Developmental Dynamics of Student Engagement, Coping, and Everyday Resilience

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Abstract

The goal of this chapter is to present a perspective on student engagement with academic work that emphasizes its role in organizing the daily school experiences of children and youth as well as their cumulative learning, long-term achievement, and eventual academic success. A model grounded in self-determination theory, and organized around student engagement and disaffection with learning activities, seems to offer promise to the study of academic development by specifying the dynamic cycles of context, self, action, and outcomes that are self-stablizing or self-amplifying, and may underlie trajectories of motivation across many school years. The study of ongoing engagement can be enriched by the incorporation of concepts of everyday resilience, focusing on what happens when students make mistakes and encounter difficulties and failures in school. The same personal and interpersonal resources that promote engagement may shape students' reactions to challenges and obstacles, with academic coping an especially important bridge back to reengagement. Future research can examine how these motivational dynamics contribute to the development of durable academic assets, such as self-regulated learning and proactive coping, and an academic identity that allows students eventually to take ownership for their own learning and success in school.

The last two decades have witnessed an explosion of interest in the construct of *academic engagement*, based on evidence that engagement is both a malleable state that can be shaped by schools *and* a robust predictor of students' learning, grades, achievement test scores, retention, and graduation (Appleton, Christenson & Furlong, 2008; Finn, 1993; Fredricks, Blumenfeld, & Paris, 2004; Furlong & Christenson, 2008; Jimerson, Campos, & Grief, 2003; Klem & Connell, 2004; Newmann, Wehlage, & Lamborn,

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1992; National Research Council [NRC], 2004; Sinclair, Christenson, Lehr, & Anderson, 2003). As enthusiasm for the notion of engagement has grown, however, so too has an appreciation for the complexity of the construct (Appleton et al., 2008; Fredricks et al., 2004). Engagement not only has an intuitively appealing holistic meaning that focuses on the quality of a student's involvement with school, but it also incorporates multiple distinguishable features, such as behavioral, emotional, cognitive, and psychological engagement. Definitions differ about whether to include the opposite of engagement; some do, using labels such as disengagement, disaffection, alienation, or burnout (Miceli & Castelfranchi, 2000; Salmela-Aro, Kiuru, Leskinen, & Nurmi, 2009; Vallerand et al., 1993). Conceptualizations disagree about the components that should be incorporated into the construct proper—some include academic outcomes such as grades and performance, whereas others include a student's feelings of bonding, academic identity, or positive relationships with teachers and classmates.

As the popularity of engagement grows, it has become increasingly important for researchers to clarify their conceptualizations, both the definition of engagement itself and the larger assumptions and models explaining how it operates. In our work, we view engagement as the outward manifestation of motivation (Skinner, Kindermann, Connell, & Wellborn, 2009a). At their heart, theories of motivation are most fundamentally concerned with the psychological processes that underlie *energy, purpose,* and *durability* of human action (Deci, 1992a). Engagement's characteristic effort, exertion, vigor, intensity, vitality, zest, and enthusiasm are markers of *energy*; its interest, focus, and concentration are outward expressions of *purpose* or *direction*; and its absorption, determination, and persistence are signs of *durability*. Motivation refers to the underlying sources of energy, purpose, and durability, whereas engagement refers to their visible manifestation. That is why constructs of engagement and disaffection have always been central to theories of motivation. In fact, every model of motivation in the field today includes an action component that shares core features with engagement (Skinner et al., 2009a; Wigfield, Eccles, Schiefele, Roeser, & Davis-Kean, 2006).

Our motivational conceptualization is located within a multilevel model of positive youth development and resilience, which recognizes engagement with school and other prosocial institutions as a protective factor and a positive force in the lives of children and youth, especially those who are at risk for underachievement and dropout. Engagement has been studied on at least four nested levels, as shown in Fig. 2.1. At the most general level, engagement refers to the involvement of children and youth in school as a prosocial institution, along with other institutions, such as church, youth groups, and community organizations. This kind of engagement promotes positive youth development and protects children from risks that emerge during early adolescence, such as delinquency, gang involvement, substance use, and unsafe sexual activity (e.g., Morrison, Robertson, Laurie & Kelly, 2002). At the second level, engagement with school refers to the involvement of children and youth in school activities, including academics, sports, band, student government, and extracurricular pursuits. This kind of engagement promotes students' completion and graduation from high school, and protects against absenteeism and dropout.

Nested within the classroom is the kind of engagement we are most interested in: student engagement with academic work, which we define as constructive, enthusiastic, willing, emotionally positive, and cognitively focused participation with learning activities in school (Connell & Wellborn, 1991; Skinner, Kindermann, Connell, et al., 2009a; Skinner, Kindermann, & Furrer, 2009b). This kind of engagement is critical for three reasons. First, it is a necessary condition for students to learn. Only if students participate in academic activities with both "hands-on" and "heads-on" will the time they spend in classrooms result in the acquisition of knowledge and skills. No matter how many extracurriculars students undertake or how attached they are to school, they will not learn or achieve

