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Interpersonal Relationships, Motivation, Engagement, and Achievement: Yields for Theory, Current Issues, and Educational Practice

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In this review, we scope the role of interpersonal relationships in students' academic motivation, engagement, and achievement. We argue that achievement motivation theory, current issues, and educational practice can be conceptualized in relational terms. Influential theorizing, including attribution theory, expectancy-value theory, goal theory, self-determination theory, self-efficacy theory, and self-worth motivation theory, is reviewed in the context of the role of significant others in young people's academic lives. Implications for educational practice are examined in the light of these theoretical perspectives and their component constructs and mechanisms. A trilevel framework is proposed as an integrative and relationally based response to enhance students' motivation, engagement, and achievement. This framework encompasses student-level action (universal programs and intervention, targeted programs for at-risk populations, extracurricular activity, cooperative learning, and mentoring), teacher- and classroom-level action (connective instruction, professional development, teacher retention, teacher training, and classroom composition), and school-level action (school as community and effective leadership).

KEYWORDS: motivation, student behavior/attitude, student cognition, student development, teacher education/development.

Few would dispute the importance of high-quality interpersonal relationships in young people's capacity to function effectively, including in their academic lives. The literature consistently notes the substantial role that relationships play in students' success at school (e.g., Creasey et al., 1997; Culp, Hubbs-Tait, Culp, & Starost, 2000; Field, Diego, & Sanders, 2002; Marjoribanks, 1996; Martin, Marsh, McInerney, Green, & Dowson, 2007; Pianta, Nimetz, & Bennett, 1997; Robinson, 1995). Guided by a core definition of *relationship* as "a state of connectedness between people, especially an emotional connection" (Webster's Online Dictionary, 2007), we suggest that the concept of relationships provides an organizing framework for considering theories, issues, and practices relevant to

achievement motivation. We also seek to demonstrate that the greater the connect-
edness on personal and emotional levels (also referred to as *relatedness* and *rela-
tional processes*) in the academic context, the greater the scope for academic
motivation, engagement, and achievement.

The purposes of this article are multifold. It elucidates the ways in which rela-
tionships affect achievement motivation and the benefits accrued from considering
a relational perspective on achievement motivation. It describes a number of
important motivation- and achievement-related theories and demonstrates the cen-
tral role of interpersonal relationships in each of these theories. It explores practi-
cal implications of a relational understanding of both theory and current issues in
terms of practices relating to student-, teacher/classroom-, and school-level actions.
Finally, it concludes with an integrative framework that summarizes theory, con-
structs, mechanisms, and practices relevant to the relational dynamics underpin-
ning motivation, engagement, and achievement in the academic context. Figure 1
presents an organizing framework for this review.

Part I: The Importance and Process of Relatedness

Why Positive Interpersonal Relationships Are Important for Young People

A substantial body of research demonstrates the importance of positive inter-
personal relationships for healthy human functioning (e.g., see Berkowitz, 1996;
Bronfenbrenner, 1986; De Leon, 2000; Fyson, 1999; Glover, Burns, Butler, &
Patten, 1998; Hill, 1996; Moos, 2002; Royal & Rossi, 1996; Sarason, 1993;
Weisenfeld, 1996). Relationships are a major source of happiness and a buffer
against stress (Argyle, 1999; Glover et al., 1998; McCarthy, Pretty, & Catano,
1990). Through relationships, individuals receive instrumental help for tasks and
challenges, emotional support in their daily lives, and companionship in shared
activities (Argyle & Furnham, 1983; Gutman, Sameroff, & Eccles, 2002; Irwin,
1996). Conversely, the loss of relationship is a source of unhappiness and distress
(Bronfenbrenner, 1974; Cowen, 1988; Gaede, 1985). Interpersonal relationships
are also important for social and emotional development (Abbott & Ryan, 2001;
Kelly & Hansen, 1987; McCarthy et al., 1990). For example, during childhood and
adolescence, key aspects of development involve, and rely on, positive relation-
ships (Damon, 1983; Hartup, 1982). Relationships are also a critical factor in
young people's engagement and motivation at school (Ainley, 1995; Battistich &
Hom, 1997; Hargreaves, Earl, & Ryan, 1996; Pianta, 1998). This latter issue is the
focus of our review.

Relationships and Achievement Motivation: Causal Effects and Value-Added Explanations

Motivation is defined as a set of interrelated beliefs and emotions that influence
and direct behavior (Wentzel, 1999; see also Green, Martin, & Marsh, 2007;
Martin, 2007, 2008a, 2008b, in press). We propose that relationships affect achieve-
ment motivation by directly influencing motivation's constituent beliefs and emo-
tions.

Ongoing social interactions teach individuals about themselves and about what
is needed to fit in with a particular group. Accordingly, individuals develop beliefs,
orientations, and values that are consistent with their relational environment.

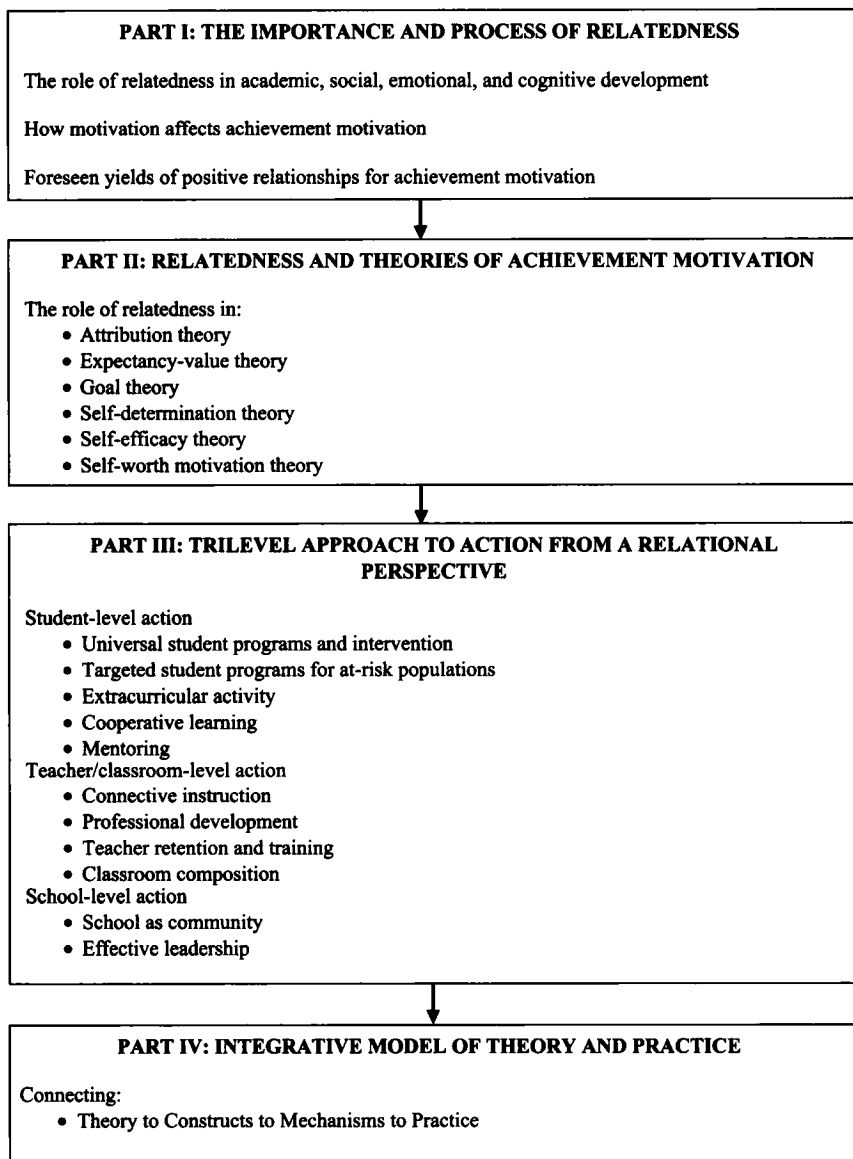


FIGURE 1. *Organizing framework for review.*

Hence, relatedness in the academic domain teaches students the beliefs, orientations, and values needed to function effectively in academic environments. In turn, these beliefs (if positive and adaptive) direct behavior in the form of enhanced persistence, goal striving, and self-regulation.

In high-quality relationships, individuals not only learn that particular beliefs are useful for functioning in particular environments, but they actually internalize the beliefs valued by significant others (Wentzel, 1999). In this way, beliefs held by others become a part of the individual's own belief system. In the academic context, for example, good relationships with a particular teacher are likely to lead students to internalize at least some of that teacher's beliefs and values about school and schoolwork. These internalized beliefs and values then have the potential to be transferred to other academic settings. Thus, students learn not only how to behave in a particular academic setting but also how to be a student in academic situations more generally (Ryan & Deci, 2000).

