

Why Teachers Adopt a Controlling Motivating Style Toward Students and How They Can Become More Autonomy Supportive

Johnmarshall Reeve

*Department of Educational Psychology
University of Wisconsin–Milwaukee*

A recurring paradox in the contemporary K-12 classroom is that, although students educationally and developmentally benefit when teachers support their autonomy, teachers are often controlling during instruction. To understand and remedy this paradox, the article pursues three goals. First, the article characterizes the controlling style by defining it, articulating the conditions under which it is most likely to occur, linking it to poor student outcomes, explaining why it undermines these outcomes, identifying its manifest instructional behaviors, and differentiating it from an autonomy-supportive style. Second, the article identifies seven reasons to explain why the controlling style is so prevalent. These reasons show how pressures on teachers from above, from below, and from within can create classroom conditions that make the controlling style both understandable and commonplace. Third, the article offers a remedy to the paradox by articulating how teachers can become more autonomy supportive. Three essential tasks are discussed. Special attention is paid to practical examples of what teachers can do to support students' autonomy.

Controlling is the interpersonal sentiment and behavior teachers provide during instruction to pressure students to think, feel, or behave in a specific way (Assor, Kaplan, Kanat-Mayman, & Roth, 2005; Reeve, Deci, & Ryan, 2004). Its opposite is autonomy support (Deci & Ryan, 1985), which is the interpersonal sentiment and behavior teachers provide to identify, nurture, and develop students' inner motivational resources (Assor, Kaplan, & Roth, 2002; Reeve et al., 2004). As opposites, controlling and autonomy support represent a single bipolar continuum to conceptualize the quality or ambience of a teacher's motivating style toward students (Deci, Schwartz, Sheinman, & Ryan, 1981). Such a style is an important educational construct because students of autonomy-supportive teachers display markedly more positive classroom functioning and educational outcomes than do students of controlling teachers (Deci & Ryan, 1985; Reeve & Jang, 2006; Ryan & Deci, 2000).

STATEMENT OF THE PROBLEM

Given that students relatively benefit when teachers support their autonomy but relatively suffer when teachers control their behavior, one might expect that teachers would commonly enact autonomy-supportive instructional behaviors and only rarely enact controlling ones. This does not, however, seem to be the case. When trained, objective raters score teachers' naturally occurring instructional behaviors in terms of how autonomy supportive versus controlling they are, raters generally score teachers, on average, as tending toward the controlling style. For instance, raters scored one group of high school teachers as relying frequently on extrinsic motivators to spark students' engagement in learning activities, tending toward pressuring-inducing language, neglecting to provide explanatory rationales for their requests, and opposing students' complaints and expressions of negative affect (Reeve, Jang, Carrell, Barch, & Jeon, 2004). Jang and her colleagues reported a teacher observation study with similar findings (Jang, Reeve, & Deci, in press). Other research shows that teachers typically enact both autonomy-supportive and controlling behaviors during a given instructional episode, though controlling behaviors are more common (Assor et al., 2002). Another observation

Correspondence should be addressed to Johnmarshall Reeve, Department of Educational Psychology, University of Wisconsin–Milwaukee, 709 Enderis Hall, Milwaukee, WI 53201-0413. E-mail: reeve@uwm.edu

TABLE 1
Definition, Enabling Conditions, and Instructional Behaviors Associated with Controlling and With Autonomy Support

<i>Controlling</i>	<i>Autonomy Support</i>
<p>Definition Interpersonal sentiment and behavior teachers provide during instruction to pressure students to think, feel, or behave in a specific way.</p> <p>Enabling conditions Adopt the teacher's perspective. Intrude into students' thoughts, feelings, or actions. Pressure students to think, feel, or behave in a specific way.</p> <p>Instructional behaviors Rely on outer sources of motivation. Neglect explanatory rationales. Rely on pressure-inducing language. Display impatience for students to produce the right answer. Assert power to overcome students' complaints and expressions of negative affect.</p>	<p>Definition Interpersonal sentiment and behavior teachers provide during instruction to identify, nurture, and develop students' inner motivational resources.</p> <p>Enabling conditions Adopt the students' perspective. Welcome students' thoughts, feelings, and actions. Support students' motivational development and capacity for autonomous self-regulation.</p> <p>Instructional behaviors Nurture inner motivational resources. Provide explanatory rationales. Rely on noncontrolling and informational language. Display patience to allow time for self-paced learning. Acknowledge and accept expressions of negative affect.</p>

study of 1st-year teachers showed that beginning teachers commonly used controlling strategies (e.g., offered rewards) but only rarely used autonomy-supportive ones (e.g., provided rationales; Newby, 1991). The conclusion seems to be that teachers often adopt a controlling motivating style during instruction. This is a problem because this more commonly enacted style is associated with relatively negative student functioning whereas the less commonly enacted style is associated with relatively more positive functioning.

The present article pursues three purposes. The first purpose is to present the problem. To do so, the article characterizes the controlling motivating style by defining it, articulating the conditions under which it is most likely to occur, identifying its manifest instructional behaviors, differentiating it from an autonomy-supportive style, and explaining why it generally undermines students' positive functioning and outcomes. The second purpose is to understand why the problem occurs. To do so, the article explains why teachers often adopt a controlling style, despite its negative implications for students' functioning. Seven reasons are offered to illustrate how a controlling style reflects a teacher's reaction to pressures imposed from above (demands from school administrators), from below (student passivity during a learning activity), and from within (control-oriented dispositions within the teacher himself or herself). Collectively, these reasons explain why a controlling style is both understandable and commonplace. The third purpose is to remedy the problem. To do so, the article articulates how teachers can become more autonomy supportive, even while acknowledging their day-to-day experience of feeling pushed and pulled by forces favoring a controlling style. Three essential tasks underlie the effort to adopt a more autonomy-supportive style—namely, become less controlling, appreciate the benefits of an autonomy-supportive style for students and teachers alike, and learn the practical “how to” of supporting autonomy in

terms of specific instructional behaviors. Special attention is paid to practical examples of what teachers can do to support students' autonomy.