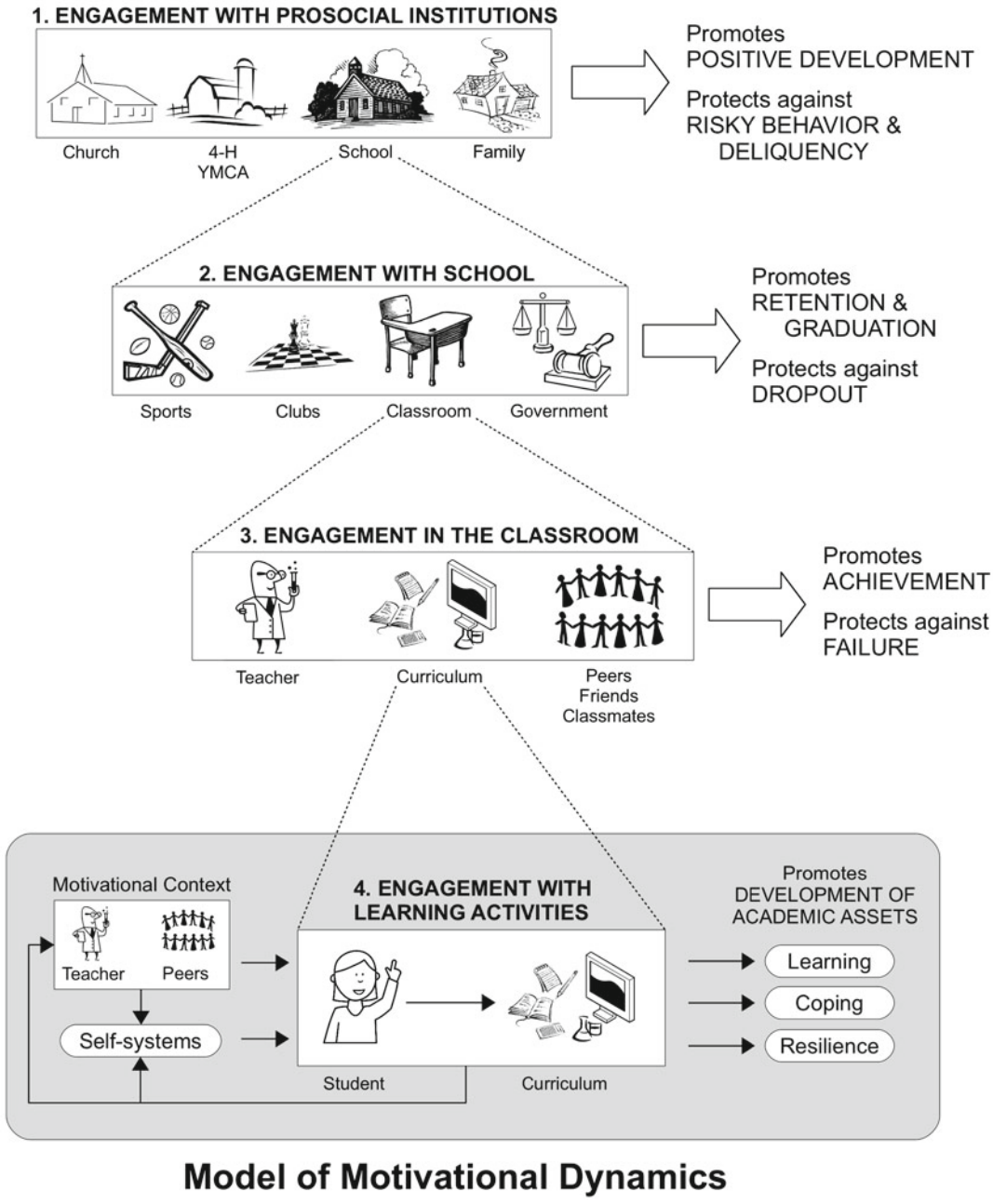

Fig. 2.1 A multilevel perspective on engagement with school that highlights student engagement with learning activities as central to an understanding of the development of motivational dynamics

unless they are constructively engaged with the academic work of the classroom. Engagement is the active verb between the curriculum and actual learning. Engagement depicts the "proximal processes" that ecological models (e.g., Bronfenbrenner & Morris, 1998) posit are the primary engines of development. As a result, engagement is the direct (and only) pathway to

cumulative learning, long-term achievement, and eventual academic success.

Second, engagement shapes students' everyday experiences in school, both psychologically and socially. High-quality engagement and its resultant learning and scholastic success lead students to feel more academically competent and connected, and elicit more positive interactions and support from teachers. Moreover, engaged students are allowed entry into friendships and peer groups with more engaged classmates. In contrast, disengaged students tend to perform poorly in school and so feel marginalized, resentful, and ineffective. Teachers respond to such students with less support and more coercion, and disaffected students are more likely to join disengaged peer groups and become friends with other disaffected students. Hence, students' classroom engagement plays an important role in the quality of their daily experiences while they are attending school.

Third, engagement is a critical contributor to students' academic development. Engagement is a part of the process of everyday academic resilience, and an energetic resource that helps students cope more adaptively with daily stressors, challenges, and setbacks in school. From episodes of effective coping may come the development of durable long-term motivational mindsets and skill sets, such as an autonomous learning style or mastery orientation, self-regulated learning, a positive academic identity, and eventually ownership for one's own progress in high school (and beyond). Therefore, engagement can be seen as a key player in the development of academic assets that takes place across the school year and over the arc of a student's entire educational career.

Purpose of the Chapter

This chapter is structured around these themes, which we refer to collectively as the dynamics of motivational development. First, we provide our conceptualization of engagement and explain the larger motivational model that depicts its functioning. We then review evidence that engagement is central to feed-forward and feedback loops that shape educational pathways. Third, we explain how these cycles of engagement may influence the development of everyday academic resilience, and specifically, how children and youth cope with challenges and setbacks in school. We also speculate how these dynamics may cumulatively shape the development of important but elusive personal assets and social resources at multiple points in a student's academic career. In the final section, we explore some important implications for educational practice.

Motivational Model of Context, Self, Action, and Outcomes

Engagement is the *action* component of our model of motivational development (Connell & Wellborn, 1991; Deci & Ryan, 1985, 2000; Skinner & Wellborn, 1994). In this context, "action" refers to goal-directed emotion-infused behaviors, reflecting the idea that actions are the natural unit of analysis for conceptualizing transactions between people and their social and physical contexts (Boesch, 1976; Brandtstädter, 1998; Chapman, 1984). Hence, engagement refers to energized, directed, and sustained action, or the observable qualities of students' actual interactions with academic tasks.

As a result, as depicted in Fig. 2.2, the motivational conceptualization of engagement includes not only behavior but also emotion and cognitive orientation: the behavioral dimension of engagement includes effort, intensity, persistence, determination, and perseverance in the face of obstacles and difficulties; emotional or affective engagement includes enthusiasm, enjoyment, fun, and satisfaction; and cognitive engagement encompasses attention, concentration, focus, absorption, "heads-on" participation, and a willingness to go beyond what is required. This conceptualization also includes the opposite of engagement, referred to as *disaffection* or burnout. Motivational conceptualizations of disaffection comprise the ways in which students withdraw

	Engagement	Disaffection
Behavior Initiation Ongoing participation Re-engagement	Action initiation Effort, Exertion Working hard Attempts Persistence Intensity Focus, Attention Concentration Absorption Involvement	Passivity, Procrastination Giving up Restlessness Half-hearted Unfocused, Inattentive Distracted Mentally withdrawn Burned out, Exhausted Unprepared Absent
Emotion Initiation Ongoing participation Re-engagement	Enthusiasm Interest Enjoyment Satisfaction Pride Vitality Zest	Boredom Disinterest Frustration/anger Sadness Worry/anxiety Shame Self-blame
Cognitive Orientation Initiation Ongoing participation Re-engagement	Purposeful Approach Goal strivings Strategy search Willing participation Preference for challenge Mastery Follow-through, care Thoroughness	Aimless Helpless Resigned Unwilling Opposition Avoidance Apathy Hopeless Pressured

Fig. 2.2 A motivational conceptualization of engagement and disaffection in the classroom

from learning tasks, including physical withdrawal of effort, such as lack of exertion, passivity, merely going through the motions, or exhaustion as well as their mental counterparts, such as lack of concentration, apathy, inattention, or amotivation. Emotional reactions are critical components of disaffection because patterns of action differ depending on whether lack of participation is based on boredom, anxiety, shame, sadness, or frustration.

