, may seek freer forms of social interaction. Taken together, students' social skills and developmental orientation to their interactions with peers and teachers are important considerations for how to support engagement in the social domain and the effectiveness of moderating effects of social engagement on achievement.

Model 3: Sequential Relations Between Contexts

According to the third model (see Model 3 in Fig. 1), the relations between contexts are sequential, with social engagement fostering academic engagement, which in turn promotes academic achievement. As social interactions are the foundation of many academic activities, social engagement can facilitate or inhibit engagement in academics through the development of skills, dispositions, resources, and opportunities (Wentzel 1991). Engaging in the school's social context increases social competence, which is a function of an individual's ability to regulate social goals, knowledge, and strategies for social interactions (Ford 1992; Wentzel 1992). The development of social skills aids in the subsequent development of regulatory skills and sets the

stage for academic success (Patrick 1997). Furthermore, the peer and adult interactions afforded to socially engaged students support fundamental behavioral and emotional functioning in school and contribute to the development of perceived competencies that support high-level engagement in academics (Farb and Matjasko 2012; Wang and Eccles 2012a; Wentzel 2002). Conversely, estrangement from social interactions puts adolescents at risk for poor mental health outcomes (Hall-Lande et al. 2007) and eliminates opportunities to develop the social networks and skills that underwrite the prolonged academic engagement and achievement attained by more involved students (Eccles and Barber 1999).

Engaging in positive and productive interactions also enables students to acquire resources that can help them successfully navigate academic arenas of school (Dawes and Larson 2011; Eccles and Roeser 2011; Wentzel 2009). These resources include emotional support, promotion of efficacy beliefs, and instrumental support (Martin and Dowson 2009; Wentzel 2012). Students who have positive social interactions with adults and peers are more likely to be supported in their active engagement in class and offered academic assistance when needed (Wang and Eccles 2012b; Wang and Holcombe 2010). In addition, they are more likely to be encouraged by peers and adults to join and stay involved in learning when faced with academic setbacks (Juvonen et al. 2012). On the contrary, students who have negative experiences or perceptions of their classroom environment may avoid or struggle to engage in productive interactions with teachers or peers (Morrison et al. 2005). These experiences often put students at a dual disadvantage: They fail to develop the skills and resources that support learning while withdrawing from social interactions that could foster productive engagement in academics.

In sum, the level and quality of social engagement with teachers and peers sets the stage for academic engagement in this model, thus suggesting that schools and teachers should focus on supporting students' productive social engagement to help pave the way for subsequent academic engagement and success. Because school social engagement takes place within and outside of the classroom in both structured and unstructured spaces, this model illustrates how encouraging the development of social skills and fostering a positive social climate in schools is central to supporting students' academic success.

Model 4: Reciprocal Relations Between Contexts

Lastly, the fourth model describes reciprocal relations between the academic and social contexts whereby all contribute to the type of sustained engagement that drives academic achievement (see Model 4 in Fig. 1). In this model, engaging in either the social or academic context produces

reciprocal effects of engagement in the other. This reciprocity creates multiple pathways to achievement through the same process: Once a student is engaged in the academic and social contexts of school, the relationship between these contexts can become dynamic, cyclical, and self-sustaining, with synergistic effects on achievement. The skills, dispositions, resources, and opportunities developed through engaging in either contexts create momentum that can affect continued or increased engagement within and across contexts. For example, involvement in academics can develop the type of social capital that supports academic engagement while engendering social engagement and greater feelings of school connectedness (Eccles and Roeser 2011; Wang et al. 2018). Similarly, social engagement can increase a student's social competencies and resources, which can contribute to continued academic resilience as well as positive academic engagement (Knifsend and Graham 2012). Finally, the relational skills gained during interactions with peers, teammates, or club advisors can be transferred to the academic context when interacting with teachers and other adults (Fredricks and Eccles 2006).

Consider an example of a student who is only moderately engaged in overall academics but highly engaged in a challenging science class in which they enjoy positive social interactions with their science teacher and classmates. Because of her hard work, this student may perform well in the class and subsequently be encouraged by the teacher and other students to join the science club, where they may meet and befriend academically engaged friends. As the student spends more time with these peers outside of science class, they begin to identify with high-achieving peers, which contributes to feelings of academic competence and the internalization of loftier academic values and goals. In this way, positive social engagement can be momentum-building: Social engagement may serve as a catalyst for the development of social and academic skills and opportunities that lead to higher levels of motivation within the student, thus resulting in sustained engagement in school.