TEACHERS' MOTIVATING STYLES

This section characterizes both ends of the motivating style continuum, identifies the conditions that orient teachers toward a controlling or autonomy-supportive style, lists the instructional behaviors closely associated with each style, and explains why a controlling style generally undermines students' functioning and outcomes while an autonomy-supportive style generally promotes them. To frame this discussion, Table 1 provides the definition, enabling conditions, and instructional behaviors associated with each style.

The Nature of a Controlling Style

Three conditions make any approach to motivating students a controlling one: (a) adopt only the teacher's perspective; (b) intrude into students' thoughts, feelings, or actions; and (c) pressure students to think, feel, or behave in particular ways. Although teachers do not necessarily set out to be controlling per se, they do sometimes think rather exclusively about student motivation and engagement from their own perspective; intrude into students' ways of thinking, feeling, and behaving; and push and pressure students to think, feel, or behave in a specific way. That is, the enabling conditions that orient teachers toward a controlling style are the lack of the students' perspective, intrusion, and pressure.

The starting point for a controlling motivating style is the prioritization of the teacher's perspective to the point that it

overruns the students' perspective.¹ By itself, the adoption of the teacher's perspective during instruction is not controlling, as teachers routinely recommend to students a multitude of constructive ways of thinking (e.g., a goal or learning strategy), feeling (e.g., a situationally appropriate emotion), or behaving (e.g., an effective course of action). Such recommendations become controlling only when they overrun the students' perspective via intrusion and pressure. To capture the essence of teacher intrusion into students' own ways of thinking, feeling, or behaving, Assor and colleagues (2005) referred to "explicit attempts to fully and instantly change the behaviors children presently engage in or the opinions they hold" (p. 398). Controlling further involves the application of sufficient pressure until students change their behaviors and opinions. In practice, acts of intrusion and pressure lead students to forego their internal frame of reference and their natural rhythm during a learning activity to, instead, absorb and respond to the pressure to think, feel, or behave in a teacher-defined way.

For instance, for one reason or another (which is discussed later), a teacher might interrupt a student's activity (intrusion) and redirect that activity by using directive language to behave differently (pressure). One example might be to take a pencil or paintbrush out of a student's hands and tell her in no uncertain terms to hold it a different way. A second example would be to impatiently cross out a student's passive verbs, label it as bad writing, and require that he use active verbs. Crucially, recommendations to regrip a pencil or compose in the active voice are not controlling acts of instruction. The teacher's style becomes controlling only with the neglect of the student's perspective (not asking why the student is doing what she is doing), the introduction of intrusion (i.e., taking the pencil out of the student's hands, reaching in, and crossing out the composition), and the application of pressure (i.e., forceful language, guilt-inducing criticisms) to think, feel, or behave in a specific way (i.e., hold the pencil like this, use these verbs but disuse these other verbs).

Table 1 lists the instructional behaviors most closely associated with a controlling style. When acting in controlling ways, teachers tend to rely on outer sources of motivation (e.g., directives, deadlines, incentives, consequences, threats of punishment), neglect to provide explanatory rationales (e.g., make little effort to explain why they are asking students to engage in requested endeavors), rely on pressuring-inducing language (utter "should"s, "have to"s, "got to"s, and guilt-inducing criticisms), display impatience for students to produce the right answer (e.g., intrude on students' natural rhythm to produce a right answer on the teacher's timetable), and react to students' complaints and expressions of negative

affect with authoritarian power assertions (e.g., counter students' criticisms with no-nonsense assertions, such as "Quit your complaining and just get the work done"). These instructional behaviors are all positively intercorrelated, utilize social influence techniques (e.g., behavior modification, classroom management, conditional positive regard, power assertion), and collectively provide teachers with the means to intrude on students' thinking, feeling, and behaving with enough pressure to increase the likelihood that the student will adopt a teacher-specified way of thinking, feeling, or behaving (Assor et al., 2002; Assor et al., 2005; Reeve, 2006; Reeve, Jang, Carroll, Barch, & Jeon, 2004).

Teachers express a controlling motivating style in two ways, including direct (or external) control and indirect (or internal) control (Assor et al., 2005; Assor, Roth, & Deci, 2004; Barber, 1996; Vansteenkiste, Simons, Lens, Soenens, & Matos, 2005).² Direct control involves a teacher's explicit and overt attempts to motivate students by creating external compulsions to act, such as through the imposition of deadlines, verbal commands, or environmental incentives. Directly controlling acts of instruction induce in students an external perceived locus of causality and environmentally controlled regulation. A simple example would be the teacher commanding a student to revise her paper. Indirect control involves a teacher's subtle or covert attempts to motivate students by creating internal compulsions to act, such as through feelings of guilt, shame, and anxiety (Barber, 1996), by threatening to withdraw attention or approval (Assor et al., 2004), by linking a way of thinking, feeling, or behaving to the student's self-esteem (Ryan, 1982), by cultivating perfectionist standards or self-representations (Soenens, Vansteenkiste, Duriez, Luyten, & Goossens, 2005), or by offering "conditional regard" more generally (Assor et al., 2004). Indirectly controlling acts of instruction induce in students an internally controlled type of regulation. Internally controlled regulation is different from internally endorsed regulation in that, with the former, students perceive that the costs for not doing what others say are so high (in terms of guilt, shame, anxiety, love withdrawal, self-esteem loss, perfectionistic self-representation) that they cannot choose to act otherwise (hence, their thinking and acting is controlled). A simple example would be the teacher utterance, "A good student would revise her paper, wouldn't she?"

¹Extremely controlling motivating styles are rare in schools. To understand the psychological and cultural processes involved in the antecedents, manifestations, and consequences of an extremely controlling motivating style, one needs to examine custodial environments such as the military setting (e.g., see Ricks, 1997).

²For an illustration of how direct control and indirect control have been operationalized in the empirical literature, see Vansteenkiste, Simons, et al. (2005, p. 488). With a sample of fifth- and sixth-grade students, these authors operationally defined direct control by utilizing instructional language to promote external compulsions such as "you should follow the guidelines," "you have to," and "you are expected to." They operationally defined indirect control by utilizing instructional language to promote internal compulsions such as, "it is important for your own good to read this text carefully," and "a lot of kids following the guidelines . . . to feel good about themselves and to avoid feeling guilty for not doing so."