Indicators Versus Facilitators of Engagement

In order to study how it functions, indicators of engagement must be distinguished from facilitators of engagement (Sinclair et al., 2003). In general, *indicators* are markers or descriptive parts *inside* a target construct, whereas *facilitators* are explanatory causal factors, *outside* the target construct, that have the potential to influence the

target. For example, if a target of study is weight loss, then indicators of weight loss include pounds on a scale, dimensions of the body, and the body mass index. Potential facilitators of weight loss include a healthy diet and exercise. It is an empirical question whether a particular pattern of eating and exercise actually produces any weight loss, and even if they are highly correlated, it does not mean that diet is part of weight loss. In fact, it is essential to conceptually distinguish them and to measure them separately, in order to determine whether the potential facilitators can actually influence indicators of the target. Both indicators and facilitators can be distinguished from the *outcomes* of engagement, which refer to the results that engagement itself can produce. In the weight loss example, outcomes or effects of weight loss might include lowered blood pressure or increased energy. It is an empirical question whether weight loss can influence these outcomes, however, and even if weight loss and outcomes are highly correlated, lowered blood pressure is not an indicator of weight loss.

Maintaining the distinctions among indicators, facilitators, and outcomes of engagement can add clarity to conceptualizations and improve studies of engagement. In the motivational model, indicators of engagement must be *action* components, and so in addition to the behavioral, emotional, and cognitive features of action described previously, we would accept as indicators of engagement other observable student interactions with academic activities, such as on-task behavior or homework completion. In contrast, academic performance (grades on tests or homework, semester grades, achievement test scores) would *not* be indicators of engagement. They are potential *outcomes*. Any studies that measure engagement by combining, for example, GPA with on-task behavior, are confusing because they do not allow the examination of whether more on-task behavior (an indicator) produces a higher GPA (an outcome).

In work on engagement, the greatest confusion is between indicators and facilitators of engagement. Many conceptualizations and measures combine them. In the motivational model, we distinguish two kinds of potential facilitators: personal and social. Personal facilitators are students' self-perceptions or *self-system processes* which refer to durable appraisals of multiple features of the self, such as self-efficacy or a sense of belongingness in school. Social facilitators, also referred to as *social contexts*, are interpersonal interactions with important social partners, such as teachers, peers, and parents, and include their quality and nature, such as whether they are warm, dependable, or controlling.

Explanatory research and intervention efforts require a clear demarcation between indicators and facilitators. If, for example, theories hold that supportive interactions with teachers are an indicator of engagement itself, as opposed to a facilitator that potentially contributes to engagement, research that combines these factors into a "meta-construct" can never investigate whether teacher support influences student engagement. In order to empirically explore whether interpersonal factors and self-perceptions shape the development of engagement and disaffection, it is essential to conceptualize and measure facilitators separately from indicators.

Sources of Engagement: Self-determination Theory

Many important facilitators and outcomes of engagement have been integrated into a model of positive motivational development grounded in self-determination theory, called the Self-System Model of Motivational Development (SSMMD; Connell & Wellborn, 1991; Deci, Connell & Ryan, 1985; Deci & Ryan, 1985, 2000; Deci, Vallerand, Pelletier & Ryan, 1991; Reeve, 2002; Ryan, Connell & Deci, 1985; Skinner & Wellborn, 1994). This model is rooted in organismic assumptions about intrinsic motivation, asserting that "people are innately curious, interested creatures who possess a natural love of learning and who desire to internalize the knowledge, customs, and values that surround them" (Niemiec & Ryan, 2009, p. 133). The core idea is that humans come with basic needs, and when these needs are met by social contexts or activities, people will engage constructively

with them. When these needs are thwarted, people become disaffected, that is, they withdraw, escape, or act out.

The model posits three fundamental psychological needs that are based in physiology and are evolutionarily adaptive: the needs for relatedness, competence, and autonomy. School contexts influence engagement by supporting (or undermining) students' experiences of themselves as related in school, as competent to succeed, and as autonomous or self-determined learners. From these experiences, children cumulatively construct views of themselves, referred to as *self-system processes* (Connell & Wellborn, 1991). These beliefs are not fleeting self-perceptions; they are durable convictions that shape apparent reality and so guide action. *Relatedness* refers to the need to experience oneself as connected to other people, as belonging; it is hypothesized to underlie processes of attachment (Ainsworth, 1979; Bowlby, 1969/1973; Bretherton, 1985; Crittenden, 1990) and has been studied across the lifespan as the "need to belong" (Baldwin, 1992; Baumeister & Leary, 1995). Although relatedness is a relatively recent addition to research in the academic domain, studies find links between a sense of belonging in school and multiple indicators of motivation, engagement, and adjustment (e.g., Anderman, 1999; Battistich, Solomon, Kim, Watson, & Schnaps, 1995; Booker, 2006; Eccles & Midgley, 1989; Furrer & Skinner, 2003; Goodenow, 1993; Kuperminc, Blatt, Shahar, Henrich, & Leadbetter, 2004; Lynch & Cicchetti, 1992, 1997; Roeser, Midgley, & Urdan, 1996; Ryan, Stiller, & Lynch, 1994; Wentzel, 1997, 1998, 1999).

Competence refers to the need to experience oneself as effective in one's interactions with the social and physical environments (Elliot & Dweck, 2005; Harter, 1978; Koestner & McClelland, 1990; White, 1959) and is hypothesized to underlie processes of control (Bandura, 1997; Peterson, Maier, & Seligman, 1993; Seligman, 1975). For competence, self-system processes have been studied as perceptions of control (Bandura, 1997; Dweck, 1991; Heckhausen & Schultz, 1995; Skinner, 1996; Weisz, 1986); these are perhaps the most frequently studied academic self-perceptions (Wigfield et al., 2006). Perceptions of self-efficacy, ability, academic competence, and control are robust predictors of student engagement and eventual learning, academic performance, and achievement (see Bandura, 1997; Dweck, 1999; Harter, 1982; Skinner, 1995, 1996; Skinner, Zimmer-Gembeck, & Connell, 1998; Stipek, 2002a; Weiner, 2005; Wigfield et al., 2006).