Relatedness is an important self-system process in itself. As such, it has an energizing function on the self, working through the activation of positive affect and mood (Furrer & Skinner, 2003). This intrapersonal energy, gained from interpersonal relationships, provides a primary pathway toward motivated engagement in life activities. A complementary perspective on these processes is provided by the *need to belong* hypothesis. This hypothesis suggests that "human beings have a pervasive drive to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships" (Baumeister & Leary, 1995, p. 497). When the need for belongingness is fulfilled, this fulfillment produces positive emotional responses. In the academic domain, these emotional responses are said to *drive* students' achievement behaviors, including their responses to challenge, self-regulation, participation, and strategy use (Meyer & Turner, 2002).

Relatedness affects individuals' motivation and behavior by way of positive influences on other self-processes relevant to achievement motivation. For example, in the context of a student's life, positive emotional attachments to peers, teachers, and parents promote not only healthy social, emotional, and intellectual functioning but also positive feelings of self-worth and self-esteem (Connell & Wellborn, 1991). This is important because self-worth and self-esteem are both related to sustained achievement motivation (Covington, 2002; Thompson, 1994).

Finally, relatedness is linked to key psychological needs in a way that fosters achievement motivation. Work on autonomy in previous decades is a good example. Autonomy and relatedness have been linked (under various terminologies) in work on (a) agency (i.e., existence of an organism as an individual, giving rise to self-expansion and self-protection) and communion (i.e., participation of the individual in a larger organism, giving rise to cooperation) by Bakan (1966); (b) the importance of both individual and relational needs along the lines proposed by Angyal (1941, 1965), who identified orientations toward self-determination and self-surrender as complementary needs, and by Maslow (1968), who recognized the need for love and belongingness in the path to self-actualization; and (c) individualism and interdependence (Waterman, 1981) under a framework that provides support for the scope of individualistic values to facilitate helping, cooperation, and other prosocial behaviors. Indeed, these early integrations of autonomy and relatedness have been influential in later theorizing on motivation specifically (e.g., see Deci & Ryan, 2000) and personality more generally (e.g., see McAdams, Hoffman, Mansfield, & Day, 1996).

Benefits Accrued Through Positive Interpersonal Relationships

There are a number of benefits accrued through taking relatedness into account when examining achievement motivation theories and processes. First, relatedness serves as an explanatory construct through which diverse theories of achievement motivation can be integrated. In fact, relatedness may even transcend broader divisions of psychology beyond motivation psychology. For example, the *belongingness hypothesis* has wide application in educational, personality, and social psychology (Baumeister & Leary, 1995). Second, relatedness provides a useful diagnostic tool with which to view and understand adaptive behavior in the classroom and to treat achievement motivation problems in the classroom that are other related. For example, adjustment and adaptation problems in school have been linked to the failure of learning environments to meet students' need to belong (Baumeister & Leary, 1995; Wentzel, McNamara Barry, & Caldwell, 2004). Third, relatedness recognizes and actively accommodates the interconnectedness of the social, academic, and affective dimensions of the self and the need for educational programs to recognize this interconnectedness (Weissberg, Kumpfer, & Seligman, 2003). Thus, the concept of relatedness can act as an impetus and explanation for educational programs that accommodate *the whole self*. Fourth, positive relationships are valued outcomes in their own right. The present review deals with relatedness as a means to greater theoretical and practical clarity with respect to achievement motivation. However, positive relationships can also be recognized as important end states in themselves. Thus, whatever their value for clarifying human motivation and achievement, relationships and relatedness are critical for understanding human functioning more widely.

In addition to these more direct benefits derived through a closer understanding of relatedness in the classroom, there may also be indirect yields from a closer consideration of relatedness. Relatedness may help explain why the effect of adaptive beliefs on achievement motivation varies across contexts. For example, there is variation across studies with respect to the effects of various beliefs and goals on achievement motivation. Performance goals have been shown to be both adaptive and maladaptive for achievement motivation. Clearly, these results are inconsistent (for examples of the ongoing debate over the adaptiveness of performance orientation, see Brophy, 2005; Harackiewicz, Barron, Pintrich, Elliott, & Thrash, 2002; Kaplan & Middleton, 2002; Martin, 2006c), and it may be that relatedness can explain some of this inconsistency. Specifically, relatedness may act as a mediating variable with respect to the interface of goals and achievement motivation. In performance-oriented environments where students experience positive relationships, these environments may be perceived by students as being supportive in the path to achievement. When this is the case, achievement motivation may be facilitated and sustained in the context of a performance orientation. On the other hand, a performance-oriented environment in the context of poor relationships may be perceived as a "dog-eat-dog" context rather than a supportive one. Hence, relatedness could be a mediating process that can inform current theoretical debates and empirical inconsistencies.

Part II: Relatedness and Theories of Achievement Motivation

The Role of Interpersonal Relationships and the Other in Achievement Motivation Theory

Our analysis of motivation-related theory falls largely within the *social-cognitive* domain and primarily utilizes social-cognitive perspectives (e.g., Dweck & Leggett, 1988; Schunk, 1991). This social-cognitive analysis brings into consideration six theoretical viewpoints. Each of these viewpoints, while maintaining the relevance of relationships to their conceptualizations, differs in the way in which interpersonal relationships are invoked. These viewpoints are attribution theory, expectancy-value theory, goal theory, self-determination theory, self-efficacy theory, and self-worth motivation theory. It is important that not all theories are historically social-cognitive theories per se. Rather, we invoke their social-cognitive elements for the purposes of our synthesis. We also recognize that other theories (not addressed here) include social-cognitive elements as a source of influence.

Rationale for the Choice of Theories

Theories in this study represent major frameworks in achievement motivation have been developed over the past 40 years that drive current research (McInerney & Van Etten, 2004). At the time of writing we conducted a somewhat expeditious search of the Education Resources Information Center (ERIC) data base limited to publications that are: (a) journal articles, (b) peer reviewed, (c) dealing with motivation and/or achievement as keywords from the six theoretical positions outlined, (d) written in English, and (e) published since 2000 (inclusive). Through searches of keyword and/or mapping onto subject headings, this identified close to 1,500 articles dealing with "self-efficacy" "self-worth/self-esteem", "achievement goals", "goal orientation", "attribution/s", "expectancy/ies", and "self-determination". Whilst we recognize that this is an ever changing and fluid tally that does not denote these constructs' relative importance or substance, we present the tallies to demonstrate the current and recent relevance of these constructs and the theories to which they relate in published educational research.

These theories also share a common social-cognitive heritage. Social-cognitive theories examine, inter alia, cognition and behavior (e.g., attributions, expectancies, purposes, perceived needs, capacities, and vulnerabilities) that are contextually located and influenced. This is not to imply that the place of relationships is explicit and central in each theory; however, when it comes to operationalizing the theories in achievement motivation research, there is often a clear relevance for interpersonal relationships. Indeed, this relevance is the focus of the present review.

Although we propose that relationships are important to achievement motivation, this does not mean that the role of self-generated cognitions and emotions should be ignored. We recognize—as do the theories we examine—that the self has powerful generative capacities of its own. Similarly, we recognize that in addition to relatedness and its impact on motivation, engagement, and achievement, there is the key issue of students' academic proficiency. This proficiency encompasses general skills such as critical thinking, self-regulation, and metacognition,

as well as more-specific skills, such as decoding texts, comprehension, and mathematical reasoning. Hence, we suggest that relatedness is a necessary but not sufficient condition for explaining variation in educational outcomes.

Review of Theories

Attribution theory. According to attribution theory, the causes individuals attribute to events have an impact on the way they cognitively, affectively, and behaviorally respond on future occasions (Schell, Bruning, & Colvin, 1995; Weiner, 1986, 1994). Four attributions are typically identified in the literature: attributions to luck, task difficulty, ability, and effort. For example, failure on an exam may be attributed to bad luck, difficult questions, low ability, or insufficient effort.

These causal attributions can also be mapped according to their locus, stability, and controllability (Weiner, 1994). Thus, the causes of an event may be located within the person or external to the person, may be stable or unstable, or may be controllable or uncontrollable. The control dimension is of particular interest in this review because it tends to be a significant determinant of students' responses to setback, pressure, and fear of failure (Borkowski, Carr, Rellinger, & Pressley, 1990; Groteluschen, Borkowski, & Hales, 1990; Martin, Marsh, & Debus, 2001b). One means by which students gain a sense of control is through the feedback they receive from significant others such as their parents and teachers (Fabricius & Hagen, 1984; Weiner, 1986). The significance of this other person an important mechanism for a sense of control, and this significance is established, at least in part, through the nature and strength of the relationship. It has been suggested that control (or helplessness) is learned by observing powerful models, such as parents (Peterson, Maier, & Seligman, 1993). Furthermore, parents and teachers who provide reinforcement and feedback that are commensurate with students' performance enhance students' perceived control over educational outcomes (Perry & Tunna, 1988; Thompson, 1994). Hence, a defining aspect of students' attributional profiles is in part relationally determined. Put simply, students can learn control from these significant others and the way these significant others relate to them.