One challenge with this model is to identify the factors that interfere with reciprocal effects. Just as there are several on-ramps through which engagement can become momentous, there are also likely several exit ramps that can contribute to the derailment of students' engagement in academics or social interactions (Eccles and Roeser 2011). In comparison, the three previously discussed models have focused on conceptualizing and understanding the continuum of low to high engagement. This model, however, might also explain the sudden or gradual processes by which students become disengaged from academics or social interactions. For engagement in the academic and social context to be reciprocal, students' engagement needs to be reinforced through multiple iterations. While engagement can be momentum-building, socially disruptive processes like stereotype bias or experiencing an academic setback can interfere with that momentum and cause students to disengage socially or academically (Binning et al. 2018; Wigfield et al. 2006).

Summary of the Model Description

The proposed models are not mutually exclusive, and each offers a distinctive way to view and study developmental changes, as they reflect various levels of generality at which school engagement might be studied. For instance, multiple frameworks could be useful for investigating how engagement trajectories affect achievement over the course of primary and secondary school. Students encounter significant changes and obstacles to their engagement during the transition from primary school to secondary school; therefore, this shifting landscape necessitates modification of patterns of engagement as cognitive skills become more sophisticated, senses of identity deepen, and academic and social contexts increase in complexity (Eccles and Roeser 2011; Wang and Degol 2016). To preserve their level of achievement, students need to adapt their level and coordination of engagement within and between contexts within the school. This adaptation can be a turning point for many students at a time when their developing interests and investments in social relationships are changing their pattern of engagement in school.

Implications for Educational Practice and Policy

The significance of the multi-contextual perspective goes beyond the obvious notion that adolescents engage in school academically. The academic and social contexts constitute the most salient aspects of the school environment, and the dynamic processes between these two contexts characterize adolescent students' daily experiences in school, thereby forming their overall school engagement (e.g., Cash et al. 2015; Lynch et al. 2013). Given that these contexts are interrelated, understanding how school engagement affects adolescent students' academic achievement hinges upon the unique contributions of each context as well as the additive effects garnered from complexly embedded reciprocity (LaRusso et al. 2009). Furthermore, this entwined nature of engagement contexts within the school environment conveys a more holistic, multi-contextual approach be adopted that can prevent educators from endorsing a reductionist perspective on school engagement and misinterpreting student behavior and development (Eccles and Roeser 2011). Instead, a focus on the academic and social contexts of engagement provides a comprehensive view of the multiple developmental pathways that adolescent students can pursue in schools.

Per the multi-contextual perspective, each context is critical to academic development. Academic activities and

social interactions coalesce in school settings to establish a dynamic environment that can support adolescent students' psychological needs while offering diverse and overlapping opportunities for students to pursue their individual interests, values, and goals (Wigfield et al. 2006). Correspondingly, students have a greater chance of academic success when they maintain a dynamic balance of academic and social opportunities. By investing in each of these contexts, schools provide multiple pathways for students to become engaged in school, hence maximizing the additive, multiplicative, and synergistic effects of engagement across contexts. Schools can support these contexts by identifying opportunities for adolescents to engage in learning and interact with other, and then providing opportunities for integrating academic learning and social interaction.

Attending to the school's social features could be beneficial for students navigating the developmental tasks of forming relationships and exploring their identity during the transition to secondary school (Eccles et al. 1993). For example, building opportunities for students to initiate and participate in positive social interactions during the day can foster a sense of belonging and the kind of high-quality interpersonal relationships that help students attribute value to and work hard in school (Juvonen 2006). In addition, implementing instructional practices that support social interactions in the classroom can target students' achievement motivation by bridging social and academic contexts. Classrooms in which students are required to cooperate with and support one another's learning meet developmental needs for relatedness and social competence (Eccles et al. 1993; Skinner et al. 2009) while capitalizing on students' increased capacity for considering others' perspectives and being reflective (Ryan and Patrick 2001). Finally, providing a diverse range of high-quality, non-academic activities can initiate and sustain school engagement for students with a wide range of aptitudes and interests while providing a developmentally aligned gateway to engaging in school, even for those who are not initially inclined to value or feel accomplished in academics (Farb and Matjasko 2012).