Autonomy refers to the need to express one's authentic self and to experience that self as the source of action, and is hypothesized to underlie processes of self-determination (Deci & Ryan, 1985, 2000, 2002a). For autonomy, self-system processes have been studied as autonomy or goal orientations (Deci & Ryan, 1985, 1991; Dweck, 1991; Kuhl, 1987; Ryan & Connell, 1989) and contain views about the self as motivated for self-determined or intrinsic reasons (or for extrinsic reasons). Students with a greater sense of *autonomy* in school also show higher levels of classroom engagement, enjoyment, persistence, achievement, and learning (e.g., Deci & Ryan, 2002b; Grolnick & Ryan, 1987; Hardre & Reeve, 2003; Miserandino, 1996; Otis, Grouzet, & Pelletier, 2005; Patrick, Skinner, & Connell, 1993; Vallerand, Fortier, & Guay, 1997; Vasalampi, Salmela-Aro, & Nurmi, 2009).

Schools, Teachers, Peers, Parents, and the Social Context

Although all children and youth come with the needs for relatedness, competence, and autonomy, they act on the motivations provided by these needs in social contexts, like schools, that are differentially responsive to them. The motivational model emphasizes the importance of supportive interactions with teachers, peers, and parents, and intrinsically interesting academic work.

Teachers Shape Engagement

According to the model, three important qualities of student-teacher interactions are pedagogical caring (which supports experiences of relatedness), optimal structure (which facilitates competence), and autonomy support (which promotes self-determined motivation). Research validates

the notion that all three are important in shaping motivation and engagement in the classroom (Hamre & Pianta, 2001; Murray & Greenberg, 2000; Pianta, 1999, 2006; Ryan & Stiller, 1991; Stipek, 2002b; Wentzel, 1998, 2009; Wigfield et al., 2006). Early work showed that properly structured classrooms promote student motivation (e.g., Ames & Ames, 1985; Rosenholtz & Wilson, 1980). Subsequently, the quality of student-teacher relationships, in the form of caring supportive alliances, was emphasized as a predictor of motivation and achievement (Birch & Ladd, 1997, 1998; Goodenow, 1993; Murray & Murray, 2004; Ryan & Powelson, 1991). Recently, autonomy supportive instruction (giving choices, making learning relevant) has been linked to engagement (Deci & Ryan 2002b Guthrie & Davis, 2003; Reeve, Jang, Carrell, Jeon & Barch, 2004).

The model focuses on all three facets of teacher support: warmth, provision of structure, and autonomy support, all of which have been shown to contribute to students' positive self-perceptions as well as to classroom engagement (e.g., Skinner & Belmont, 1993). Close and caring relationships with teachers and other adults in school have been shown to be an important predictor of student engagement across race, ethnicity, and class (e.g., Brewster & Bowen, 2004; Connell, Halpern-Felsher, Clifford, Crichlow, & Usinger, 1995; Connell, Spencer, & Aber, 1994; Garcia-Reid, Reid & Peterson, 2002; Wooley & Bowen, 2007).

Peers Shape Engagement

In addition to teachers, peers and parents also influence student motivation and engagement (Wentzel, 1998). Although many studies highlight negative developmental influences from friends, in recent years, an increasing number show that children's friendships in school can also exert positive effects on academic development (e.g., Altermatt & Pomeranz, 2003; Hallinan & Williams, 1990; Kandel, 1978; Ladd, 1990; Ladd, Kochenderfer & Coleman, 1997; Ryan, 2001; Wentzel, McNamara-Barry, & Caldwell, 2004; for a review, see Bukowski, Motzoi & Meyer, 2009), especially school motivation and achievement (e.g., Berndt, 2004; Berndt, Hawkins & Jiao, 1999; Berndt & Keefe, 1995; Berndt, Laychak & Park, 1990). Moreover, studies of naturally occurring peer groups also suggest that peers influence students' motivation, behavior, and achievement in school (e.g., Cairns, Neckerman & Cairns, 1989; Chen, Chang & He, 2003; Estell, Farmer, Cairns & Cairns, 2002; Gest, Rulison, Davidson & Welsh, 2008; Kindermann, 1993, 2007; Kindermann, McCollam & Gibson, 1996; Kindermann & Skinner, 2009, in press).

Parents Shape Engagement

Following up on the large body of work demonstrating a connection between parenting practices and school achievement, studies are accumulating which suggest that one pathway through which parenting has an impact on children's school performance is by shaping children's classroom engagement, intrinsic motivation, preference for challenge, valuing and commitment to school, and enthusiasm, enjoyment, and interest in schoolwork (Connell & Wellborn, 1991; Epstein & Sanders, 2002; Ginsberg & Bronstein, 1993; Gottfried, Fleming, & Gottfried, 1994; Grolnick & Ryan, 1989, 1992; Grolnick, Ryan, & Deci, 1991; Grolnick & Slowiaczek, 1994; Jeynes, 2007; Pomerantz, Grolnick, & Price, 2005; Reynolds & Clements, 2005; Steinberg, Elmen, & Mounts, 1989; Wigfield et al., 2006). Longitudinal studies of the motivational mediators between authoritative parenting and children's school performance are especially informative (e.g., Steinberg et al., 1989) as are studies that examine parents' use of specific motivational practices (e.g., Gottfried, Marcoulides, Gottfried, & Oliver, 2009; Grolnick & Slowiaczek, 1994).

The Nature of Academic Work

Especially important determinants of motivation and engagement are the academic tasks students undertake in the classroom (Newmann, King, & Carmichael, 2007; Newmann et al., 1992; Wigfield et al., 2006). Because learning activities are the "interaction partners" with which students engage, their qualities influence the nature of the interaction. Hence, active participation, engagement, and effort are promoted by tasks that are hands-on, heads-on, project-based, relevant,

progressive, and integrated across subject matter, or in other words, intrinsically motivating, inherently interesting, and fun (Deci, 1992b, 1998; Renninger, 2000). *Authentic work* is a term used to characterize "tasks that are considered meaningful, valuable, significant, and worthy of one's effort, in contrast to those considered nonsensical, useless, contrived, trivial, and therefore unworthy of effort" (Newmann et al., 1992, p. 23). By connecting to the "real world" beyond school, such tasks offer students a sense of purpose and ownership (Newmann et al., 2007).

Motivational Dynamics of Engagement and Disaffection

The motivational model is depicted graphically in Fig. 2.3. According to the model, school contexts differentially provide children and youth with opportunities to fulfill their fundamental psychological needs (through provision of warmth/involvement, structure, and autonomy support). Based on these experiences, students construct self-system processes which are organized around relatedness, competence, and autonomy. These self-system processes in turn provide a motivational basis for their patterns of engagement versus disaffection with learning activities. Constructive engagement is considered to be a critical mechanism through which motivational processes contribute to learning and achievement.