It has also been suggested that attributions in the interpersonal context give rise to socially based emotions (Hareli & Weiner, 2002). Recent work has proposed that socially based emotions are the result of attributional inferences focusing on the perceived causes of a particular outcome (Hareli & Weiner, 2002). This can have two impacts. First, it affects the observer's emotions directly. In an adaptive scenario, a student attributing another student's success to effort can experience positive affect and feelings of admiration for that student. On the other hand, a student attributing another student's poor performance to a lack of ability may experience negative affect (Hareli & Weiner, 2000). In both cases, emotion is evoked in the academic context through the attributions students make about others' academic outcomes. There is a second way socially based emotions emerge as a result of attributional inferences. Here, observers' inferences about the cause of an event can shape the student's emotions and behavior. For example, observers (e.g., teachers, parents) view a student's performance and make inferences about the causes of the outcome, and these then influence the student's reactions to the outcome and subsequent behavior. In the adaptive scenario described above, a teacher explicitly attributing a student's success to effort can evoke positive affect

and feelings of pride in the student. On the other hand, a teacher explicitly attributing poor performance to a lack of ability may evoke negative affect and shame in that student. Again, academically related emotion is evoked through the attributions for success and failure in a relational context, and this emotion has achievement motivation relevance. Taken together, on the matter of relatedness and attributions, these findings underscore "the interconnection of the self and others in achievement settings, and the necessity of a transactional analysis to understand the social dynamics that accompany achievement performance" (Hareli & Weiner, 2002, p. 191).

Expectancy-value theory. Atkinson (1957) viewed the motivation to achieve success as a product of the individual's perceived probability of success and the incentive value of that success. Similarly, the motivation to avoid failure was seen as a product of perceived probability of failure and the negative incentive value of failure. More recent formulations of expectancy-value theory (e.g., Eccles, 1983; Wigfield, 1994; Wigfield & Tonks, 2002) have refined and extended Atkinson's original formulation by suggesting that (a) the expectancy-value framework can be applied to the whole range of behavior, not just risk-taking behaviors; (b) the strength of an individual's motivation is based on the valuing of proximal and distal outcomes associated with a behavior or pattern of behaviors; and (c) motivation is dependent on the perception of the likelihood of a desired outcome occurring, contingent on a behavior or pattern of behaviors (see also Nicholls, Cheung, Lauer, & Patashnick, 1989; Wigfield & Tonks, 2002).

In an educational context, students who believe they are capable of mastering their schoolwork typically have positive expectations for success and, hence, high motivation and achievement (Nicholls et al., 1989). What further contributes to students' motivation and achievement is their valuing of an academic task, as well as the interface of their expectancies and task values (Arbreton & Blumenfeld, 1997; Eccles, 1983).

In a recent model representing the development of students' expectancies for success and task values, Wigfield and Tonks (2002) identified the role of significant socializers' attitudes, beliefs, and behaviors in the development of students' expectancies and values. In particular, expectancies and values are influenced by the socializers with whom students have significant relationships. Thus, expectancy-value theory implicates relationships as an important component of its theoretical framework, and expectancies and values may be conceptualized as being, in part, relationally determined.

Goal theory. Goal theory focuses on the meaning students attach to achievement situations and the purpose for their actions (Ames, 1992; Barker, Dowson, & McNerney, 2002; Dweck, 1992; Pintrich, Marx, & Boyle, 1993). Goals proposed in early theorizing were the desire to affirm competence (mastery goal) and the desire to demonstrate superiority (performance goal). More-recent developments in goal theory have added social goals. Social goals focus on social reasons for achievement, such as affiliating with others, gaining approval from others (e.g., parents and peers), and complying with group norms (Dowson & McNerney, 2001, 2003; Elliot, 1997, 1999; McNerney, Roche, McNerney, & Marsh, 1997; Middleton & Midgley, 1997; Urdan & Maehr, 1995).

Goal theorizing has now also introduced an *approach* and *avoidance* distinction (e.g., Barker et al., 2002; Elliot, 1997). Goals may be conceptualized as being directed toward approach or toward avoidance. Approach goals are those that draw participation in an activity. Avoidance goals drive withdrawal from activities or avoidance of negative implications and consequences. Mastery, performance, and social goals can be located on approach–avoidance axes. A mastery avoidance goal, for example, represents the desire not to fail at developing mastery, a performance avoidance goal as the desire not to demonstrate lack of ability, and a social avoidance goal as, for example, working mainly to avoid disapproval from parents and teachers (Barker et al., 2002; Dowson & McInerney, 2003; Elliot, 1997; Martin, 2001, 2002b, 2006a).

Whether directed toward approach or avoidance, the goals students adopt, their relative importance, and their effects on motivation and achievement are related to the influence of others (e.g., McInerney, Hinkley, Dowson, & Van Etten, 1998; Wentzel, 1994). For example, Martin et al. (2007) demonstrated a significant link between the quality of teacher–student relationships and students’ mastery orientation and avoidance goals (see also Anderman & Maehr, 1994; Meece, 1991, for other aspects of teacher behavior and students’ goals). They also demonstrated a significant association between (a) students’ relationships with peers and their mastery and avoidance goals and (b) students’ relationship with parents or caregivers and these goals (see also Creasey et al., 1997 for the influence of relational contexts with peers and parents). Indeed, there may be different impacts of teachers, parents, and peers on different goals. For example, Martin et al. (2007) found relationships with teachers had the most impact on students’ mastery and avoidance goals, and Dowson and McInerney (2003) found that parents may have the most impact on students’ social goals. All this suggests that the goals students adopt, and the way these goals are expressed, are not independent of the influence of the relationships students have with teachers, peers, and parents. For this reason, students’ goals can be conceptualized as both arising from and being fulfilled in relational contexts (see also Lemos, 1996; Stipek, Giwin, Salmon, & MacGyvers, 1998; Taylor, 1995).

Self-determination theory. Of the theories reviewed here, self-determination theory is among the most explicit in its recognition of relatedness as a fundamental ingredient of motivation. It proposes that for one to be motivated and to function at optimal level, a set of psychological needs must be supported (Deci & Ryan, 2000; La Guardia & Ryan, 2002; Reeve, Deci, & Ryan, 2004). These needs are relatedness, competence, and autonomy. Relatedness refers to the connection and sense of belonging with others. This connectedness and belonging provides the required emotional security that individuals need to actively explore and effectively deal with their worlds.

From a learning perspective, a strong sense of relatedness better positions students to take on challenge, set positive goals, and establish high expectations that extend and motivate them. Moreover, relatedness needs constitute a motivating force for internalizing social regulations and adapting to interpersonal circumstances (La Guardia & Ryan, 2002). In turn, meeting these relatedness needs is likely to enable students to negotiate the affective and social world of the classroom and school, and this enhanced affective and social integration interfaces with

enhanced motivational processes (Furrer & Skinner, 2003; Weissberg et al., 2003; Wentzel et al., 2004). For example, to the extent that home and school expectations and goals are aligned, children who are more warmly involved with their parents experience better academic functioning in class, and children with a heightened sense of relatedness with parents are more engaged at school and display higher self-esteem while at school (Avery & Ryan, 1987; Ryan, Stiller, & Lynch, 1994). Quality relatedness with parents also predicts quality relatedness with teachers (Ryan et al., 1994).

Self-efficacy theory. Self-efficacy theory is centrally relevant to individuals' belief in their capacity to successfully carry out given tasks and the consequent impact this self-belief has on motivation and achievement (Bandura, 1986, 1997; Schell et al., 1995; Schunk & Miller, 2002). Self-efficacy is hypothesized to support a generative capacity such that individuals high in self-efficacy generate and test alternative courses of action when they do not meet with initial success (Schunk, 1991; Schunk & Miller, 2002). High self-efficacy can also enhance one's functioning through elevated levels of effort and persistence and can also enhance one's ability to deal with problematic situations by influencing cognitive and emotional processes related to the situation (Bandura, 1986, 1997; Zimmerman, Bandura, & Martinez-Ponz, 1992).