The Nature of an Autonomy-Supportive Style

Three conditions make any approach to motivating students an autonomy-supportive one: (a) adopt the students' perspective; (b) welcome students' thoughts, feelings, and behaviors; and (c) support students' motivational development and capacity for autonomous self-regulation. By taking and integrating the students' perspective into the flow of instruction, teachers become both more willing and more able to create classroom conditions in which students' autonomous motivations align with their classroom activity. By welcoming students' ways of thinking, feeling, and behaving, teachers acknowledge and appreciate the motivational potential inherent within students' thoughts, emotions, and behavioral intentions. By acknowledging students' capacity for autonomous self-regulation, teacher-student interactions revolve not only around daily support for students' academic pursuits but also around long-term (developmental) support to generate and regulate academic motivation of their own.

Table 1 lists the instructional behaviors most closely associated with an autonomy-supportive style. When they act in autonomy-supportive ways, teachers nurture students' inner motivational resources (e.g., interests, preferences, psychological needs), provide explanatory rationales (e.g., articulate the sometimes hidden usefulness underlying a teacher's request), rely on noncontrolling language (e.g., informational communications that help students diagnose and solve their motivational problems), display patience to allow students the time they need for self-paced learning to occur (e.g., allow time for students to work in their own way), and acknowledge and accept students' expressions of negative affect (e.g., treat students' complaints as valid reactions to imposed demands and structures). These instructional behaviors are all positively intercorrelated, nurture students' motivational development, and collectively provide students with an interpersonal relationship that affords them with opportunities to

experience personal autonomy, psychological need satisfaction, and positive functioning in general (Assor et al., 2002; Reeve, 2006; Reeve, Jang, et al., 2004).

Students Benefit When Teachers Support Their Autonomy

A review of the published empirical literature reveals 44 data-based investigations of the relationship between students' school functioning and teachers' motivating styles (autonomy-supportive vs. controlling). To quantify teachers' motivating styles, these studies typically used one of three approaches—teachers' self-reports (e.g., Problems in Schools questionnaire; Deci, Schwartz, et al., 1981), students' ratings (e.g., Learning Climate Questionnaire; Black & Deci, 2000), or observers' objective ratings (e.g., Reeve, Jang, et al., 2004). The dependent measures utilized in these studies included a wide range of important outcomes and indices of positive functioning covering students' motivation, engagement, development, learning, performance, and psychological well-being. These dependent measures appear in Table 2 grouped under six categories of positive functioning (i.e., educational benefits). About half of these studies were questionnaire-based investigations (23 of 44, 52%) that suggest only a nondirectional correlation between a teacher's style and student outcomes, whereas the other half of the studies were experimentally based investigations (21 of 44, 48%) that confirm a directional effect that a teacher's style has on student outcomes. The findings from virtually every one of these empirical studies point to the same conclusion—namely, that students relatively benefit from autonomy support and relatively suffer from being controlled. Further, despite some theoretical claims that adolescence may need or benefit from autonomy support to a greater degree than do children (Feldman & Quartman, 1988), research findings

TABLE 2
Students' Educational Benefits from Teacher-Provided Autonomy Support

<i>Motivation</i>	<i>Engagement</i>	<i>Development</i>	<i>Learning</i>	<i>Performance</i>	<i>Psychological Well-Being</i>
Intrinsic motivation ^{12,14,19,34} Competence ^{6,14,35,44}	Engagement ^{3,19,21,32,38} Positive emotion ^{16,30,35}	Self-esteem and self-worth ^{12,14} Creativity ^{1,23}	Conceptual understanding ^{5,7,15,17,41,42} Deep processing ^{41,42}	Grades ^{6,9,18,39,41} Task performance ^{7,15,16}	Psychological well-being ^{6,8,13,23,37} School/Life satisfaction ^{22,24} Vitality ^{26,27,29}
Autonomy ^{9,31,34} Relatedness ^{4,21} Mastery motivation and perceived control ^{14,35} Curiosity ¹⁴ Internalized values ^{11,18,33}	Less negative emotion ^{2,6,20,28} Class attendance ⁹ Persistence ¹⁰ School retention (vs. dropping out) ^{20,40}	Preference for optimal challenge ^{9,14,36}	Active information processing ²⁵ Self-regulation strategies ⁴³	Standardized test scores ⁹	

Note. The superscripted numbers in the table represent the source of the supportive evidence that exposure to autonomy-supportive teachers facilitates that particular outcome. The corresponding number associated with each outcome measure appears in the references at the end of the article.

consistently show that children and adolescences alike benefit from autonomy support and suffer from being controlled (Assor et al., 2002).

The purpose of providing the information in Table 2 is not to offer a comprehensive review (e.g., meta-analysis) of the literature on whether teachers' motivating styles affect students' outcomes but is, instead, to affirm the premise on which the present paper is built—namely, that a teacher's motivating style is an important educational construct because students function more positively when teachers support their autonomy rather than control and pressure them toward a specific way of thinking, feeling, or behaving. This conclusion has been shown to apply across a diverse range of students, including students in preschool (Koestner, Ryan, Bernieri, & Holt, 1984), elementary school (Deci, Schwartz, et al., 1981), middle school (Vansteenkiste, Simons, et al., 2005), high school (Reeve, Jang, et al., 2004), college (Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004), graduate school (Sheldon & Krieger, 2004), students with special needs (Deci, Hodges, Pierson, & Tomassone, 1992), students in after-school programs (Grolnick, Farkas, Sohmer, Michaels, & Valsiner, 2007), and students around the globe (Chirkov, Ryan, & Willness, 2005; Levesque, Zuehlke, Stanek, & Ryan, 2004), including those schooled in collectivistic cultures (Jang, Reeve, & Ryan, in press; Vansteenkiste, Zhou, Lens, & Soenens, 2005).³

Why a Controlling Motivating Style Undermines Students' Positive Functioning (and Why an Autonomy-Supportive Style Promotes It)

A controlling motivating style undermines students' positive functioning and outcomes because it induces in students an external perceived locus of causality, a sense of pressure, and a sense of obligation to others or to one's own negative emotion; an autonomy-supportive style promotes student outcomes because it supports in students an internal perceived locus of causality, an experience of volition, and a sense of choice (Reeve, Nix, & Hamm, 2003). When students engage in learning activities without the support of an internal locus, volition, and perceived choice, their engagement lacks the motivational foundation of personal interest, valuing, task involvement, positive feelings, self-initiative, personal causation, a desire to continue, and the type of high-quality motivation (creativity, intrinsic motivation, preference for challenge) that foreshadows the positive outcomes listed in Table 2. It is this contrast between engaging in a task with versus without these autonomous sources of motivation that differentiates the positive functioning and

outcomes of autonomy-supported students from the negative functioning and outcomes of autonomy-suppressed students.