Reciprocal Feedback Effects of Engagement

As can be seen in Fig. 2.3, engagement not only contributes to students' subsequent learning and performance, but it has a reciprocal connection to teachers, parents, and peers. The key idea is that students' motivation, as expressed through their engagement, is salient to their social partners and so has an impact on the way that others respond to them. Most of the research that links motivational support (from teachers, parents, or peers) to student engagement is correlational and cross-sectional, and is typically interpreted as reflecting the feed-forward effects of social partners on students' motivation. However, a few experimental and longitudinal studies have been conducted which show that adults respond to children differentially depending on their on-task, engaged, or disruptive behaviors, and that children join or are allowed entry into friendships and peer groups based on their engagement in school.

Effects of Engagement on Teachers

Only a few studies have explicitly investigated whether students' engagement shapes how teachers subsequently respond to them (Furrer &

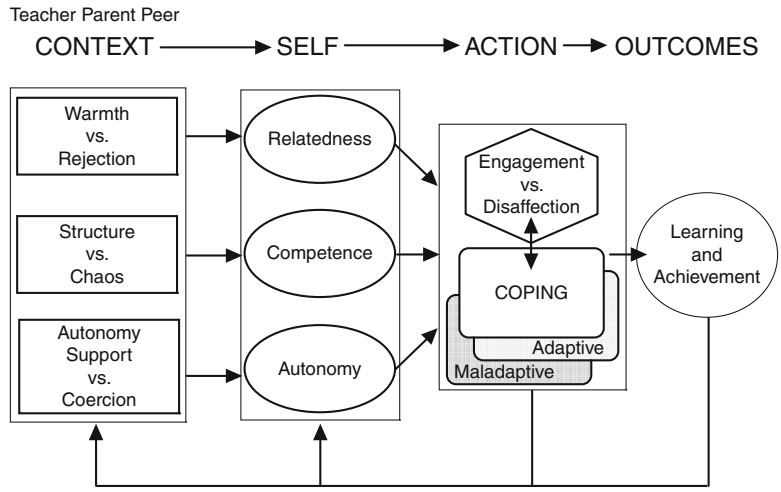

Fig. 2.3 A dynamic model of motivational development organized around student engagement and disaffection

Skinner, 2009; Pelletier & Vallerand, 1996). For example, kindergarteners who were more behaviorally engaged in the classroom tended to develop closer relationships with their teachers over time than did those who were less engaged (Ladd, Birch, & Buhs, 1999). Similarly, elementary school students (in grades 3 through 5) with higher behavioral engagement in the fall experienced increases in teacher support over the school year, and students with higher emotional engagement experienced increases in teacher autonomy granting as the year progressed (Furrer & Skinner, 2009; Skinner & Belmont, 1993). In the same vein, two observational studies, one of middle schoolers (Altermatt, Jovanovic, & Perry, 1998) and one of junior high and high schoolers (Fiedler, 1975), revealed that students who showed more participation in class elicited greater teacher responsiveness.

Effects of Engagement on Parents

A growing body of research also examines children's effects on their parents (Bell, 1968, 1979; Patterson, 1982). A portion of this research looks directly at parental reactions to children who are resistant, unresponsive, uncooperative, or off-task (or who are perceived to be so), and suggests that parents respond to such children by withdrawing their involvement or becoming more controlling (power assertive and coercive; Anderson, Lytton, & Romney, 1996; Grolnick & Apostoleris, 2002; Patterson, 1982). Especially interesting are the few experimental studies in which child behavior was manipulated or assigned. In one study, children ages 9–11 were trained as confederates to be difficult, uncooperative, and disinterested (versus easy, cooperative, and interested); mothers who were trying to teach children anagrams were more controlling with the "difficult" children (Jelsma, 1982). Taken together, these studies suggest that students' academic engagement is likely to shape how adults, both teachers and parents, respond to them.

Effects of Engagement on Peers

In research on the effects of children's friendships and peer groups on their academic performance, a few studies examine what are referred to as *selection* effects, or how children enter and leave friendship and peer relationships. The key idea is that children select and are selected by other children based in part on their engagement in school, with more engaged children and youth joining peer and friendship groups with more engaged peers, and more disaffected children and youth joining groups of more disaffected peers. Evidence comes from cross-sectional studies showing that students' own levels of engagement are correlated with those of their friendship networks and peer groups (Kindermann & Skinner, in press), and longitudinal studies which show that despite high turnover in actual members over a school year, there is relatively high stability in the motivational composition (average levels of engagement) of children's peer groups (Kindermann, 1993, 2007). Taken together, this work suggests that children who are more engaged join peer and friendship networks of other children who are likewise more engaged in school.

Cycles of Engagement and Disaffection

Motivational dynamics involve the feed-forward and feedback causal effects among context, self, action, and outcomes, which result in feedback loops or "cycles" of engagement. Supportive interactions with teachers, parents, and peers contribute to positive self-perceptions, which promote student engagement with interesting and meaningful academic activities—which facilitates learning and the development of competence. High-quality engagement and achievement in turn bolster students' positive self-perceptions, elicit further teacher and parent support, and allow children to join networks of engaged peers and friends. In contrast, unsupportive interpersonal interactions or perceptions of the self as unwelcome, incompetent, or pressured in school lead to disaffection—which undermines learning and achievement. Disaffection and failure in turn undercut students' sense of self, can result in withdrawal of support or increasing coercion from teachers and parents, and lead children to join more disengaged friendship and peer groups.

These feedback loops are self-amplifying, forming *virtuous* or *vicious* cycles that magnify initial individual differences across time, making motivationally "rich" students richer, and motivationally "poor" students poorer. Studies examining engagement at multiple time points have empirically captured some of these dynamics, some involving motivational resources, such as perceived control (e.g., Schmitz & Skinner, 1993), achievement (e.g., Gottfried, Marcoulides, Gottfried, Oliver, & Guerin, 2007), or teacher support (e.g., Altermatt et al., 1998; Fiedler, 1975; Skinner & Belmont, 1993), and some involving multiple components (e.g., Skinner, Furrer, Marchand, & Kindermann, 2008; Skinner et al., 1998). Although other kinds of cycles are theoretically possible, all the dynamics that have been documented so far have turned out to be self-amplifying or self-stabilizing, in that they magnify or verify the pattern of individual differences present in the initial conditions.

Trajectories of Engagement

These dynamics may be responsible for the high stability of engagement and disaffection, and may underlie interindividual differences in trajectories of motivation over a student's school career. Although there is an overall normative decline in engagement across school years (Wigfield et al., 2006), research also documents a high level of interindividual stability. That is, children's levels of engagement at the beginning of the school year are highly correlated with their levels at the end of the school year (e.g., Skinner & Belmont, 1993); engagement during one grade is highly correlated with engagement in neighboring grades (e.g., Gottfried, Fleming, & Gottfried, 2001); and children's engagement in the early elementary school years is highly correlated with their engagement in middle school (e.g., Gottfried et al., 2007; Skinner et al., 1998) and high school (Gottfried et al., 2001; Marks, 2000; Otis et al., 2005). In fact, in the few studies comparing such relations, interindividual stability seems to *increase* as students move through junior high and high school (Gottfried, 1990; Gottfried et al., 2001).