Students can gain a sense of self-efficacy through the problem-solving modeling and supportive communication of significant others (Bandura, 1997). Moreover, those with whom students identify and to whom they are closely connected are more-powerful channels of this modeling and positive communication (Bandura, 1997; Meece, 1997; Schunk & Miller, 2002). In this sense, relatedness is a mechanism through which modeling takes place. Furthermore, a key interpersonal influence on self-efficacy is the vicarious influence from others through social models (Bandura, 1997). For these reasons, efficacious self-beliefs, and the extent to which these are held by self, can be conceptualized as a relationally influenced process. And although self-efficacy is often discussed in individualistic terms, both the extent to which self-efficacy beliefs change over time and the ways these beliefs affect motivation and achievement are determined in the social domain (e.g., Bandura, 1986; Parker & Martin, in press). Hence, self-efficacy may be conceptualized in relational terms rather than in solely individual terms (Schunk, 1991; Schunk & Miller, 2002). Perhaps a focus for future research is whether relationships are a moderator of these processes such that relatedness (e.g., *high, low*) and modeling (e.g., *yes, no*) interact to affect achievement motivation or whether relatedness is a mediator of these processes such that modeling predicts achievement motivation by way of relational factors.

Self-worth motivation theory. Self-worth motivation theory describes the bases of, and the processes involved in, protecting or enhancing one's self-worth (Covington, 1992, 1998, 2002). According to this theory, students' self-worth is largely derived through their ability to perform academically and competitively (Covington, 2002; Robinson, 1995). One reason students come to equate their worth with ability is that their worth, in part communicated to them by significant others, is made conditional on achievement. These conditional relationships, then, have a significant impact on students' propensity to self-protect (Covington, 1992; Martin, 2002c,

2007; Martin & Marsh, 2003). In turn, such self-protection can have a negative impact on students' engagement and achievement (Covington, 1992; Martin, Marsh, & Debus, 2001a, 2001b, 2003; Thompson, 1994). This suggests that students' relationships, especially the conditionality of those relationships, affects their self-worth and then their motivation and achievement. Thus, self-worth theory may also be conceptualized in relational terms.

From an empirical perspective, Martin, Marsh, Williamson, and Debus (2003) have shown that students' motive to protect self-worth and the specific strategies in which they engage to do this are influenced by significant others. In particular, they found that students' parents were a factor in their fear of failure. They also found that the characteristic way in which that fear was responded to (e.g., through self-handicapping or defensive pessimism) was often linked to the characteristic way in which their parents dealt with their own fear. This impact of the family and relatedness is supported by other research demonstrating the intergenerational transmission of fear of failure and the impact of approval withdrawal on students' fear of failure (Elliot & Thrash, 2004).

Summary of Key Relational Ideas Emanating From Theory

The discussion above identifies key motivation- and achievement-related concepts, ideas, and processes underpinned or directed by relatedness, connectedness, and belonging. A summary of these linkages is presented in Table 1. *Attribution theory* focuses on the causes ascribed to outcomes and events in one's life and the impact of these causal attributions on behavior, affect, and cognition. Personal attributions may be learned from, or modeled on, the attributional "styles" or patterns of others. Specific consequences of attributions (such as a sense of personal control) can also be developed through feedback from and observation of significant others. *Self-efficacy* refers to a belief in one's capacity and agency to achieve a desired outcome. This sense of capacity and agency can be instilled through direct or vicarious influence, modeling, and open communication from others. Related to this, *expectancies* and *values* have also been substantively linked to socializers' beliefs, attitudes, and behaviors. *Goal theory* focuses on the *why* of behavior, which can be communicated through the values and expectations of significant others (working at individual, group, and organizational levels). *Self-determination theory* focuses on the psychological need for relatedness, which is satisfied through the warmth, support, and nurturance of significant others. *Self-worth motivation theory* focuses on the link between worth and achievement. It demonstrates that this link is in part determined by relationships in the child's life in which worth, affirmation, and approval are communicated in either conditional or unconditional ways.

Part III: A Trilevel Approach to Action From a Relational Perspective

To the extent that relatedness is central to achievement motivation theory, then educational practice relevant to motivation can also be framed in relational terms. A useful heuristic by which to organize and consider educational practice rests on the multiple tiers at which educational outcomes unfold and at which intervention and practice can be directed. Tiered approaches to intervention and practice are not uncommon and have recently been advocated as best practice in addressing diverse education- and health-based problems and challenges (e.g., see National Institutes

TABLE 1*Summary of key theories and key concepts relevant to relatedness*

Theory	Key concepts	Link to relatedness or the other
Attribution theory	Perceived causes of an event or outcome shape behavior, affect, and cognition; key causal ascriptions—control, locus, stability	Perceived causes learned or inferred from significant others; dimensions such as control shaped by feedback from others
Expectancy-value theory	Positive expectations and high value placed on task or outcome enhances motivation	Socializers' beliefs, attitudes, and behaviors communicate level of expectation and nature of value
Goal theory	Reasons for engaging in a particular behavior or pursuing a particular goal	Communicated through others' values, expectations, and group norms
Self-determination theory	Relatedness a psychological need	Relatedness need met through warmth, support, and nurturance
Self-efficacy	Belief in capacity to achieve in a specific domain or task	Modeled and communicated by significant others; vicarious influence from others
Self-worth motivation theory	Link between worth and achievement; fear of failure	Relationships (approval, affirmation) conditional on level of achievement; specific response to fear of failure linked to how significant others respond

of Health, 2008, and National Institute of Child Health and Human Development, 2008, for links to research along these lines). Such tiered approaches are now identified as particularly effective in reaching diverse populations with varying degrees and types of need. The tiered approach is also a useful way of organizing the discussion of relational action. Accordingly, we consider relatedness at the three levels that typically characterize the natural structure of students' educational environs, namely, (a) practice at the level of the student, (b) practice at the level of the teacher or classroom, and (c) practice at the level of the school.

We argue that analyzing action in this trilevel fashion represents an integrative means by which to address relational practice in the context of theory. To support this argument, we point to the fact that previous research has focused on one or more of these three levels to enhance the quality of pedagogy (Hill & Rowe, 1996; Kontos & Wilcox-Herzog, 1997b; Marzano, 2003), improve middle schooling (Eccles,

1999), enhance the educational outcomes of boys (Martin, 2003a, 2003b, 2004; Weaver-Hightower, 2003), assist Indigenous Australian students (Munns, 1998), address the educational needs of disadvantaged students (Battistich & Hom, 1997; Becker & Luthar, 2002), smooth educational transition (Barratt, 1998; Maehr & Midgley, 1996; Martin, 2008a), and build resilience and buoyancy (Cunningham, Brandon, & Frydenberg, 1999; Howard & Johnson, 2000; Martin & Marsh, 2006, 2008, in press).

The key principles derived from theory outlined in Part II are also useful in identifying key elements to consider at each of the three levels of intervention. Thus, we should be looking to practice at each level that involves or encompasses key constructs and mechanisms detailed in the key theories discussed in Part II. Along these lines, Pintrich (2003) recently identified substantive questions for the development of a motivational science. Taken together, these questions underscore the importance of considering, conceptualizing, and articulating a model of motivational practice from salient and seminal theorizing related to self-efficacy, attributions, expectancy and valuing, goal orientation, self-determination, and self-worth perspectives.

As we discuss each level of practice, it is important to recognize that no one practice is a sufficient condition for an encompassing approach to relational intervention. Moreover, in the context of a tiered model, approaches are most effective if integrated. For example, a school implementing cooperative learning, mentoring, or an expanded approach to extracurricular activity as its only targeted effort to meet the relational needs of its students is unlikely to achieve the interpersonal yields of schools doing more than this. Likewise, the benefits to be derived from practice will be limited if there is not sufficient depth such that the fullness of any one practice is not amply addressed. We propose, then, that a powerful implementation of the various practices described below will rest on breadth, depth, quality, and integration.

Practice at the Student Level

At the student level, we emphasize universal student programs and intervention, targeted student programs assisting at-risk populations, extracurricular activity, cooperative learning, and mentoring. Although there are many other practices at the student level that facilitate relatedness, we emphasize these practices because they are underpinned by elements of theory described above, represent opportunities to enhance connectedness between students, and are grounded in individual, student-to-student, or student-to-adult approaches to enhancing educational outcomes.

Universal Student Programs and Intervention

In terms of the theoretical foundations described earlier, there are many in-school and out-of-school programs in which students engage that not only enhance academic outcomes and prevent maladaptive outcomes but also offer scope for personal growth and development (indeed, a recent issue of *American Psychologist*, 38 (6-7), 2003, focused on such programs and interventions for young people). Even broadly based relational programs offer scope to build bridges to students' academic lives. Such programs typically range in specific purpose but are often aimed at enhancing or intervening in students' emotional, social, physical, behavioral, and academic development. These programs comprise positive interpersonal

relationships and support, helping students feel valued, developing supportive relationships, establishing a meaningful place for the individual in a group, and fostering individuals' usefulness to others (Dryfoos, 1990; Martin, 2008a; Nation et al., 2003; Weissberg et al., 2003).