Future Research

Understanding adolescent students' daily lives in school has received increased attention in psychological and educational research. Although we know much from existing research on student engagement, the proposed multi-contextual approach offers a supplementary perspective from which to study and understand school engagement. In this section, the authors identify areas that require clarification and expansion.

Supporting Academic Values

Engagement in school is malleable and can be fostered by targeting students' motivation to succeed (Binning et al. 2018; Wang and Amemiya 2019). Educators and researchers are challenged with understanding how best to support the development and internalization of students' achievement-related values. Adolescents reconcile and integrate different values within themselves and among other social agents (e.g., teachers, parents, and peers; Wigfield and Eccles 2000). Discrepancies in the values held by parents and those that are promoted in school can create both opportunities and challenges for adolescents as they endeavor to meet their psychological needs across contexts. To accomplish these developmental tasks, students participate in cycles of social affiliation, assimilation, and reorganization of social relationships and personal values (Ryan 2000). These socialization processes structure how students allocate time and effort differentially across various academic and social activities. By examining how students coordinate these divergent values, researchers and practitioners can better support their engagement in school. Future research should examine issues surrounding the task values that individual students bring to the school and whether a student has effective strategies for pursuing those values by coordinating engagement in multiple contexts. Future research should also investigate how socialization processes within classrooms and the home environment shape the development of academic values and determine the barriers and supports for students to integrate and actualize academic values across the contexts of school.

Reciprocal Dynamics Between Teacher, Parent, and Student Engagement

To improve and sustain students' academic success, more studies are needed to illuminate how teachers and parents influence engagement in each of the contexts of school. Future research should focus on how parent and teacher engagement in a student's schooling shape patterns of engagement across contexts (Skinner and Pitzer 2012). Some research has already identified numerous ways in which teacher and parent behavior, emotion, and cognition shape students' level and quality of engagement in school. For instance, teachers' and parents' behavioral support in the way of providing orderliness and structure has been linked to adolescents' motivation to learn and achieve in school (Wang and Eccles 2012a, b; Wang et al. 2014). Emotionally, teachers' respect and care has been connected to students' enjoyment of their schoolwork (Skinner and Belmont 1993) and development of positive achievement-related values (Wang 2012; Wang and Eccles 2013). Cognitively, teachers' and parents' planning and strategizing, along with genuinely considering students' perspectives, can cultivate

engagement by supporting their internalization of academic values and goals (Niemiec and Ryan 2009; Wang and Degol 2016; Wang and Sheikh-Khalil 2014).

Likewise, as students become more engaged, teachers and parents may become more energized to continue to support student engagement. Often, adults respond differently to students based on their observable participation in schoolwork (e.g., remaining on task, disruptive behavior; Kiuru et al. 2015). Specifically, hard-working, persistent students who value learning tend to evoke positive interactions with adults (Wang and Degol 2014). Teachers and parents are also more likely to engage with these students and support their efforts to succeed in school, thus illustrating the reciprocal nature of the engagement model (Skinner 2016). Conversely, students who are disengaged typically have issues with misbehavior and poor academic performance, resulting in teachers responding to these students using fewer supports, more coercive practices, and less patience (Skinner 2016).

Reciprocal processes between teacher, parent, and student engagement are complex, and are an important area for future research. Although extant studies on the complicated relationship between teachers, students, parents, and engagement tend to be cross-sectional and unidirectional, several longitudinal studies have revealed that the process of engagement can spark virtuous or vicious cycles of student engagement (Skinner and Pitzer 2012). A multi-contextual perspective sheds new light on how to conceptualize and describe these cycles, and provides a framework for studying how, why, and when they occur. Future research should disentangle the reciprocal dynamics between teacher, parent, and students' social and academic engagement so as to better understand how to create and sustain positive engagement between adolescents and adults.

Broadening the Social and Academic Contexts

Additional research is needed to understand the nature and function of the social context for student engagement in school. Current research on social engagement has focused largely on the interactions and relationships that occur in and across structured contexts (Rimm-Kaufman et al. 2007; Wentzel 2009, 2012), leaving interactions in unstructured spaces relatively unexplored. The existing research on social interactions in unstructured spaces (e.g., hallways and lunchrooms) tends to focus on bullying (Ferráns and Selman 2014), with little consideration given to how positive unstructured social interactions with adults and peers influence engagement and achievement. Future research could also differentiate the salience of social engagement with different types of peers and adults in school. Social engagement with academic (e.g., teachers) versus non-academic (e.g., coaches) adults, near versus distant peers, and peers versus friends may be significant to school engagement in ways that

are important for designing and implementing successful interventions.