Although it can be tempting to interpret such high cross-time correlations as evidence that engagement is a fixed motivational trait, research on the dynamics of engagement contradict this conclusion. Taken together, studies demonstrate that engagement is a malleable state, open to contextual conditions, that can be shaped by interpersonal and task characteristics. Dynamic stability is continually recreated by the feedback loops between students' engaged and disaffected actions, on the one hand, and their facilitators and outcomes, on the other, including the context created by teachers, parents, peers, and the nature of academic work, students' self-perceptions, and their performance outcomes. It is the thousands of episodes of engaged participation or disaffected withdrawal that organize these feedback loops, which is why engagement is a sensitive indicator of the state of the whole motivational system.

Engagement and the Development of Coping and Everyday Resilience

Cycles of ongoing engagement also create a motivational context that may shape how students deal with everyday difficulties, challenges, and obstacles in school. As studied under the name "everyday resilience" or "academic buoyancy" (Martin & Marsh, 2006, 2008a, 2008b, 2009), these processes refer to resources students can access to help them bounce back from setbacks and failures, and allow them to constructively reengage with challenging academic tasks after running into obstacles or problems. Academic buoyancy refers to "students' ability to successfully deal with academic setbacks and challenges that are typical of the ordinary course of school life (e.g., poor grades, competing deadlines, exam pressure, difficult schoolwork)" (Martin & Marsh, 2008a, p. 72). The motivational model suggests that both interpersonal resources, such as teacher warmth or peer engagement, and personal resources, such as a sense of competence, relatedness, and autonomy, are assets that can support everyday resilience and reengagement.

Academic Coping as a Mechanism of Everyday Resilience

A primary process of resilience in school is *coping,* which describes how students deal with challenges, threats, and failures in their daily experiences with academic tasks (Skinner & Wellborn, 1994, 1997). Work on coping is distinguished by its focus on what children and youth actually do in their real-life encounters with stressful events. These reactions can be classified into *families of coping*, such as problem-solving, support seeking, or escape (Skinner, Edge, Altman, & Sherwood, 2003). Many of these ways of coping have been studied individually, but when considered as a *profile* or *repertoire* of ways of coping, it is possible to examine how they work together cumulatively as a series of adaptive (or maladaptive) responses to problems and difficulties with schoolwork or other stressful events in school.

A developmental model has identified a dozen families of coping (Skinner et al., 2003), some of which promote reengagement (e.g., problem-solving or help seeking) and some of which lead to giving up (e.g., helplessness or social isolation) or getting in trouble (e.g., delegation or opposition). Help seeking seems to be an especially adaptive strategy for dealing with problems (Newman, 1994, 2000). In fact, it is the most common all-purpose strategy used by children (Zimmer-Gembeck & Skinner, 2011) and a common way of coping even for adolescents and adults (Skinner et al., 2003). One reason it is so adaptive is that interactions with competent and supportive social partners (like teachers) can help students reengage with difficult material and eventually develop strategies like problem-solving and self-reliance that they can then employ in dealing with (or preventing) subsequent stressors (Nelson-Le Gall, Gumerman, & Scott-Jones, 1983). Unfortunately, over the same age range that children and adolescents show declines in motivation, they also evince declines in the use of help seeking (Marchand & Skinner, 2007; Newman, 2002; Ryan, Patrick, & Shim, 2005).

Emergence of Academic Resources for Resilience

Over time, ongoing engagement, constructive coping, and reengagement following failures and setbacks may work together to shape children's academic development. The central idea is that these cycles of engagement and coping, over months or years, give rise to the development of qualitatively different mindsets and skill sets at different ages. For example, early research on participation-identification models of engagement argued that positive patterns of engagement lead to a sense of belonging in school and valuing of school-related goals (Finn, 1989). And reviews of coping show that (compared with younger children) older children are able to use more complex cognitive coping strategies and to more flexibly match the demands of the stressor to the family of coping (Zimmer-Gembeck & Skinner, 2011).

Although educators and parents stress how important it is for students to take responsibility or ownership for their own academic progress, very little is known about how and at what ages specific qualitativly new resources emerge during a student's scholastic career. It is clear that some qualitative growth must be taking place, in that kindergarten and first-grade students do not have the means to form a complex academic identity, use sophisticated cognitive strategies, or flexibly regulate their own learning. Researchers have begun to identify some of the cognitive and meta-cognitive abilities students need to become more proactive, self-reliant, and autonomous in their own learning (Otis et al., 2005; Schunk & Zimmerman, 2007) and in their adaptive help seeking (Newman, 2002), but little research examines the effects of these underlying processes on students' development.

Early adolescence seems to be a key developmental period for students to construct an identity as academically capable, socially integrated, and committed to learning (Roeser, Peck, & Nasir, 2006; Wentzel, 1991), but it is possible that qualitative changes in academic resources occur at other points as well, for example, during

the five to seven shift (Sameroff & Haith, 1996) or the third-grade shift. One indicator of a transition might be steeper rates of normative decline in engagement, signaling a window of opportunity as well as of vulnerability. A noticeable trend in findings from the study of all such forms of potential academic development is that these desirable attributes are quite rare even in older academically successful students (Miserandino, 1996). Future research can examine how positive motivational dynamics may contribute to the development of self-regulated learning and proactive coping, and an academic identity that allows students to eventually take ownership for their own learning and success in school.

Educational Implications for Promoting Engagement, Coping, and Everyday Resilience

The motivational model of engagement and disaffection inspired by self-determination theory has several important implications for the structuring of learning environments (see also Deci, Connell, & Ryan, 1985; Niemiec & Ryan, 2009; Reeve, 2002) and comprehensive school reform (Connell, Klem, Lacher, Leiderman, & Moore, 2009; Deci, 2009). The most important is the core assumption that all students come with a wellspring of intrinsic motivation that does not have to be acquired and cannot be lost. However, steady declines in students' intrinsic motivation and engagement signal that schools are not nurturing this precious energetic resource (Eccles et al., 1993; Wigfield et al., 2006). We highlight three important antidotes (see Fig. 2.4).