Martin (2005, 2008a) also identified elements that contribute to effective motivation and engagement interventions based on the seminal theory described above. The first element comprised optimistic expectations held by adults for the students, directly invoking self-efficacy principles through the modeling of efficacious behavior by adults and expectancy-value principles through communicating efficacy-related expectations to students (e.g., see Bandura, 1997; Wigfield & Tonks, 2002). A focus on mastery was a second element, invoking principles of goal theory that identify the importance of significant adults in shaping students' goals (e.g., see Anderman & Maehr, 1994; Creasey et al., 1997; Meece, 1991). These adults are also influential in shaping the climate, the third element identified by Martin. Specifically, a climate of cooperation, consistent with goal theory and relevant climate research (Ames, 1992; Dweck, 1992; Elliot, 1997; Qin, Johnson, & Johnson, 1995; Roeser, Midgley, & Urdan, 1996; Urdan, Midgley, & Anderman, 1998), evokes a sense of belonging that fulfills relatedness needs, consistent with self-determination theory (Deci & Ryan, 2000; La Guardia & Ryan, 2002). This climate of cooperation also serves to diminish evaluative concerns and a consequent fear of failure, in keeping with tenets of self-worth motivation theory (Covington, 1992, 1998, 2002; Martin & Marsh, 2003).

Targeted Student Programs for At-Risk Populations:

Special Focus on Indigenous Students

As discussed, universal intervention programs typically involve practices directed at all students, whether they be high or low achievers, motivated, or unmotivated. However, there has been some concern that such programs may increase the gap between the strong and the struggling students such that the strugglers gain but the strong gain more (e.g., Ceci & Papierno, 2005). We propose that a relational perspective on educational practice may hold specific and differentiated benefits for groups that are at risk, even under a universal intervention paradigm. To illustrate, we focus on students from disadvantaged groups. Although these groups are by no means exhaustive of student groups at risk, they are an informative means of examining the potential for a relational approach in addressing their educational needs.

In many countries, Indigenous students represent a distinct group of disadvantaged student. In Australia, for example, across reading, mathematical literacy, and scientific literacy, Indigenous students achieve at a much lower standard than their non-Indigenous counterparts, and the dropout rate in high school is markedly higher for Indigenous groups (Groome & Hamilton, 1995; Martin, 2003c; Munns, 1998). Research conducted among Indigenous students has found that the impact of positive relationships on a number of educational outcomes can be substantial (see, e.g., Collins, 1993; Groome & Hamilton, 1995; Richer, Godfrey, Partington, Harslett, & Harrison, 1998). Given the fact that many Indigenous students experience difficulties with their teacher, interpersonal relationships are a critical concern when schools are seeking to enhance Indigenous students' educational outcomes (Richer et al., 1998).

Reviews point to three levels of relationships relevant to the educational needs of Indigenous students (Martin, 2006a, 2006b; Munns, 1998; see also Fanshawe, 1989). The first involves an active daily connection with the school. This relationship is underpinned by ongoing connections with the Indigenous community, Indigenous Studies as part of the general curriculum, and a focus on the interests of Indigenous students as a policy priority. Together, these aspects of *relationship with school* enhance students' academic and nonacademic morale (Fanshawe, 1989; Martin, 2006a, 2006b; Munns, 1998). The second, *interpersonal relationships*, involves teachers' getting to know students, developing trust within the class and school, and developing Indigenous cultural knowledge and understanding. The third, *pedagogical relationships*, involves connecting with students by means of challenging and interesting work, effective instructional strategies, and positive expectations held by teachers for students. In the context of Indigenous education, predictors of this relationship include teacher satisfaction, appropriate and respectful views of students' Indigenous status, collaborative lesson planning, and effective early intervention policies and programming (Munns, 1998). Taken together, school, interpersonal, and pedagogical relatedness can be an organizing concept for improving educational outcomes of Indigenous students—and potentially the educational outcomes of other disadvantaged minorities and groups.

In line with this, lessons learned through Indigenous education are echoed in those learned in other cultural settings. Graham (1994), for example, developed a taxonomy for considering motivation among African Americans. Notwithstanding the important historical and social factors that distinguish them from other racial groups, Martin (2003c) suggested that this framework provided a useful means by which to think about Indigenous students' educational status and outcomes. According to Graham, a central element of such a motivational psychology must address socialization antecedents of achievement strivings. Similarly, pedagogical principles have been drawn from the work of Ladson-Billings with exemplary teachers of African American students (Ladson-Billings, 1995). According to Ladson-Billings, culturally responsive teachers create social interactions through maintaining fluid teacher–student relationships, demonstrating connectedness with all students, developing a community of learners, and encouraging students to learn collaboratively. As can be readily surmised, these are principles of effective teaching that should be effective with any group. However, they have particular scope for classrooms characterized by diversity, and in particular with students who are academically disadvantaged, such as Indigenous minorities (e.g., Indigenous Australians, Native Americans) and educationally disadvantaged ethnic minorities and groups (e.g., African Americans and Mexican Americans), where they are most needed.

Extracurricular Activity

Extracurricular involvements traverse in-school and out-of-school programs. Extracurricular involvement encompasses, among other things, activities such as sport, music, dance, clubs, and church. The weight of evidence suggests that most extracurricular activities are a positive influence in young people's lives, including in their educational, social, and emotional lives (Barber, Eccles, & Stone, 2001; Cooper, Valentine, Nye, & Lindsay, 1999; Eccles & Barber, 1999; Marsh, 1992; Marsh & Kleitman, 2002; Valentine, Cooper, Bettencourt, & DuBois, 2002).

Significantly, relatedness and belonging are important reasons such activities are thought to yield positive effects. Extracurricular activity provides young people with safe and caring environments (McLaughlin, Irby, & Langman, 1994) in which prosocial adults (Mahoney, Schweder, & Stattin, 2001; Roth & Brooks-Gunn, 2000) are able to promote self-efficacy and model effective behaviors, consistent with self-efficacy theory (Bandura, 1997; Schunk & Miller, 2002). Extracurricular activity helps develop social skills and social capital (Broh, 2002), thereby building a student's sense of control, as articulated by attribution theory (Weiner, 1986, 1994; see also Perry & Tunna, 1988; Thompson, 1994), and autonomy, consistent with a self-determination perspective (Deci & Ryan, 2000; La Guardia & Ryan, 2002; Reeve et al., 2004). Moreover, extracurricular activity provides an adolescent with a sense of belonging to a personally valued group (Brown & Evans, 2002), harnessing principles from expectancy-value and self-determination frameworks (Deci & Ryan, 2000; Wigfield & Tonks, 2002). To the extent that these connections and modeling are aligned with academic goals, they have the potential to promote achievement motivation. Hence, through a relational framework underpinned by principles salient in theorizing, extracurricular activity can facilitate educational and other outcomes.

Cooperative Learning

Also relevant at the student level and related in part to goal theory is the relative emphasis on cooperative (relational) and competitive (anti- or at least *a* relational) activities among students. Cooperation can be operationally defined as the presence of joint goals, mutual rewards, shared resources, and complementary roles (Qin, Johnson, & Johnson, 1995). In cooperative situations, students strive to reach their goals through the support and joint focus of others in their group or class. In competitive situations, students strive to reach their goals individually, or against (rather than with) others (Anderman & Maehr, 1994; Barker et al., 2002). Thus, whereas cooperation is focused on the notion of relatedness and mutual action with the other, the notion of competition tends to be antithetical to it. Evidence suggests that cooperative efforts are more effective than competitive efforts for many learning-related tasks, such as those involving decoding and recall of information (Barker et al., 2002; Johnson, Maruyama, Johnson, Nelson, & Skon, 1981), and more conducive to higher level thinking and problem solving (Johnson et al., 1981; Qin et al., 1995; Slavin, 1983). Cooperative learning theorists might explain such findings by arguing that the pursuit of joint goals and mutual rewards and the sharing of intellectual and physical resources (all factors relying on relatedness and interconnectedness) contribute to the advancement of achievement and motivation underpinning these outcomes.

Mentoring

Within the school environment, mentoring harnesses relatedness between younger students and older students (or adults) who provide support and guidance in particular domains. Mentoring is implemented in numerous ways, including high school students "adopting" elementary school students, elementary school activity days (e.g., high school students teaching younger students skills for better schoolwork), former students visiting the school (e.g., to encourage reading or to identify postschool pathways relying on academic engagement), underachievers

choosing a teacher-mentor to work with, or pairings in partnership with local industry (see Noble & Bradford, 2000). It has been suggested that the enhanced interpersonal connectedness that is part of these programs contributes directly to engagement and achievement gains (Karcher, Davis, & Powell, 2002). In a recent model representing the development of students' expectancies for success and task values, Wigfield and Tonks (2002) emphasized the role of significant socializers' (e.g., mentors) beliefs and behaviors on the academic development of students. From a self-efficacy perspective, students gain a sense of efficacy, at least in part, through the problem-solving modeling and supportive communication of others (Bandura, 1997). Mentors are likely to be powerful channels of modeling and positive communication, and so quality relatedness in the mentor process is an important part of this.