Similarly, more studies are needed to better understand the components of the academic context that occur outside of classroom learning. There has been a significant amount of research on extracurricular involvement and some research on library programs, both of which have documented the importance of out-of-classroom, school-embedded academic opportunities (Eccles and Roeser 2011). However, this research has not been integrated into the broader academic context or conceptualized as components of school engagement. More research is needed to explore the role of other aspects of the out-of-class components of the academic context, including academic supports and resources (e.g., tutoring, career counseling, and college advising) and social structures and supports (e.g., mentoring, counseling, and peer tutoring). A full understanding of the out-of-classroom components of the academic context could open new doorways to intervening and supporting academic achievement in school.

Engagement Profiles Across Contexts

The multi-contextual model provides insight and structure for identifying a variety of profiles of student engagement in school. Recent work has identified profiles of behavioral, cognitive, and emotional dimensions of academic engagement in school (Li and Lerner 2011; Wang and Peck 2013). The multi-contextual model paves the way for studying profiles of students' engagement in the social context and for studying profiles of engagement across contexts. As with student engagement in the academic context, student engagement in the social context can be characterized in behavioral, emotional, and cognitive ways, creating a three-by-two conceptual space. Further, cognitive engagement in each context consists of a related-but-unique set of cognitive skills and involvement (Fredricks et al. 2004). Cognitive engagement across contexts may nurture the development of more complex higher-level cognitive skills that contribute to increased levels of academic learning and achievement. Future research could investigate the additive or multiplicative effects of a profile of high versus mixed levels of cognitive engagement across contexts. Alternatively, profiles of student engagement across contexts might be complementary and compensatory, particularly regarding emotional engagement. Students may not need to enjoy, value, and experience positive affect across all school contexts in order to be high-achieving; instead, high emotional engagement in one or two contexts might be able to compensate for low emotional engagement in another. Further investigation is needed to understand how the dimensions of engagement function within the contexts to serve as mechanistic

links that explain the effects of engagement on academic achievement.

Conclusion

As adolescents exhibit declining and low levels of engagement in school, many institutions are focusing on improving and supporting student engagement. The proposed re-conceptualization of school engagement holds promise for understanding the complexity and durability of adolescent students' engagement and disengagement across different contexts in school and identifying underlying processes that contribute to individual differences. Grounded in self-system theory and expectancy-value theory, the presented motivational models can be used as supplementary frameworks to clarify and enrich current theoretical discourse about the school context. In the multi-contextual perspective on school engagement, adolescents can engage in a variety of non-linear ways with multiple gateways to school engagement. An emphasis should be placed on considering the academic and social contexts, as they frame the contexts within which students construct and imbue their school experiences with meaning. This nuanced motivational model may also provide tools to help researchers and educators explore and nurture the long-term development of valuable but overlooked assets that anchor students' engagement.

Compliance with Ethical Standards

Conflicts of Interest The authors declare no conflict of interests.

References

Allen, J., Gregory, A., Mikami, A., Lun, J., Hamre, B., & Pianta, R. (2013). Observations of effective teacher-student interactions in secondary school classrooms: Predicting student achievement with the classroom assessment scoring system-secondary. *School Psychology Review, 42*, 76.

Allen, J. P., Pianta, R. C., Gregory, A., Mikami, A. Y., & Lun, J. (2011). An interaction-based approach to enhancing secondary school instruction and student achievement. *Science, 333*, 1034–1037.

Archambault, I., Janosz, M., Fallu, J., & Pagani, L. S. (2009). Student engagement and its relationship with early high school dropout. *Journal of Adolescence, 32*, 651–670.

Binning, K. R., Wang, M. T., & Amemiya, J. L. (2018). Persistence mindset among adolescents: Who benefits from the message that academic struggles are normal and temporary? *Journal of Youth and Adolescence, 48*, 269–286.

Caprara, G. V., Barbaranelli, C., Pastorelli, C., Bandura, A., & Zimbardo, P. G. (2000). Prosocial foundations of children's academic achievement. *Psychological Science, 11*, 302–306.