An additional reason why a controlling style undermines students' positive functioning is because it typically prioritizes and taps rather exclusively into only the behavioral aspect of students' engagement—on-task attention, effort, and persistence (Reeve & Tseng, 2009a). Following the theoretical lead of others (e.g., Fredricks, Blumenfeld, & Paris, 2004; Perry, Turner, & Meyer, 2006; Skinner & Belmont, 1993; Stefanou, Perencevich, DiCintio, & Turner, 2004), contemporary educational psychology research generally conceptualizes student engagement both as a multidimensional construct and as a crucial mediating variable between student motivation and important school-related outcomes such as those listed in Table 2. That is, student engagement is a multidimensional construct consisting of four relatively equally weighted indicators (behavioral, emotional, cognitive, and voice) whose individual components are all able to explain unique (separate) variance in outcomes such as student achievement (Reeve & Tseng, 2009a). This conceptualization is important to explaining why a controlling style undermines students' positive functioning because (a) a controlling style is insufficient to support the full range of students' engagement; (b) a controlling style that targets only behavioral engagement (e.g., "pay attention," "you should work harder") can interfere with, undermine, and put these other aspects of engagement at risk; whereas (c) an autonomy-supportive style encourages and sustains high levels of all four of these aspects of engagement (Jang, Reeve, & Deci, in press; Reeve, Jang, et al., 2004).

WHY TEACHERS ADOPT A CONTROLLING MOTIVATING STYLE

The prevalence of the controlling motivating style in the contemporary K-12 classroom needs to be explained. Research shows that several forces influence whether and to what extent a teacher will display a controlling style during instruction. Some of these influences are implicitly or explicitly imposed on the teacher by outside agents, such as school policies, administrators, parents, societal expectations, or cultural norms. Other influences arise out of and during classroom dynamics, such as students' listless reaction to a learning activity and the moment-to-moment stream of behavior of what students say, do, and do not do during instruction. Still other influences arise from within the teacher himself or herself, as through personality dispositions and beliefs about the nature of student motivation.

To organize these multiple influences into a coherent framework, Pelletier, Seguin-Levesque, and Legault (2002) offered the distinction between "pressures from above" (e.g., administrators, state standards) and "pressures from below" (e.g., students). To this framework, a third category may be added—namely, pressure from within. "Pressure from

³When experimental studies include a neutral motivating style as a control condition, results continue to show that students relatively benefit from a teacher's autonomy support and relatively suffer from teacher control (Grolnick & Ryan, 1987; Reeve, Jang, et al., 2004; Reeve & Tseng, 2009b).

TABLE 3
Seven Reasons Why Teachers Adopt a Controlling Motivating Style Toward Students

Pressure from above

1. Teachers occupy an inherently powerful social role.
Teacher-student interactions take place within a context of an interpersonal power differential between interactants.
2. Teachers harbor the dual burdens of responsibility and accountability.
Teachers routinely face job conditions steeped in accountability and responsibility for student behaviors and outcomes.
3. Teachers are aware that controlling is cultural valued.
The U.S. culture generally evaluates teachers who use controlling instructional strategies as more competent than teachers who use autonomy-supportive strategies.
4. Teachers sometimes equate control with structure.
Controlling strategies are often inappropriately associated with a structured learning environment, whereas autonomy-supportive strategies are often inappropriately associated with a chaotic or laissez-faire one.

Pressure from below

5. Teachers react to student passivity during learning activities.
Episodically unmotivated or episodically unengaged students tend to pull a controlling style out of teachers.

Pressure from within

6. Teachers tend to endorse the maximal-operant principle.
Teachers' beliefs about student motivation are often rooted in the "maximal-operate principle" of motivation.
 7. Teachers may harbor control-oriented personality dispositions.
Some teachers are motivationally or dispositionally oriented toward a controlling style.
-

within" represents influences that arise from a teacher's own beliefs, values, and personality dispositions. Using this three-fold framework as a guide, seven meaningful influences can be identified to explain the conditions under which teachers are likely to overemphasize the teacher's perspective, act intrusively, and apply pressure during instruction—that is, adopt a controlling motivating style, as listed in Table 3.

Seven Reasons Why Teachers Adopt a Controlling Motivating Style

Reason 1: Teachers occupy an inherently powerful social role—Teacher-student interactions take place within a context of an interpersonal power differential between interactants. Inherent within teacher-student interactions is an interpersonal power differential. Teachers generally have a basis of power and influence over students in terms of their relatively greater authority, experience, expertise, status, or social position. To the extent that such an inherent power differential exists, students who are one-down in the power relationship are vulnerable to being controlled by teachers who are one-up in the power relationship (Deci & Ryan, 1987). Empirical research shows that the person who is one-up tends to take charge, talk first, and set the tone for the ensuing interaction, compared to the person who is one-down who tends to defer, listen first, and be influenced by the proactive behavior from the more powerful other (Magee, Galinsky, & Gruenfeld, 2007). Further, this is true when interactants are randomly assigned into these high versus low power positions, suggesting that it is the relatively powerful social role rather than the greater expertise that explains such proactivity. Thus, because teacher-student interactions have a built-in power differential, a take-charge controlling style

is in some sense the default interaction style for teachers. It is not inevitable, as teachers can be mindful and deliberately choose to be autonomy supportive, but a controlling style is consistent with the occupation of an inherently powerful social role.