Practice at the Teacher and Classroom Level

A pervading theme underpinning the theoretical traditions in Part II is the role of teachers (and classroom factors) in shaping students' achievement motivation. Attribution theory proposes that students gain a sense of control and locus through feedback from teachers or by observing models demonstrating a sense of control (Fabricius & Hagen, 1984; Perry & Tunna, 1988; Peterson et al., 1993; Thompson, 1994; Weiner, 1986). Expectancy-value theory identifies the role of significant socializers' attitudes, beliefs, and behaviors in the development of students' expectancies and values (Wigfield & Tonks, 2002). From a goal theory perspective, teacher-set tasks, assessment, and grouping strategies influence the goals students adopt (Anderman & Maehr, 1994; Meece, 1991). Belongingness in the classroom, central to self-determination theory, is cultivated by the teacher and the students collected in the classroom (Deci & Ryan, 2000; La Guardia & Ryan, 2002; Reeve et al., 2004). Students gain a sense of self-efficacy through the modeling and supportive communication of teachers (Bandura, 1997). From a self-worth motivation perspective, Martin, Marsh, Williamson, et al. (2003; see also Covington, 1992, 1998; Thompson, 1994) have shown that students' motive to protect self-worth is influenced by teachers while other research has demonstrated the impact of approval withdrawal on students' fear of failure (Elliot & Thrash, 2004). Indeed, teacher and classroom practice can be a vehicle for providing students with a sense of being at one with the group along the lines of communion posited by Bakan some four decades ago and yet let students retain the complementary but nonoverlapping sense of personal agency that is a hallmark of student motivation, engagement, and achievement (Bakan, 1966; see also, for early work, Angyal, 1941, 1965; Maslow, 1968; Waterman, 1981; for later work, see Deci & Ryan, 2000; McAdams et al., 1996).

All this being the case, it is clear that the means by which teachers and classroom practice affect achievement motivation are directly and indirectly shaped by relational factors and processes. At the teacher and classroom level, we suggest that instructional, professional development, teacher retention and training, and organizational practices can be conceptualized in terms of these relational factors and processes. In particular, the emerging concept of *connective instruction* may have implications for teachers' ongoing professional development, the importance of teacher retention and attracting prosocial and positive (young) adults to teacher training, and the nature of classroom composition in affecting the motivation and

engagement of students and classroom climate. Although not the only teacher and classroom practices that affect achievement motivation, they are a useful and informative means by which to frame practice in relational terms.

Connective Instruction

To the extent that relationships are a vital underpinning of student motivation, engagement, and achievement, teachers who frame practice in relational terms are more likely to foster motivated, engaged, and achieving students. Many studies support this contention (e.g., Abbott & Ryan, 2001; Battistich & Hom, 1997; Elicker & Fortner-Wood, 1995; Fyson, 1999; Kontos & Wilcox-Herzog, 1997a, 1997b; Martin, 2006d). Specifically, research supports the following points:

- a. Students' sense of support (e.g., being liked, respected, and valued by the teacher) predicts their expectancies for success and valuing of subject matter. Indeed, support from teacher is a consistently influential factor in motivation and achievement (Goodenow, 1993a).
- b. Students who believe that their teacher is caring also believe they learn more (Teven & McCroskey, 1997).
- c. Students' feelings of acceptance by teachers are associated with emotional, cognitive, and behavioral engagement in class (Connell & Wellborn, 1991).
- d. Teachers who support a student's autonomy tend to facilitate greater motivation, curiosity, and desire for challenge (Flink, Boggiano, & Barrett, 1990).
- e. Teachers higher in warmth tend to develop greater confidence in students (Ryan & Grolnick, 1986).

Conversely, research also supports the following conclusions:

- f. When teachers are more controlling, students tend to show less mastery motivation and lower confidence (Deci, Schwartz, Sheinman, & Ryan, 1981).
- g. Teachers who are not perceived as warm typically evince lower motivation and achievement among students (Kontos & Wilcox-Herzog, 1997b).

Relationships, therefore, are central to the issue of teaching and instruction. The concept of connective instruction, built on the previously proposed *pastoral pedagogy* (Cavanagh, 2001; Hunter, 1994; Martin, 2006a, 2006b), *relational pedagogy* (Bergum, 2003; Boyd, MacNeil, & Sullivan, 2006; Gadow, 1999), and *connective pedagogy* (Corbett, 2001a, 2001b; Corbett & Norwich, 1999), is relevant here. Pastoral pedagogy, introduced by Hunter (1994), described how modern teachers harness principles of the Christian pastorate to shape the ethical development of students (see also Cavanagh, 2001). Relational pedagogy refers to pedagogy that has as its foundation the need for good relationships between student and teacher that must also be accompanied by enhanced student learning (Boyd et al., 2006). Extending Gadow's (1999) work, connective pedagogy deals with the delivery of teaching that interpersonally connects with learners, seeks to make the learning material meaningful (i.e., another form of connection), connects with external sectors to maximize student development, and looks to connect with significant others,

such as parents, in students' lives (Corbett, 2001a, 2001b; Corbett & Norwich, 1999).

Martin (2006a, 2006b; see also Martino & Pallotta-Chiarolli, 2003; Munns, 1998, for cognate perspectives) offered an adaptation of these notions to more centrally position relatedness and connectedness between teacher and student in the context of instruction itself. Martin proposed such instruction—connective instruction—as that which connects the student and teacher on three levels: the level of substance and subject matter, the interpersonal level, and the instructional level (see also Martino & Pallotta-Chiarolli, 2003; Munns, 1998). Hence, connective instruction comprises three relationships: the substantive relationship (the connection between the student and the subject matter and substance of what is taught—i.e., connecting to the *what*), the interpersonal relationship (the connection between the student and the teacher himself or herself—i.e., connecting to the *who*), and the instructional relationship (the connection between the student and the instruction or teaching—i.e., connecting to the *how*). Although connective instruction emphasizes the impact of teacher on student, there is also an impact of student(s) on teacher such that the teacher is able to refine or adjust subject matter, interpersonal relatedness, and instruction on the basis of students' responses to the teacher's connective instruction. Connective instruction, then, may be viewed as a bidirectional process that is mutually beneficial and enhancing to both teacher and student.

Substantive connectiveness (connecting to the what). The first relationship in connective instruction is that between the student and the actual subject matter and nature of tasks conducted in the teaching and learning context. Core elements of subject matter that facilitate students' connection to the teaching and learning context include setting tasks that are appropriately challenging, assigning work that is important and meaningful, building variety into content and assessment tasks, and utilizing material that arouses curiosity and is interesting to young people (e.g., Covington, 1998; Martin, 2002a, 2003a, 2003b; McInerney, 2000). These elements reflect content, subject matter, and learning tasks to which a student can meaningfully connect. These are a means by which the student engages with the *what* of teaching and learning. A good deal of this component of relational pedagogy rests on the valuing dimension of expectancy-value theory and the mastery dimension of goal theory, which emphasize relevance, contextual dimensions of subject matter, utility, interest, and satisfaction in learning (see Eccles, 1983; Elliot, 1997, 1999; McInerney, 2000; Wigfield, 1994; Wigfield & Tonks, 2002).

Interpersonal connectiveness (connecting to the who). The second relationship in the connective instruction framework is that between the student and the teacher. Previously identified characteristics of quality interpersonal relationships in the teaching and learning context include actively listening to students' views, allowing students to have input into decisions that affect them, getting to know students, showing no favoritism but affirming all students, accepting students' individuality, and having positive but attainable expectations for students (Martin, 2002a, 2003a, 2003b; Slade, 2001; see also Flink et al., 1990; Goodenow, 1993a; Teven & McCroskey, 1997, for research confirming the yields of such relational characteristics). These elements are a means by which the student engages with the *who* in the teaching and learning context. This component explicitly invokes interpersonal

relationships as central to learning and instruction—and by implication is perhaps most closely aligned with self-determination theory and its relatedness construct (Ryan & Deci, 2000). Whereas other theories might rely on interpersonal relatedness more as a conduit for their constructs and processes (e.g., for enhancing self-efficacy, control, self-worth, expectations, valuing)—self-determination theory quite centrally comprises the need for interpersonal relatedness as an important end in itself.

Instructional connectiveness (connecting to the how). The third relationship in connective instruction is that between the student and the teaching or instruction itself. Elements of effective instruction include maximizing opportunities for students to develop competence, providing clear feedback to students, explaining things clearly and carefully, injecting variety into teaching methods, encouraging students to learn from their mistakes, clearly demonstrating to students how schoolwork is relevant or meaningful, ensuring all students keep up with the work, and allowing for opportunities to catch up (e.g., Baird, 1999; Bandura, 1997; Covington, 1997; Craven, Marsh, & Debus, 1991; Martin, 2002a, 2003a, 2003b). These elements characterize high-quality instructional practice and are a means by which the student engages with the *how* of teaching and learning. They bring into consideration teacher-based behaviors that emphasize effective feedback and reward (attribution theory), nurturing of students' expectancies and valuing of subject matter (expectancy-value theory), development of a mastery and improvement focus (goal theory), use of modeling (self-efficacy theory), and reduction of achievement stress and fear of failure (self-worth motivation theory).