Cash, A. H., Bradshaw, C. P., & Leaf, P. J. (2015). Observations of student behavior in nonclassroom settings: A multilevel examination of location, density, and school context. *Journal of Early Adolescence, 35*, 597–627.

Connell, J. P. (1990). Context, self, and action: A motivational analysis of self-system processes across the life span. *The Self in Transition: Infancy to Childhood, 8*, 61–97.

Connell, J. P., & Wellborn, J. G. (1991). Competence, autonomy, and relatedness: A motivational analysis of self-system processes. In M. R. Gunnar & L. A. Sroufe (Eds.), *Self processes in development: Minnesota Symposium on Child Psychology* (Vol. 23, pp. 43–77). Chicago: University of Chicago Press.

Crosnoe, R. (2001). Academic orientation and parental involvement in education during high school. *Sociology of Education, 74*, 210–230.

Crosnoe, R., Johnson, M. K., & Elder, G. H. (2004). School size and the interpersonal side of education. *Social Science Quarterly, 85*, 1259–1274.

Dawes, N. P., & Larson, R. W. (2011). How youth get engaged: Grounded-theory research on motivational development in organized youth programs. *Developmental Psychology, 47*, 259–269.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry: An Integral Journal for the Advancement of Psychological Theory, 11*, 227–268.

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*, 405–432.

Eccles, J., & Roeser, R. (2009). Schools, academic motivation, and stage-environment fit. In R. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (3rd edn., pp. 404–434). Hoboken: Wiley.

Eccles, J. S. (2009). Who am I and what am I going to do with my life? Personal and collective identities as motivators of action. *Educational Psychologists, 44*, 78–89.

Eccles, J. S., & Barber, B. L. (1999). Student council, volunteering, basketball, or marching band: What kind of extracurricular involvement matters? *Journal of Adolescent Research, 14*, 10–43.

Eccles, J. S., & Roeser, R. W. (2011). School as a developmental context during adolescence. *Journal of Research on Adolescence, 21*, 225–241.

Eccles, J. S., Wigfield, A., Harold, R., & Blumenfeld, P. B. (1993). Age and gender differences in children's self- and task perceptions during elementary school. *Child Development, 64*, 830–847.

Farb, A. F., & Matjasko, J. L. (2012). Recent advances in research on school-based extracurricular activities and adolescent development. *Developmental Review, 32*, 1–48.

Feldman, A. F., & Matjasko, J. L. (2005). The role of school-based extracurricular activities in adolescent development: A comprehensive review and future directions. *Review of Educational Research, 75*, 159–210.

Ferráns, S. D., & Selman, R. L. (2014). How students' perceptions of the school climate influence their choice to upstand, bystand, or join perpetrators of bullying. *Harvard Educational Review, 84*, 162–187.

Finn, J. D., & Rock, D. A. (1997). Academic success among students at risk for school failure. *Journal of Applied Psychology, 82*, 221–234.

Finn, J. D., & Zimmerman, K. S. (2012). Student engagement: What is it? Why does it matter? In S. L. Christenson, A. L. Reschly & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 97–131). New York: Springer.

Ford, M. (1992). *Motivating humans: Goals, emotions, and personal agency beliefs*. New bury Park: Sage.

Frank, K. A., Schiller, K. S., Riegle-Crumb, C., Mueller, A. S., Crosnoe, R., Pearson, J., et al. (2008). The social dynamics of mathematics course taking in high school. *American Journal of Sociology, 113*, 1645–1696.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*, 59–109.

Fredricks, J. A., & Eccles, J. S. (2006). Is extracurricular participation associated with beneficial outcomes: Concurrent and longitudinal relations? *Developmental Psychology, 42*, 698–713.

Furrer, C., & Skinner, E. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of educational psychology, 95*, 148–162.

Hall-Lande, J. A., Eisenberg, M. E., Christenson, S. L., & Neumark-Sztainer, D. (2007). Social isolation, psychological health, and protective factors in adolescence. *Adolescence, 42*, 265–286.

Henry, K. L., Knight, K. E., & Thornberry, T. P. (2012). School disengagement as a predictor of dropout, delinquency, and problem substance use during adolescence and early adulthood. *Journal of Youth and Adolescence, 41*, 156–166.