Reason 2: Teachers harbor the dual burdens of responsibility and accountability—Teachers routinely face job conditions steeped in accountability and responsibility for student behaviors and outcomes. Outside forces (e.g., administrators, state standards, high-stakes testing, parents, and media reports) often place on teachers the twofold burden of responsibility and accountability for student behaviors and outcomes. To assess how this imposed burden might affect teachers' motivating style toward students, teachers in a laboratory study were randomly assigned into an experimental condition in which they were given the following job condition:

Your role is to ensure that the student learns to solve the puzzles. It is a teacher's responsibility to make sure that students perform up to standards. If, for example, your student were tested on the puzzles, he (or she) should be able to do well. (Deci, Spiegel, Ryan, Koestner, & Kauffman, 1982, p. 853)

Compared to teachers not pressured to ensure that their students performed up to standards (i.e., a control group), the pressured teachers taught in more controlling ways, using more directives, more criticisms, and fewer opportunities for student input (Deci et al., 1982). A follow-up classroom-based study also randomly assigned teachers into a pressuring experimental condition (using the same instructional set) and found that elementary-grade teachers who received the same imposed sense of responsibility and accountability taught

their fourth-grade students in significantly more controlling ways than did teachers in the nonpressuring condition (Flink, Boggiano, & Barrett, 1990). Similarly, when administrators impose restrictions on teachers (e.g., about the curriculum), teachers tend to become more controlling toward students (Pelletier et al., 2002). The conclusion is that when teachers are themselves pressured to produce particular student outcomes by the burdens of responsibility and accountability, they tend to become social conduits that absorb and pass along that pressure to their students in the form of a controlling motivating style.

Reason 3: Teachers are aware that controlling is culturally valued—The U.S. culture generally evaluates teachers who use controlling instructional strategies as more competent than teachers who use autonomy-supportive strategies. When objective raters observe teachers using controlling motivating strategies during instruction, they score these teachers as significantly more competent than they score comparable teachers who use autonomy-supportive strategies (Flink et al., 1990). Presumably, the reason why controlling teachers are more highly rated is because the U.S. culture views controlling strategies as optimal ways to motivate students and to produce maximal performance (Barrett & Boggiano, 1988). Controlling can further be valued when pressuring school policies are in place and become normative within the school community (e.g., high-stakes testing, evaluation, competition, surveillance, rewards; Maehr & Midgley, 1991). People generally hold these beliefs to the extent to which they see the immediate beneficial effects controlling strategies may have (e.g., situationally turns motivation “on”) while they overlook the negative and less salient long-term effects these strategies may have (e.g., developmentally turns motivation “off” and interferes with conceptual learning; Boggiano, Barrett, Weiher, McClelland, & Lusk, 1987; Vansteenkiste, Simons, et al., 2005).

It is important to note that research shows these beliefs to be erroneous, as students who receive controlling strategies actually perform significantly worse than do students who receive autonomy-supportive strategies (Flink et al., 1990), a finding replicated both by Boggiano and her colleagues (Boggiano, Flink, Shields, Seelbach, & Barrett, 1993) and by the empirical evidence summarized in Table 2. Just as important, students consistently prefer teachers who listen to them, elicit their input, and allow their voice to influence the flow of instruction (Allen, 1986; Davidson, 1999). Students also rate teachers favorably who create classroom conditions that produce experiences of psychological need satisfaction (Filak & Sheldon, 2003). Still, even though controlling strategies run at cross-purposes to students’ preferences and to student outcomes, teachers nevertheless want to be viewed as competent and hence follow, when present, a culturally

endorsed or a school-endorsed press to motivate students in controlling ways.

Reason 4: Teachers sometimes equate control with structure—Controlling strategies are often inappropriately associated with a structured learning environment, whereas autonomy-supportive strategies are often inappropriately associated with a chaotic or laissez-faire one. Teachers do not want to risk losing control over their classrooms, so they sometimes think that a controlling style will provide them with the classroom structure they seek. Similarly, they may fear that an autonomy-supportive style will open the door to permissiveness or, worse, chaos. Structure refers to the amount and clarity of the information teachers provide to students about what is expected and how they can realize those expectations (Skinner & Belmont, 1993; Skinner, Zimmer-Gembeck, & Connell, 1998). For example, teacher-provided structure may include establishing goals, giving directions, communicating expectancies, introducing procedures, making rules, communicating policies, offering guidelines, providing feedback, and minimizing misbehavior. It is a mistake to equate control with structure, however, because such information can be provided by teachers in *either* controlling or autonomy-supportive ways (Deci & Ryan, 1985). Although structure tells students what they need to do (e.g., goals, expectancies), it is a teacher’s motivating style that sets the tone as to how students make progress toward those objectives.

A classroom that has objectives is typically a structured one, whereas a classroom without objectives is typically a chaotic one. A teacher who pushes and pressures students toward those objectives is controlling, whereas a teacher who supports students’ movement toward those objectives is autonomy supportive. Thus, the important point is that a teacher’s provision of “structure versus chaos” represents one aspect of a teacher’s instructional style, whereas a teacher’s provision of “controlling versus autonomy support” represents a second, separate aspect of a teacher’s style (Connell & Wellborn, 1991; Sierens, Goossens, Soenens, Vansteenkiste, & Dochy, 2007; Skinner & Belmont, 1993). When teachers’ naturally occurring styles are scored by raters, providing structure is actually *positively* correlated with the provision of autonomy support and *negatively* correlated with the provision of control; hence autonomy-supportive teachers provide more, not less, classroom structure than do controlling teachers (Jang, Reeve, & Deci, in press; Sierens et al., 2007). Students too rate their autonomy-supportive teachers as providing them with greater structure than do their controlling teachers (Jeon, 2007; Sierens et al., 2007). Findings such as these show that a controlling style in which teachers take charge and push hard does not afford teachers the structured learning environment they seek and, further, that it is actually an autonomy-supportive style that is more closely associated

with the provision of a structured learning environment (Deci & Ryan, 2002).