The role of the student in connective instruction. Connective instruction also recognizes that teaching is not a unidirectional process. Rather, at each of the three levels (substantive, interpersonal, and instructional) there is the opportunity for the teacher to refine or adjust the relevant level. For example, in response to a lack of student interest in a particular lesson, the teacher might adjust subject matter, how he or she is relating interpersonally to students, the instructional techniques themselves, or a combination of these. Hence, in the true spirit of relatedness, there exists a bidirectional process potentially mutually beneficial to all parties.

In sum, connective instruction explicitly recognizes that relatedness is an instructional need and that students are likely to be more engaged and motivated when this need is met (Battistich & Hom, 1997; Burroughs & Eby, 1998; Chavis & Newbrough, 1986; N. Fry, 1994; Fyson, 1999; McCarthy et al., 1990). Through meeting this relatedness need, connective instruction facilitates students' identification with the school and provides a connection with instruction on a more meaningful basis (see Munns, 1998). Jointly, identification with school and connection with instruction are proposed to promote adaptive academic engagement and motivation.

Professional Development

Seminal motivation theory and conceptualizing around instruction itself (e.g., connective instruction) can also be a basis for teacher education and professional development (Bergum, 2003; Boyd et al., 2006; Cavanagh, 2001; Corbett, 2001a; Hunter, 1994; Martin, 2006a, 2006b). Teacher training and preservice education have been a focus of much prior research, with a number of journals specifically

devoted to it. However, relatively less attention has been given to the professional development of teachers in the workforce.

Teacher professional development (or *in-servicing*) has the potential for enhancing the educational outcomes of students and assisting teachers to operate more effectively in the classroom (Rowe & Rowe, 1999). Cherubini, Zambelli, and Boscolo (2002) examined the effects of professional development on teachers' success in facilitating student motivation. Teachers participated in professional development related to theoretical and methodological aspects of motivation research and strategies to modify and sustain student motivation. Their findings showed that participants increased their practical knowledge about student motivation, were better able to identify and consider motivational problems, and planned new instructional programs to sustain their students' motivation (see also Schorr, 2000). Similarly, Stipek et al. (1998) found that teachers participating in professional development focusing on student motivation were more likely to emphasize mastery and understanding in their teaching, to encourage student autonomy, and to create psychologically safer classroom environments. Participating teachers also made more-accurate assessments of students' motivation—an important precursor to effective and targeted intervention (Martin, 2008a).

Recent reviews have pointed to the need for teacher professional development in assisting disengaged and disadvantaged students. It is noteworthy that one of the key areas targeted for such professional development is improving teacher–student relationships (Becker & Luthar, 2002). Integrating theory and research detailed in Parts II and III suggests that professional development along these lines should focus on (a) developing a sense of community among students through relationally supportive school structures (Battistich & Hom, 1997; Cumming, 1996); (b) cultivating cooperative and mastery-oriented climates as articulated in goal theory (Qin et al., 1995); (c) integrating students within their peer groups (Bolger, Patterson, & Kupersmidt, 1998) to develop a sense of belonging consistent with self-determination theory; (d) developing competence and personal control in the context of interpersonal relatedness (Connell & Wellborn, 1991) along the lines of that articulated under self-efficacy and attribution principles, respectively; (e) reducing emphases on teacher-as-authority (Flink et al., 1990), consistent with connective instructional principles introduced above (see also Bergum, 2003; Boyd et al., 2006; Cavanagh, 2001; Corbett, 2001a, 2001b; Hunter, 1994; Martin, 2006a, 2006b); and (f) providing positive role modeling (Hernandez, 1995), consistent with self-efficacy theory. These are all a means of intentionally directing professional development toward relational understandings of teaching and learning. This accords with our overall relational conceptualization of motivation- and achievement-related theory, key issues, and practices described above.

Teacher Retention and Training

In almost every organizational setting, the workplace is changing, and at a seemingly increasing pace (Schabracq & Cooper, 2000). Most employees work long hours, often not sufficiently remunerated (Dollard, 2006). Reports of an increasing lack of control, less input into decision making, and less involvement in the scheduling of work tasks and methods of work are consistently associated with poorer well-being (Karasek & Theorell, 1990). Indeed, stress-related workers' compensation claims continue to rise at an alarming rate. For example, in Australia

(the context for the present authors), stress-related claims increased by more than 60% between 1996-1997 and 2002-2003 (Office of the Australian Safety and Compensation Council, 2006), and in the United States, more than half of working adults say they are concerned about the amount of stress in their lives (Stambor, 2006). Of particular relevance to this review, some researchers place school teachers among the group of employees facing many or all of the above pressures (Martin & Marsh, in press). Such research has identified stress, disengagement, heavy workloads, little support, and high turnover in this challenging setting (Fry & Martin, 1994; Mayer, 2006; McCormack, Gore, & Thomas, 2006; Richardson & Watt, 2006; Smithers & Robinson, 2003)—factors that significantly hamper individual career and employment development. It is important to note that such factors also lead to high rates of teacher attrition, high mobility, and even difficulties attracting sufficient numbers of teachers into teacher training (G. Fry & Martin, 1994; Organisation for Economic Co-operation and Development, 2005; Smithers & Robinson, 2003; Vinson, 2002).

One of the effects of teacher attrition and mobility is that there are fewer opportunities for consistent and stable relationships between student and teacher and, by implication, fewer consistent prosocial and positive adults in students' lives. Similarly, failure to attract potentially good teachers to teaching means a more limited pool of available such people for children and young people and the consequent cost of this in terms of children's and young people's potentially supportive interpersonal relationships. The present review, then, echoes calls in other research for support needed by teachers and schools to more effectively deal with the stressors that lead to attrition, mobility, and alternative career choices (G. Fry & Martin, 1994; Martin & Marsh, in press; Mayer, 2006; McCormack et al., 2006; Organisation for Economic Co-operation and Development, 2005; Richardson & Watt, 2006; Smithers & Robinson, 2003; Vinson, 2002).

Classroom Composition

From a relational perspective, it is also important to consider the nature and number of students in the classroom. If, as key theories (e.g., goal theory, self-efficacy theory, attribution theory) propose, motivation and achievement are affected by goal climates, peers, and models with whom one identifies (e.g., other students), then it follows that research and practice must look more closely at the composition of students in the classroom.

To date, most multilevel research examining variance in achievement and motivation at the classroom level attributes such variance to the teachers themselves (e.g., see Hill & Rowe, 1996; Papaioannou, Marsh, & Theodorakis, 2004; Rowe & Rowe, 1999). Relatively little research, however, has attempted to disentangle the effects of the teacher from those of the class. If, for example, there is an effect of class composition on motivation and engagement, then there are implications from a relational perspective. Some immediate questions from an achievement motivation perspective would be: What students are collected together? How many are there? Where are they seated? Whom do they work with or alongside? How do they interact? How do they get on?

Disentangling the relative role of teacher from that of class composition is most appropriately handled by multilevel cross-classification analyses in which there are multiple teachers, each of whom teaches multiple classes. Marsh, Martin, and Cheng

(2008) conducted such analyses and showed that there were some differences between classes but that these differences did not always generalize over different classes taught by the same teacher. Hence, over and above teacher effects are the effects of class composition. The researchers concluded that both the quality of the teaching and the classroom composition are factors in motivation (see also Martin & Marsh, 2005).

This achievement has implications for classroom climate research, which suggests that the motivational climate may also be a function of the particular collection of students in that class. Whereas in recent years there has been substantial focus on teacher effectiveness and characteristics of effective teachers, it might now be timely to revisit the issue of class composition and perhaps from a relational perspective. More specifically, in the context of achievement motivation, research might investigate the characteristics of effective classrooms, the students collected together in the classroom, the bases on which they are collected together, and how they interact. Moving beyond the students themselves are other factors relevant to the classroom and its environment that affect relatedness among students and between students and teachers. These include such factors as the classroom's physical space (encompassing size, organization of furniture and equipment, lighting, temperature, etc.), its location in the school itself (e.g., in terms of noise, proximity to other classrooms for ease of movement, etc.), and even the time of day at which classroom activities are conducted. Prior work has been conducted into cognate issues such as seating arrangement (Hastings & Schwieso, 1995; Marx, Fuhrer, & Hartig, 1999), streaming (Marsh, 1987; Marsh & Hau, 2003), single-sex class composition (Marsh, 1989; Marsh & Rowe, 1996; Martin, 2004; Martin & Marsh, 2005), and the physicality of the learning environment (O'Hare, 1998; Stone, 2001). Hence, class composition and other class environment factors from a relational and achievement motivation perspective are an avenue for further research. Moreover, from a relational perspective, such research would also need to establish how much variance in achievement motivation at the class level is a function of teacher-student interactions (i.e., class-level variance due to teacher-student relatedness) and how much is unique to student-student interactions (i.e., class-level variance due to student-student relatedness).