Hughes, J. N., Luo, W., Kwok, O., & Loyd, L. (2008). Teacher-student support, effortful engagement, and achievement: A three year longitudinal study. *Journal of Educational Psychology, 100*, 1–14.

Juvonen, J. (2006). Sense of belonging, social relationships, and school functioning. In P. A. Alexander & P. H. Winne (Eds.), *Handbook of Educational Psychology* (2nd edn., pp. 655–674). Mahwah: Lawrence Erlbaum.

Juvonen, J. (2007). Reforming middle schools. *Educational Psychologist, 42*, 197–208.

Juvonen, J., Espinoza, G., & Knifsend, C. (2012). The role of peer relationships in student academic and extracurricular engagement. In S. L. Christenson, A. L. Reschly & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 387–401). New York: Springer.

Kiefer, S. M., & Ryan, A. M. (2011). Students' perceptions of characteristics associated with social success: Changes during early adolescence. *Journal of Applied Developmental Psychology, 32*, 218–226.

Kiuru, N., Aunola, K., Lerkkanen, M. K., Pakarinen, E., Poskiparta, E., Ahonen, T., et al. (2015). Positive teacher and peer relations combine to predict primary school students' academic skill development. *Developmental Psychology, 51*(4), 434–446.

Knifsend, C., & Graham, S. (2012). Too much of a good thing? How breadth of extracurricular participation related to affect and academic outcomes during adolescence. *Journal of Youth and Adolescence, 41*, 379–389.

Lance, K. C. (2002). Impact of school library media programs on academic achievement. *Teacher Librarian, 29*, 29.

LaRusso, M. D., Jones, S. M., Brown, J. L., & Aber, J. L. (2009). Schools as whole units: The complexities of studying the multiple contexts within schools. In L. M. Dinella (Ed.), *Conducting psychology research in school-based settings: A practical guide for researchers conducting high quality science within school environments*. Washington, D.C.: American Psychological Association.

Li, Y., & Lerner, R. M. (2011). Trajectories of school engagement during adolescence: Implications for grades, depression, delinquency, and substance use. *Developmental Psychology, 47*, 233–247.

Li, Y., & Lerner, R. M. (2013). Interrelations of behavioral, emotional, and cognitive school engagement in high school students. *Journal of Youth and Adolescence, 42*, 20–32.

Linnenbrink-Garcia, L., Rogat, T. K., & Koskey, K. L. (2011). Affect and engagement during small group instruction. *Contemporary Educational Psychology, 36*, 13–24.

Lynch, A. D., Lerner, R. M., & Leventhal, T. (2013). Adolescent academic achievement and school engagement: An examination of the role of school-wide peer culture. *Journal of Youth and Adolescence, 42*, 6–19.

Mahoney, J. L., Cairns, R. B., & Farmer, T. W. (2003). Promoting interpersonal competence and educational success through extracurricular activity participation. *Journal of Educational Psychology, 95*, 409–418.

Mahoney, J. L., Larson, R. W., & Eccles, J. S. (2005). *Organizing activities as developmental contexts for children and adolescents*. New Jersey: Lawrence Erlbaum Associates, Publishers Mahwah.

Martin, A. J., & Dowson, M. (2009). Interpersonal relationships, motivation, engagement, and achievement: Yields for theory, current issues, and educational practice. *Review of Educational Research, 79*, 327–365.

Midgley, C. (2002). *Goals, goal structures, and patterns of adaptive learning*. Mahwah: Lawrence Erlbaum.

Morrison, F. J., Bachman, H. J., & Connor, C. M. (2005). Current perspectives in psychology. *Improving literacy in America: Guidelines from research*.

Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory and Research in Education, 7*, 133–144.

Patrick, H. (1997). Social self-regulation: Exploring the relations between children's social relationships, academic self-regulation, and school performance. *Educational Psychologist, 32*, 209–220.

Patrick, H., Ryan, A. M., & Kaplan, A. (2007). Early adolescents' perceptions of the classroom social environment, motivational beliefs, and engagement. *Journal of Educational Psychology, 99*, 83–98.

Resnick, L., Asterhan, C., & Clarke, S. (2015). *Socializing intelligence through academic talk and dialogue*. Washington, DC: American Educational Research Association.