Focus on Engagement and Disaffection

The motivational model encourages schools and teachers, when formulating their target outcomes, to insist on a dual focus on learning *and* engagement. High grades or high achievement test scores cannot be considered a success if they come at the cost of undermining engagement and increasing student disaffection. The good news is that constructive engagement, when combined with a challenging curriculum and authentic learning activities, creates opportunities for increased learning and so is a direct pathway to better performance. It is important to include the entire complex construct of engagement in target outcomes. Teachers and parents can easily focus on only the behavioral component—on-task behavior—and lose track of emotion, cognition, and orientation, as embodied, for example, by enthusiasm, interest, excitement, willingness, preference for challenge, and "heads-on" participation. Although behavioral engagement seems to be the primary driver of actual performance, emotion is likely the fuel for the kind of behavioral and cognitive engagement that leads to high-quality learning (Skinner et al., 2008).

Tracking Engagement

Additional good news is that the action component of student engagement with academic work is directly observable, and so teachers can track it at the classroom level (Reeve et al., 2004) or at the level of individual students (Skinner et al., 2009a, 2009b). The positive and significant correlations between teachers' ratings of engagement and both student ratings and observers' reports indicate that teachers seem to do this spontaneously and accurately, suggesting that student engagement is a source of information available to teachers in designing and delivering their lesson plans. Student engagement with learning activities is a marker of the whole motivational system and so provides teachers a diagnostic window into other important motivational processes that are not directly observable, such as students' self-system processes of belonging, competence, or value (Furrer, Kelly, & Skinner, 2003). Researchers and interventionists who want to support students' motivation and learning can also take advantage of engagement as a key summary marker of the quality of students' school experiences.

Focus on Engagement and Disaffection

1. Adopt as a central goal the *promotion of engagement in academic work*, tracking especially student orientation, emotional, and cognitive engagement, as expressed through student enthusiasm, interest, excitement, willingness, preference for challenge, and "heads-on" participation.
2. Use student disaffection as a *diagnostic tool* signaling that a student needs *more* warmth, involvement, structure, and/or autonomy support. View students' misunderstandings and failures as opportunities for students to learn something new about the subject and about how to cope more constructively.
3. Provide *academic tasks* that are authentic, challenging, relevant to students' experiences and concerns, hands-on, project-based, integrated across subject areas, and that allow students some freedom to choose their own direction and to work closely in cooperative groups over long periods of time.

Focus on the Social Learning Environment

1. Promote students' *intrinsic motivation*, by offering challenging and fun learning activities, allowing and encouraging students to discover and follow their own interests and goals, and providing clear instruction and feedback about how to reach them.
2. *Meet students' needs* for relatedness, competence, and autonomy: Foster caring relationships (warmth and involvement), provide challenging learning activities with high expectations and clear feedback (optimal structure), and explain the relevance and importance of activities and rules while soliciting input from students and respecting their opinions (autonomy support).
3. Promote *classroom goals* that focus on mastery, by creating a climate that emphasizes hard work, sustained effort, self-improvement, deep understanding, and the recognition that "mistakes," "setbacks," and "failures" can be interesting detours and good information about next steps.

Focus on Teachers

1. Model your *own engagement* in teaching, by showing your enthusiasm, hard work, careful thought, and excitement about a subject area. Model *constructive coping* in the classroom. Admit mistakes and tell stories of your own past failures and struggles.
2. View student *amotivation as a fascinating challenge*, a puzzle to be solved, and an opportunity to learn more about teaching and more about coping successfully with challenging students.
3. Remember that *teachers have their own needs* for relatedness, competence, and autonomy, and when they are met, it provides opportunities for more constructive engagement and coping, everyday resilience, vigor, vitality, and the development of teaching expertise.

Fig. 2.4 Educational practices that promote the development of engagement, coping, and everyday resilience

Coping with Student Disaffection and Failure

Just because teachers are accurate monitors of engagement and disaffection does not mean that they always respond to students' motivation in the optimal fashion. In fact, as described previously, the feedback loops from student engagement to teacher support found in several studies suggest that teachers typically react to students' disaffection in the classroom by withdrawing their support or increasing coercion. In other words, teachers typically respond in ways that are likely to further undermine students' engagement, making matters worse. Little research examines the mindsets or contextual conditions that would allow teachers to react to disengaged students with *increased* warmth, involvement, and autonomy support. Perhaps teachers could respond more positively if they could see student disaffection, not as a personal insult to them or a character

flaw in the student, but as a handy diagnostic tool signaling times when a student is encountering resistance and need more support. It might be likewise helpful if teachers could see students' misunderstandings and failures, not as shortcomings of teacher or student, but as opportunities for students to learn something new about the subject and about how to deal more constructively with challenging learning tasks.

The Nature of Academic Work

For educators and researchers interested in classroom engagement, it is evident that the primary interaction partners for students, if they are to learn, are the academic tasks that we require them to undertake as part of the curriculum in schools. The nature of these learning activities is a definitive determinant of students' intrinsic interest and can make much easier (or much harder) the job of the teacher in facilitating motivation. Curricula and academic tasks will naturally arouse intrinsic motivation the more they are authentic, challenging, relevant to students' experiences and concerns, hands-on or project-based, integrated across subject areas and into students' real lives, and reflect students' own interests and goals—in other words, are fun and interesting (Deci & Ryan, 1985; Newmann et al., 1992). Complex learning environments, which include project-based curricula, integrated across subject matter, that allow students some freedom to chose their direction and to work closely in cooperative groups over long periods of time, awaken and sustain students' natural curiosity and love of learning.

In general, these are the learning environments provided by high-quality preschools and graduate schools, two levels of schooling at which intrinsic motivation and engagement flourish. Unfortunately, they are not the norm for the grades in between. However, simply ask any adults about their favorite memories of school (as we recently did in our research group) and you will find that they nevertheless do appear as individual unforgettable experiences. We heard enthusiastic tales of an opera written and performed by third graders, the creation of an Egyptian museum in elementary school, a Japanese tea house in sixth grade, a CSI-type investigation of a "dead" body in science and English class during middle school, and a radio program covering the Red Scare of the 1920s performed in high school. Ten, twenty, thirty years later, these experiences evoke smiles and detailed indelible memories of wholehearted engagement. Our research group is currently studying the effects of garden-based science education programs for at-risk middle school students—and finding that the holistic, authentic, cooperative, fun, environmentally friendly activities of gardening promote both students' engagement *and* their achievement (Ratcliffe, Goldberg, Rogers, & Merrigan, 2010; Skinner, Chi, & the LEAG, 2012).