Practice at the School Level

The theories informing this discussion deal primarily with intrapsychic, individualistic constructs that are directed at individuals or relatively small groups and activated by individuals such as teachers, counselors, psychologists, and the like. Although the issue of relatedness may be more aligned with research and practice at the individual and interpersonal level, it is important to consider what application of theory can be directed at the school level. A thoroughgoing treatment of relatedness would encompass integrated recommendations at all levels: student, teacher or classroom, and school. For example, hypothesized under goal theory are mastery and performance classroom climates that also have implications for whole-school climates (e.g., see Duda, 2001; Middleton & Midgley, 1997; Papaioannou et al., 2004; Roeser et al., 1996; Urdan et al., 1998). The notion of fear of failure and disengagement at the school level is not inconsistent with predictions under need achievement and self-worth motivation theories (Atkinson, 1957; Covington, 1992, 1998; McClelland, 1965). Work in the areas of attributions

and learned helplessness shows that through observing potent models, even relatively large groups can acquire helpless behaviors and dispositions (Peterson et al., 1993). Indeed, recent multilevel modeling research has examined school-level variance in constructs central to self-efficacy, expectancy-value, goal, self-worth motivation, and self-determination theories (Marsh et al., 2008; Martin & Marsh, 2005). Hence, there are extensions of achievement motivation theory and research to school-level considerations that are logical and defensible. Given this, we address two issues relevant to such considerations: school as community and effective leadership. Again, they are not the only school-level practices that are relevant to relationships, but they are a useful means by which to consider relatedness at a school level as relevant to achievement motivation.

School as Community

Cooperative climates develop a sense of community and belonging, consistent with predictions under goal and self-determination theories (Ames, 1992; Dweck, 1992; Elliot, 1997; Qin et al., 1995; Ryan & Deci, 2000). A sense of community affects young people's sense of self and efficacy. It can also affect their engagement. In the educational context, Becker and Luthar (2002) suggest that an important means of enhancing motivation is through promoting a sense of belonging in school. In fact, it has been suggested that there can be tension between the emphasis on social cohesion (e.g., school as community) and a strong academic mission—with schools often pursuing one more than the other. Indeed, research under the goal theory framework has attempted to resolve similar dissonance through the articulation of multiple goals (e.g., see Heyman & Dweck, 1992; Urdan & Maehr, 1995; Wentzel, 1992). Encouragingly, it has been found that achievement can result from an integrated emphasis on social cohesion and academic mission (Shouse, 1996) and that psychological school membership (students' perceived belonging) is significantly linked to academic motivation and achievement (Goodenow, 1993b). Conversely, alienation may be conceptualized, not just in relational terms (i.e., not feeling at home in a particular institution), but also in academic terms (i.e., not being able to relate to particular content or the presentation of that content). For these reasons, relational perspectives would support greater school-level action to enhance a sense of community, belonging, and connectedness at school (following others, e.g., Cumming, 1996; Hernandez, 1995; Mann, 1989).

Effective Leadership

In our discussion of teacher- and classroom-level practice, we described how feedback, modeling of efficacy and control, effective reward contingencies, expectations, set tasks, assessment and grouping strategies, supportive communication, and the transfer of fear and approval are means by which teachers relationally influence students' achievement motivation. It is not inconceivable that similar dynamics are relevant at upper levels, such as at the school executive or leadership level. Research into school effectiveness consistently emphasizes the importance of effective leadership (Edmonds, 1979; Levine & Lezotte, 1990; Marzano, 2003; Sammons, 1999). There are many features of effective leadership that have parallels with motivation and achievement theories, including visibility and energy that serve as modeling behavior (see self-efficacy theory), high expectations for staff and students (see expectancy-value theory), openness to feedback and input that

can enhance teachers' sense of control and autonomy (see attribution and self-determination theory), and advocacy for the school that demonstrates valuing (see expectancy-value theory). Other relational features include emotional and professional support of staff, mutual respect between staff and the executive, connectedness to the student body, interest in and involvement with parents, and links to the community and industry (Blum, Butler, & Olson, 1987; Hallinger & Murphy, 1987; Levine & Lezotte, 1990; Sammons, Hillman, & Mortimore, 1995). In implementing school-level action along these lines, however, it is important not to underestimate the yields of intervention at the student and classroom levels. For example, in the context of the multiple and sharp developmental trajectories occurring through childhood and adolescence, the impact of relational intervention may be greater when directed to students and classrooms than when directed to school executives.

Part IV: Integrative Model of Theory and Practice

In finalizing our review, we synthesize its key elements into an integrative model of theory and relational practice. Table 2 presents this model and summarizes the relevant theories, their component constructs, recommended educational practice, and the mechanisms and conduits within the theories that inform or implement such practice. Also evident in the table are some of the congruencies between central constructs in the model, including competence-based constructs such as self-efficacy, expectancies, and worth, and control-based constructs such as control and autonomy. The table also shows that there are commonalities in terms of the mechanisms that are the means by which these theories and component constructs are relationally translated to educational practice. These include the roles of modeling, communication of expectations, task assignment, skill development, reward contingencies, and feedback to students—all central to motivation- and achievement-related theories detailed in Part II.

It is also evident in Table 2 that interpersonal relationships are directly or indirectly present in the way theory is manifested in students' academic lives. Moving beyond theory, Table 2 suggests that interpersonal relationships play a pivotal part in resolving complex or critical concerns with respect to current and prospective educational practice. For these reasons, we argue that motivation- and achievement-based theory, key issues, and practice may be conceptualized from a relational perspective. Hence, the interplay of theory and practice from a relational perspective provides direction for educators seeking to enhance students' achievement motivation.

Conclusion

This review has elucidated the multiple ways in which interpersonal relationships affect motivation and achievement, the benefits derived from relational perspectives on motivation and engagement, achievement motivation theories relevant to relationships, and relational practices underpinning student-, teacher- or classroom-, and school-level actions. Theory and research support the proposition that positive relationships with significant others are cornerstones of young people's capacity to function effectively in social, affective, and academic domains. With a focus on the latter, we conclude that high-quality interpersonal relationships in students' lives contribute to their academic motivation, engagement, and achievement. Further, relational

TABLE 2*Summary of constructs, mechanisms, and practice relevant to relatedness*

Theory	Key constructs relevant to review	Mechanisms or conduits	Trilevel educational practice
Attribution theory	<ul style="list-style-type: none"> • Perceived control • Perceived locus • Helplessness 	<ul style="list-style-type: none"> • Feedback to students • Reward contingencies • Observation of and identification with relevant others 	Practice at student level: <ul style="list-style-type: none"> • Universal student programs and intervention • Targeted student programs and intervention
Expectancy-value theory	<ul style="list-style-type: none"> • Expectancy for success • Valuing of school, subjects, etc. 	<ul style="list-style-type: none"> • Communication of expectancies • Communication of valuing • Modeling of valuing • Responses to or treatment of students in class 	<ul style="list-style-type: none"> • Extracurricular activity • Cooperative learning • Mentoring
Goal theory	<ul style="list-style-type: none"> • Mastery goals • Performance goals • Social goals • Motivational climate • (Approach and avoidance extensions) 	<ul style="list-style-type: none"> • Tasks set • Assessment and grading practices • Development of climate • Reasons for learning valued by relevant others 	Practice at teacher and classroom level: <ul style="list-style-type: none"> • Connective instruction • Professional development • Teacher retention and training • Classroom composition
Self-determination theory	<ul style="list-style-type: none"> • Relatedness or belonging • Autonomy • Competence 	<ul style="list-style-type: none"> • Warmth, support, and nurturance • Promoting independence • Self-responsibility 	
Self-efficacy	<ul style="list-style-type: none"> • Self-efficacy • Control 	<ul style="list-style-type: none"> • Modeling • Positive communication from relevant others • Vicarious influence 	
Self-worth motivation theory	<ul style="list-style-type: none"> • Self-worth • Fear of failure • Disengagement 	<ul style="list-style-type: none"> • Approval, affirmation • Conditions of love, approval • Intergenerational transfer of love • Reward contingencies • Grading practices 	Practice at the school level: <ul style="list-style-type: none"> • School as community • Effective leadership

elements of educational theory provide guidance for educational practice directed at student motivation and achievement. Taken together, this integration of relationally based theory and practice holds implications for researchers studying issues relevant to motivation and achievement and is also relevant to educators seeking to enhance educational outcomes that rely in large part on the extent to which their students are interpersonally connected to the significant others in their academic lives.

Notes

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