Rimm-Kaufman, S. (2004). School transition and school readiness: An outcome of early childhood development. In R. E. Tremblay, R. G. Barr, R. DeV & Peters (Eds.), *Encyclopedia on early childhood development* (pp. 1–7). Montreal: Centre of Excellence for Early Childhood Development.

Rimm-Kaufman, S. E., Fan, X., Chiu, Y. J., & You, W. (2007). The contribution of the Responsive Classroom Approach on children's academic achievement: Results from a three year longitudinal study. *Journal of School Psychology, 45*, 401–421.

Rodkin, P. C., Ryan, A. M., Jamison, R., & Wilson, T. (2013). Social goals, social behavior, and social status in middle childhood. *Developmental Psychology, 49*, 1139–1150.

Roeser, R. W., Eccles, J. S., & Sameroff, A. J. (2000). School as a context of early adolescents' academic and social-emotional development: A summary of research findings. *The Elementary School Journal*, 443–471.

Ryan, A. M. (2000). Peer groups as a context for the socialization of adolescents' motivation, engagement, and achievement in school. *Educational Psychologist, 35*, 101–111.

Ryan, A. M., Hicks, L., & Midgley, C. (1997). Social goals, academic goals, and avoiding seeking help in the classroom. *Journal of Early Adolescence, 17*, 152–171.

Ryan, A. M., & Patrick, H. (2001). The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American Educational Research Journal, 38*, 437–460.

Ryan, A. M., Pintrich, P. R., & Midgley, C. (2001). Avoiding seeking help in the classroom: Who and why? *Educational Psychology Review, 13*, 93–114.

Salmela-Aro, K., Kiuru, N., Leskinen, E., & Nurmi, J. E. (2009). School burnout inventory (SBI) reliability and validity. *European Journal of Psychological Assessment, 25*, 48–57.

Sanderson, C. A., Rahm, K. B., & Beigbeder, S. A. (2005). The link between the pursuit of intimacy goals and satisfaction in close same-sex friendships: An examination of the underlying processes. *Journal of Social and Personal Relationships, 22*, 75–98.

Schunk, D. H., Pintrich, P. R., & Meece, J. L. (2002). *Motivation in education: theory, research, and application*. Upper Saddle River: Pearson Education, Inc.

Shin, H., & Ryan, A. (2012). How do young adolescents cope with social problems? An examination of social goals, coping with friends, and social adjustment. *Journal of Early Adolescence, 32*, 851–875.

Skinner, E., Furrer, C., Marchand, G., & Kindermann, T. (2008). Engagement and disaffection in the classroom: Part of a larger motivational dynamic? *Journal of Educational Psychology, 100*, 765.

Skinner, E. A. (2016). Engagement and disaffection as central to processes of motivational resilience development. In K. Wentzel & D. Miele (Eds.), *Handbook of Motivation at School* (2nd edn., pp. 145–168). Malwah: Erlbaum.

Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology, 85*, 571–581.

Skinner, E. A., Kindermann, T. A., Connell, J. P., & Wellborn, J. G. (2009). Engagement and disaffection as organizational constructs in the dynamics of motivational development. In K. Wenzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp. 223–246). New York: Routledge.

Skinner, E. A., Kindermann, T. A., & Furrer, C. J. (2009). A motivational perspective on engagement and disaffection: Conceptualization and assessment of children's behavioral and emotional participation in academic activities in the classroom. *Educational and Psychological Measurement, 69*, 493–525.

Skinner, E. A., & Pitzer, J. R. (2012). Developmental dynamics of student engagement, coping, and everyday resilience. In S. L. Christenson, A. L. Reschly & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 21–44). New York: Springer.

Wang, M. T. (2012). Educational and career interests in math: A longitudinal examination of the links between perceived classroom environment, motivational beliefs, and interests. *Developmental Psychology, 48*, 1643–1657.

Wang, M. T., & Amemiya, J. L. (2019). Changing beliefs to be engaged in school: Using integrated mindset interventions to promote student engagement during school transitions. In J. Fredricks, A. Reschly, & S. Christenson (Eds.), *Handbook of Student Engagement Intervention*. Cambridge University Press.

Wang, M. T., Chow, A., Hofkens, T. L., & Salmela-Aro, K. (2015). The trajectories of student emotional engagement and school burnout with academic and psychological development: Findings from Finish adolescents. *Learning and Instruction, 36*, 57–65.