Reason 5: Teachers react to student passivity during learning activities—Episodically unmotivated or episodically unengaged students tend to pull a controlling style out of teachers. When teachers perceive that their students have low motivation or when teachers see student engagement wane, they generally become more likely to adopt a controlling style during that lesson (Pelletier & Vallerand, 1996; Pelletier et al., 2002; Sarrazin, Tessier, Pelletier, Trouiloud, & Chanal, 2006; Skinner & Belmont, 1993). That is, before or during a learning activity, when teachers perceive that their students are extrinsically motivated (Pelletier & Vallerand, 1996), low in motivation (Sarrazin et al., 2006), or low in engagement (Skinner & Belmont, 1993), they tend to react by adjusting their instructional behavior toward a more controlling style. Teachers also relate to students in more controlling ways when they perceive that those students are being disruptive or behaviorally difficult to deal with (Grolnick, Weiss, McKenzie, & Wrightman, 1996). When students who are actually experimental accomplices (and therefore were able to systematically vary their classroom behavior from one moment to the next) were inattentive during a learning activity, their teachers became more controlling relative to when those same students were attentive (Jelsma, 1982). Hence, a controlling motivating style sometimes manifests itself as a reaction to episodes of student passivity, low motivation, noncompliant behavior, and inattentiveness as teachers rather quickly intervene to manufacture student motivation and engagement.

The implication of these findings is that students themselves play an influential role in the teacher's motivating style. This effect that students can have on teachers can be as large as the reciprocal effect that a teacher's style can have on students' subsequent motivation and engagement (Reeve, Jang, et al., 2004; Skinner & Belmont, 1993). Colloquially speaking, students can push a teacher's buttons to invoke a reactionary motivating style, and poor motivation, poor engagement, inattentiveness, and disruptive behaviors represent four such buttons that lower the threshold of an emergent controlling style.

Reason 6: Teachers tend to endorse the maximal-operant principle—Teachers' beliefs about student motivation are often rooted in the "maximal-operant principle" of motivation. Generally speaking, adults believe that controlling motivating strategies are more effective than are autonomy-supportive ones, and this is true when trying to enhance not only students' performance but also when trying to enhance their interest and intrinsic motivation (Boggiano et al., 1987). When asked how effective various instructional strategies would be "in maximizing the child's enjoyment or interest" in computers or reading, adults (e.g., parents) rated controlling strategies (e.g., offering rewards) as more likely

to be effective than autonomy-supportive strategies (e.g., providing rationales). Hence, the controlling motivating style is perceived to have relatively high utility in motivating students' classroom activity.

The perceived utility of and attraction to controlling strategies stems largely from their seeming capacity to bypass perceived deficiencies in student motivation to successfully, directly, reliably, and quickly manufacture a desired student outcome. The reason why this is so is largely because adults in the United States tend to endorse the *maximal-operant principle* of motivation, which in essence is the belief that "the likelihood of producing long-term interest in academic tasks is assumed to vary positively with the size of a reward" (Boggiano et al., 1987, p. 866). People's strong and resilient belief in the efficacy of large, salient extrinsic motivators highlights not only the belief that large rewards can "turn on" students' motivation but also little awareness that (a) rewards might also "turn off" (i.e., undermine) students' motivation and (b) students harbor inner motivational resources (e.g., interest, intrinsic motivation) that are fully capable of self-generating the motivation needed to engage in learning activities. Hence, another reason why teachers often adopt a controlling motivating style is because they may believe that controlling instructional strategies are simply more effective than are autonomy-supportive ones.

Reason 7: Teachers may harbor control-oriented personality dispositions—Some teachers are motivationally or dispositionally oriented toward a controlling style. Teachers whose own motivation to teach is characterized by nonautonomous motivation (high external regulation, high introjected regulation, low identified regulation, and low intrinsic motivation) tend to interact with students in relatively controlling ways (Pelletier et al., 2002). Authoritarian and highly conservative teachers also tend to motivate students in controlling ways (Cai, Reeve, & Robinson, 2002; Nachtsheim & Hoy, 1976). Similarly, teachers with a control (rather than autonomous) causality orientation tend to rely significantly more on controlling instructional strategies (Forstadt, 2007; Reeve, 1998). Further, when teachers complete a battery of personality inventories and then have objective raters score their use of controlling motivating strategies during instruction, the control-oriented aspects of teachers' personalities predict the extent to which teachers use controlling strategies. For instance, teachers with a controlling disposition, a control causality orientation, and low openness to experience (assessed by the Big Five Inventory) were more likely to engage in all the controlling instructional behaviors listed on the lower left-hand side of Table 1 (Jang & Reeve, 2009). Hence, when teachers enter the classroom with controlled motivation of their own and when they harbor controlling orientations within their personality, they are more likely to adopt a controlling style toward students.

HOW TEACHERS CAN BECOME MORE AUTONOMY SUPPORTIVE

The paradox and educational concern explored in this article is that although students educationally and developmentally benefit when teachers support their autonomy, many teachers are nevertheless controlling during instruction. Much of the reason why teachers are often controlling can be explained by the implicit and explicit forces imposed on them from outside agents (pressures from above), by episodes of students' passivity during the learning process (pressures from below), and by their own beliefs and dispositions (pressures from within). These reasons explain why controlling is often the default motivating style observed in contemporary K-12 classrooms, but these reasons do not necessarily explain why teachers are not more autonomy supportive. In this section, the focus switches from understanding the problem to remedying it. That is, this section articulates why teachers might want to become more autonomy supportive as well how they might do so.

Three Tasks to Becoming More Autonomy Supportive

Intervention research shows that teachers can learn how to become more autonomy supportive toward students, and this has been shown to be true for inexperienced preservice teachers (Reeve, 1998), experienced middle-school teachers (deCharms, 1976), and experienced high school teachers (Reeve, Jang, et al., 2004), as well as for professionals outside K-12 education, including medical interns (Williams & Deci, 1996) and practicing dentists (Halvari & Halvari, 2006). Some of these interventions have been more successful than others, and a close inspection of these interventions helps identify the conditions under which teachers can best learn how to adopt a more autonomy-supportive style. Learning how to become more autonomy supportive seems to revolve around accomplishing the following three tasks.