Focus on the Social Learning Environment

Formal classroom curricula are essential, of course, but so too are the informal or tacit curricula—answers to the questions: What are we doing here? What is the purpose of school? Although it seems obvious—we are here to learn—research on goal orientations over the last 25 years eloquently demonstrates that teachers and schools seem to be consistently communicating to students, especially as they grow older, that schools have an agenda that is not fully aligned with learning and mastery (e.g., Ames, 1992; Midgley & Edelin, 1998; Roeser et al., 1996). Although questions remain about the exact meaning of achievement goal constructs (Hulleman, Schrager, Bodman, & Harachiewicz, 2010), it is clear that engagement, joy, high-quality conceptual learning, creativity, and constructive coping are all undermined by the external and internal pressures created by a focus on performance and grades, the evaluation of fixed abilities, and the shame and embarrassment of mistakes and failures (Deci, Koestner, & Ryan, 1999; Dweck, 1991; Hulleman et al., 2010; Pintrich, 2003). A complement to curricula designed to tap intrinsic motivation is the establishment of a classroom climate focused on *mastery*, that is, hard work, sustained effort, self-improvement, deep understanding, the unshakable conviction that everyone can excel, and the recognition that "mistakes,"

"setbacks," and "failures" can not only be interesting detours but are also informative about next steps in one's own thinking and progress.

Teacher-Student Interactions as Facilitators of Engagement

The nature of the interactions teachers have with their students can shape student engagement in the classroom in at least two ways. The first is by promoting students' intrinsic motivation: by offering challenging and fun learning activities, allowing and encouraging students to discover and follow their own interests and goals, and providing clear instruction and feedback about how to reach them. The second is by creating classroom contexts that support the development of increasingly more self-determined reasons for accomplishing the parts of learning that are not intrinsically fun. All worthwhile tasks involve a mix of inspiration and perspiration, and self-determination theory posits that activities that are extrinsically motivated can nevertheless be completed autonomously if students identify with their value and relevance (Ryan, 1995; Ryan & Connell, 1989). Students are more likely to internalize autonomous reasons for completing extrinsically motivated tasks in school when they learn from teachers who display the three features of motivational support described previously: when teachers foster caring relationships (warmth and involvement), provide challenging learning activities with high expectations and clear feedback (optimal structure), and explain the relevance and importance of activities and rules while soliciting input from students and respecting their opinions (autonomy support) (Connell & Wellborn, 1991; Deci & Ryan, 2000).

Focus on Teacher Motivation, Engagement, Coping, and Resilience

Teachers can facilitate students' engagement and constructive coping directly through their own actions and modeling in the classroom. Teachers' enthusiasm and excitement about a subject can be contagious (Patrick, Hisley, Kempler, & College, 2000). Teachers' hard work and careful thought can communicate the importance and value of knowledge and skills. Perhaps most important are the ways in which teachers model how to deal with roadblocks, confusion, and mistakes. Teachers can demonstrate constructive coping through such simple (and challenging) means as admitting that they do not know something or that their own current understandings can sometimes be contradictory and uncertain, and then taking the time to straighten them out or to find out more, by identifying areas of confusion and consulting resources or experts. Constructive coping can also involve telling stories of one's own past failures and mistakes, as inspiration for students who are currently struggling. Compared to the effects of parents (Bradley, 2007; Power, 2004), much less research examines how teachers can promote the development of constructive coping and everyday resilience in their students, making this a fruitful area for research.

Teacher Motivation and Engagement

The motivational model holds that teachers have the same needs as students and so provides a useful lens through which to hypothesize about the effects of students' motivational problems on teachers. If teachers experience low student motivation as an obstacle to their teaching and lesson plans, then it thwarts teacher autonomy. If it is perceived as a signal that teachers are bad at teaching, then it undercuts teachers' sense of competence. If it is seen as evidence that students don't like the teacher, it can undermine teachers' feelings of relatedness. According to the motivational model, any of these interpretations should lead teachers to become disaffected from the target students, and could produce the withdrawal, hostility, or coercion found in studies of the reciprocal effects of student motivation on teacher behaviors. If, however, in contrast, teachers can see student amotivation as a fascinating challenge, an interesting puzzle which they are confident they can solve, then the boredom, passivity, or disruptive behavior students show in class can be opportunities for teachers to learn more about teaching and more about how

to cope successfully with challenging students (Hakanen, Bakker, & Schaufeli, 2006; Martin & Marsh, 2008b).

Teachers Within the Larger School Context

Student engagement is a precious energetic resource, not only for students, but also for teachers' own enjoyment and engagement in teaching. When students are trying hard, taking on challenges, seeking and providing help, and making strides in their learning, teachers remember why they decided to become teachers in the first place. The research on reciprocal effects suggests that teacher and student engagement can create a virtuous circle—one that supports both partners (and by implication the whole classroom) in self-stabilizing cycles of hard work, joy, and learning, as well as increasing feelings of connectedness to each other as a learning community, competence in learning and teaching, and autonomy toward the activities and enterprise of schooling. Comprehensive school reforms based on self-determination theory have the goal of creating such vibrant self-renewing communities, and highlight the larger contextual supports that need to be in place to create and sustain them (Connell et al., 2009; Deci, 2009).

Conclusion

For many schools and teachers, the creation and continual renegotiation of an intrinsically motivating curriculum and a supportive classroom climate may appear to require too much work and coordination among teachers, and to produce too uncertain a path to the achievement test scores upon which evaluations and accountability of teachers and schools are now based (Ryan & Brown, 2005). However, the downward spirals of student and teacher engagement, the draining away of students' intrinsic motivation, and the rates of student dropout and teacher burnout, are all reminders of the costs associated with the current situation. Self-determination theory and the motivational model it inspires offer an alternative vision (Connell et al., 2009; Deci, 2009).

In the current chapter, we have attempted to show how a motivational model grounded in self-determination theory can be used as a framework to both clarify and enrich the study of student engagement. We suggest that, within a multilevel perspective on engagement, student constructive participation in academic work enjoys a privileged status as the focus of research on engagement because it is the only gateway to learning and scholastic development. We have emphasized the importance of distinguishing indicators of engagement from its facilitators, and along with many other researchers, we favor indicators of engagement as an action construct that capture its behavioral, cognitive, and emotional facets. We have suggested sets of important social and personal facilitators that highlight the nature of academic work, and include many of the self-system processes studied in research on motivation today. Facilitators also take into account a range of interpersonal relationships that can satisfy or undermine students' needs for relatedness, competence, and autonomy, including interactions with parents, friends, and peer group members, but emphasizing as fundamental students' relationships with their teachers.

The episodes of students' daily lives in school, which are shaped by their engagement and disaffection, have only recently become the focus of research on the development of motivational dynamics. However, such dynamics hold promise for helping to explain the durability of students' motivation across the school year and for identifying underlying processes that contribute to interindividual trajectories of motivation across multiple years. We have suggested directions for future research that can examine the role that cycles of engagement may play in the emergence of everyday resilience and constructive coping. Taken together, these ideas may provide tools to help researchers explore and educators nurture the long-term development of valuable (but rare) academic assets, such as self-regulated and autonomous learning, and an academic identity and sense of purpose that allow students to take ownership for their own progress in school and beyond.

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