Wang, M. T., & Degol, J. (2014). Stay engaged: Current knowledge and future directions of student engagement research. *Child Development Perspectives, 17*, 24–29.

Wang, M. T., & Degol, J. S. (2016). School climate: A review of the definition, measurement, and impact on student outcomes. *Educational Psychology Review, 28*, 315–352.

Wang, M. T., & Eccles, J. S. (2012a). Social support matters: Longitudinal effects of social support on three dimensions of school engagement from middle to high school. *Child Development, 83*, 877–895.

Wang, M. T., & Eccles, J. S. (2012b). Adolescent behavioral, emotional, and cognitive engagement trajectories in school and their differential relations to educational success. *Journal of Research on Adolescence, 22*, 31–39.

Wang, M. T., & Eccles, J. S. (2013). School context, achievement motivation, and academic engagement: A longitudinal study of school engagement using a multidimensional perspective. *Learning and Instruction, 28*, 12–23.

Wang, M. T., & Fredricks, J. A. (2014). The reciprocal links between school engagement and youth problem behavior during adolescence. *Child Development, 85*, 722–737.

Wang, M. T., Fredricks, J. A., Ye, F., Hofkens, T. L., & Schall, J. (2018). Conceptualization and assessment of adolescents' engagement and disengagement in school. *European Journal of Psychological Assessment, 1*, 1–16.

Wang, M. T., Hill, N. E., & Hofkens, T. (2014). Parental involvement and African American and European American adolescents' academic, behavioral, and emotional development in secondary school. *Child Development, 85*, 2151–2168.

Wang, M. T., & Holcombe, R. (2010). Adolescents' perceptions of classroom environment, school engagement, and academic achievement. *American Educational Research Journal, 47*, 633–662.

Wang, M. T., Kiuru, N., Degol, J. L., & Salmela-Aro, K. (2018). Friends, academic achievement, and school engagement during adolescence: A social network approach to peer influence and selection effects. *Learning and Instruction, 58*, 148–160.

Wang, M. T., & Peck, S. C. (2013). Adolescent educational success and mental health vary across school engagement profiles. *Developmental Psychology, 49*, 1266–1276.

Wang, M. T., & Sheikh-Khalil, S. (2014). Does parental involvement matter for adolescent achievement and mental health in high school? *Child Development, 85*, 610–625.

Wentzel, K. R. (1991). Social competence at school: Relation between social responsibility and academic achievement. *Review of Educational Research, 61*, 1–24.

Wentzel, K. R. (1992). Motivation and achievement in adolescence: A multiple goals perspective. In D. Schunk & J. Meece (Eds.), *Student perceptions in the classroom* (pp. 287–306). Hillsdale: Lawrence Erlbaum.

Wentzel, K. R. (1997). Student motivation in middle school: The role of perceived pedagogical caring. *Journal of Educational Psychology, 89*, 411–419.

Wentzel, K. R. (1999). Social-motivational processes and interpersonal relationships: Implications for understanding motivation at school. *Journal of Educational Psychology, 91*, 76–97.

Wentzel, K. R. (2002). Are effective teachers like good parents? Teaching styles and student adjustment in early adolescence. *Child Development, 73*, 287–301.

Wentzel, K. R. (2009). Peers and academic functioning at school. In K. H. Rubin, W. M. Bukowski & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 531–547). New York: The Guilford Press.

Wentzel, K. R. (2012). Teacher-student relationships and adolescent competence at school. In T. Wubbels, P. den Brok & J. Levy (Eds.), *Interpersonal relationships in education* (pp. 19–35). Rotterdam: Sense Publishers.

Wigfield, A., Byrnes, J. P., & Eccles, J. S. (2006). Development during early and middle adolescence. *Handbook of educational psychology, 2*, 87–113.

Wigfield, A., & Eccles, J. S. (2000). Expectancy–value theory of achievement motivation. *Contemporary Educational Psychology, 25*, 68–81.

Wigfield, A., & Eccles, J. S. (Eds.). (2002). *Development of achievement motivation* (pp. 91–120). San Diego: Academic Press.

Zimmer-Gembeck, M. J., Chipuer, H. M., Hanisch, M., Creed, P. A., & McGregor, L. (2006). Relationships at school and stage-environment fit as resources for adolescent engagement and achievement. *Journal of Adolescence, 29*, 911–933.