Task 1: Become less controlling. The first task in trying to become more autonomy supportive is to become less controlling—to avoid controlling sentiment, controlling language, and controlling behaviors (e.g., Mageau & Vallerand, 2003). One purpose of identifying the aforementioned seven reasons why teachers are often controlling is to help teachers become increasingly aware of the factors that push and pull them—intentionally or unintentionally, consciously or unconsciously—toward a controlling style. Once identified, understood, and attended to, this awareness potentially allows teachers to become more mindful of the forces that take them away from supporting students' autonomy. Similarly, a key reason to present the data summarized in Table 2 is to make the point that students suffer in a multitude of ways from a teacher's controlling style. This research literature can help teachers become more aware of the inimical effects that

their controlling styles are having on students. Specifically, a teacher's greater mindfulness of the conditions that make him or her more likely to adopt a controlling style as well as a teacher's greater mindfulness of how a controlling style unfavorably affects students' functioning facilitates that teacher's daily process of making instructional decisions through a sense of choice that is informed not only by ever-present daily demands and circumstances but also by one's personal goals and values (Brown, Ryan, & Creswell, 2007; Ryan & Deci, 2004).

As teachers become more mindful of the causes and consequences of their motivating style, they gain a greater capacity to behave in a flexible, autonomous, and adaptive way, rather than in an impulsive, habitual, or situationally reactive way (Brown & Ryan, 2003). Thus, greater mindfulness of how one's motivating style is influenced by various forces (e.g., Table 3) and how it affects students (e.g., Table 2) functions as a key first step in the effort to become a more autonomy-supportive teacher.

Task 2: Wanting to support autonomy. Given enhanced mindfulness, the second task in trying to become more autonomy supportive is to fulfill a set of prerequisite conditions that enable a teacher to volitionally endorse the practice of an autonomy-supportive style. One prerequisite is to deeply appreciate the benefits of such action, as there are clear and important reasons why teachers might want to be autonomy supportive toward students. The first reason is that students benefit so substantially when teachers support their autonomy, as summarized in Table 2. Autonomy support is good pedagogical practice. The second reason is that teachers *themselves* tend to experience meaningful benefits when they relate to students in autonomy-supportive ways. Compared to their controlling counterparts, autonomy-supportive teachers tend to report an increased sense of personal accomplishment from teaching (Roth, Assor, Kanat-Maymon, & Kaplan, 2007). They also report significantly less emotional exhaustion from teaching than do controlling teachers (Roth et al., 2007). Further, teachers who relate to students in autonomy-supportive ways may experience more positive personal outcomes, such as greater need satisfaction and psychological well-being.⁴ That is, people who give autonomy support experience higher psychological need satisfaction, greater relationship satisfaction, enhanced positive affect, and greater psychological well-being than do those who do not (Deci, La Guardia, Moller, Scheiner, & Ryan, 2006). Hence, the two fundamental reasons why teachers might want to be autonomy supportive are that (a) students benefit from its receiving whereas (b) teachers benefit from its giving.

A second set of prerequisites to adopting an autonomy-supportive style involves creating the conditions that enable

⁴At this point, we can only conclude that teachers *may* benefit in these ways because current research has not yet specifically examined teacher-student interactions.

the practice of an autonomy-supportive style to take root and flourish (as introduced in Table 1)—namely, (a) take the students' perspective; (b) welcome students' thoughts, feelings, and behaviors; and (c) support students' motivational development and capacity for autonomous self-regulation. In terms of taking the students' perspective, it can be difficult to truly and authentically take the perspective of one's students. Recognizing this, one research team created an extensive program of 21 activities to help teachers gain both a greater willingness and a greater capacity to take their students' perspective (deCharms, 1976). Most activities were designed as role reversals, such as participating in the "origin-pawn" game that gave teachers firsthand experience of what it feels like to be externally regulated by a highly controlling teacher. In essence, this series of perspective-taking activities was designed to help teachers ask, reflect on, and answer questions such as, If you were the student then how would you like the teacher to treat you? What would you want your teacher to say? What would you want your teacher to do?

In welcoming students' ways of thinking, feeling, and behaving, the teacher accommodates to a view of motivation in which students harbor inner motivational resources that are fully capable of initiating and regulating their classroom activity, at least to the extent that teachers identify, nurture, and develop these inner student resources. The important point to make is that a prerequisite to learning how to support students' inner motivational resources is to understand and volitionally endorse the proposition that students' inner motivational resources are capable of energizing and directing their classroom activity in productive ways, including ways prioritized by teachers and administrators.

In acknowledging students' capacity for autonomous self-regulation, the teacher adds a developmental perspective to student motivation to accompany the more common episodic or situated perspective on motivation. The developmental perspective is so important to an autonomy-supportive style because autonomy support itself is defined as the instructional effort to involve, nurture, and *develop* students' inner motivational resources and capacity and responsibility for self-motivation. Thus, a student's engagement in a learning activity centers not only around learning that particular lesson but further around developing the capacity and sense of personal responsibility to generate and regulate autonomous motivation of one's own. This last prerequisite suggests the interesting future research question as to whether students of autonomy-supportive teachers show meaningful motivational developmental (i.e., longitudinal) gains over the course of the school year. Findings by Gottfried, Fleming, and Gottfried (1994) suggest that they do.

Task 3: Learn the "how-to" of autonomy support. The third task in trying to become more autonomy supportive is to become aware of, develop, and ultimately refine the interpersonal skills and acts of instruction that actualize an autonomy-supportive style. Autonomy support is not

a technique, and it is not a list of skills or behaviors. Still, researchers have worked to help teachers find answers to the commonly asked question, "Okay, autonomy support sounds nice, but what specifically would I do?" The five autonomy-supportive instructional behaviors listed in Table 1 provide a reasonably comprehensive answer to this question. The next section therefore expands on these acts of instruction with the goal of helping teachers learn the "how to" of supporting autonomy.

Helping Teachers Become More Autonomy Supportive Toward Students

Instruction varies widely from one classroom to the next, and necessarily so. Still, teachers can anticipate some common classroom events that have motivational implications—helping students start a learning activity, supporting students' ongoing engagement, conversing and interacting with students as learners, helping students profit from their time with learning materials (in terms of learning and skill development), and encouraging confused or frustrated learners. The five instructional behaviors introduced in Table 1 (and discussed next) are particularly well suited to supporting students' autonomous motivation during these motivational turning points embedded within most learning activities (Reeve & Halusic, 2009), and they provide one possible framework to integrate the work of many motivation researchers (Assor et al., 2002; Davidson & Phelan, 1999; Deci et al., 1982; Flink et al., 1990; Mageau & Vallerand, 2003; Perry, 1998; Reeve, Bolt, & Cai, 1999; Reeve & Jang, 2006; Turner et al., 1998).

Nurture inner motivational resources. An autonomy-supportive approach to instruction rests of the assumption that students possess inner motivational resources that are fully capable of energizing and directing their classroom activity in productive ways. Nurturing inner motivational resources therefore revolves around first gaining an awareness of what inner resources students possess and then finding ways during instruction to involve, nurture, and develop those resources. As to what inner motivational resources students have, all students have psychological needs (autonomy, competence, relatedness), intrinsic motivation, interests, preferences, self-set goals, intrinsic goals, personal strivings, and internalized types of extrinsic motivation such as self-endorsed values (Reeve, Deci, & Ryan, 2004). To nurture these inner resources during instruction, teachers can build lessons around students' interests (Schraw & Lehman, 2001), autonomy (Reeve & Jang, 2006), competence (Ryan & Grolnick, 1986), relatedness (Furrer & Skinner, 2003), preferences (Halusic & Reeve, 2009), sense of challenge (Clifford, 1990), intrinsic goals (Vansteenkiste, Lens, & Deci, 2006), personalization (Cordova & Lepper, 1996), and choice making (Perry, 1998). For instance, teachers can offer a challenging problem of the day to involve competence strivings,

use formative assessments to assess (and act on) students' preferences, use technology to personalize the lesson, openly ask what students want or need, have students conduct their own research to create opportunities for initiative and time for independent learning to involve autonomy, offer complex tasks that allow students to make choices and control challenges, and encourage students to set meaningful goals for themselves.

Nurturing inner motivational resources is especially important when teachers transition to or introduce a new learning activity and seek student initiative. The previous examples illustrate ways that teachers can align the day's lesson plan with students' inner resources so that student engagement emanates out of, and is consistent with, their inner motivational resources. In addition, Stefanou and colleagues (2004) offered a compelling argument as to why nurturing inner motivational resources is equally important throughout the duration of a learning activity. They argued that teachers need to provide ongoing "cognitive autonomy support" by, for instance, scaffolding independent and ongoing problem solving, asking students to evaluate their own work, creating opportunities for students to ask questions, allowing students to collaborate and share their expertise, helping students utilize effective learning strategies to cope with the demands of complex and challenging lessons, and offering opportunities for students to realign the task to correspond more closely with their personal interests. Thus, inner motivational resources not only energize initial engagement but also sustain its persistence.

As implied in the preceding discussion, teachers support a good deal more than the psychological need for autonomy when they support students' autonomy. Despite its seemingly narrow nomenclature, a teacher's autonomy-supportive motivating style nurtures not only students' need for autonomy (Reeve & Jang, 2006) but also students' needs for competence and relatedness (Ryan & Deci, 2000) and inner motivational resources more generally (e.g., interests, preferences, temperament; Reeve, Deci, & Ryan, 2004). Empirical work bears out the assumption that the provision of autonomy support nurtures this fuller range of inner motivational resources (Baard, Deci, & Ryan, 2004; Black & Deci, 2000; Deci, Schwartz et al., 1981; Deci et al., 2001; Hardre

& Reeve, 2003; Levesque et al., 2004; Ryan & Grolnick, 1986; Vallerand, Fortier, & Guay, 1997; Williams, Weiner, Markakis, Reeve, & Deci, 1994).

Provide explanatory rationales. Not all lessons, classroom procedures, and behavioral requests can be inherently interesting and need-satisfying things to do. Sometimes teachers ask students to engage in potentially uninteresting activities (e.g., worksheets, homework assignments, rule following). Even under these conditions, teachers can sometimes support students' autonomy by offering a rationale (or a steady stream of rationales) to explain why the behavior is truly worth the students' effort. To the extent that students' accept that the teacher's rationale justifies their time and effort, students say to themselves, "Yes, okay, that makes sense; that is something I want to do." Admittedly, teachers cannot always generate a satisfying rationale for their requests on the spot. Another option would be to frame the request or lesson within the context of intrinsic (e.g., self-development), rather than extrinsic (positive social image, financial success), goals (Vansteenkiste et al., 2004; Vansteenkiste, Simons, et al., 2005). In both cases (explanatory rationales, intrinsic goal framing), the teacher supports students' appreciation, understanding, and internalization for why the otherwise uninteresting activity is actually a personally useful thing to do (Assor et al., 2002; Husman & Lens, 1999; Jang, 2008; Koestner et al., 1984; Reeve, Jang, Hardre, & Omura, 2002; Vansteenkiste et al., 2006).

A slice of instructional conversation from an actual inner city middle-school teacher in Milwaukee, Wisconsin, appears in the left-hand side of Table 4. The conversation features four requests, a choice, and little in the way of explanatory rationales. One possible revision of that same conversation appears in the right-hand side of the table. The revision features the same four requests and choice embedded within the context of explanatory rationales.

Of importance, a precondition to providing students with meaningful rationales is to take their perspective. Explanatory rationales are not contrived excuses for learning but are, instead, scaffolds to help students mentally transform the uninteresting or unvalued activities they face in the

TABLE 4
A Teacher's Instructional Conversation Without Versus With Explanatory Rationales

<i>Requests and Choices Without Explanatory Rationales</i>	<i>Requests and Choices With Explanatory Rationales</i>
<p>Your paper is due on Monday. Today, we are going to the school library. In the library, you will find information from books and Internet sites to use for your paper. Don't waste your time; don't goof off; make sure to get your work done. In the library, you may work by yourself or with a partner.</p>	<p>Your paper is due on Monday. As a way of helping you write a well-researched paper, we are going to where the information is—the school library. The reason we are going to the library is to find the information you need from books and Internet sites. While there, you may be tempted to goof off, but students in the past have found that a trip to the library was a crucial part of writing an excellent paper. To help you write your best possible paper, you may work in the way you wish—by yourself or with a partner.</p>

classroom into something of greater personal value. Providing explanatory rationales and taking the students' perspective go hand in hand because students' internalization experiences and activity engagements reflect not only the quality of the teacher's rationales but also the extent to which teachers help raise students' awareness of how the activity at hand connects to students' existing goals, values, needs, and personal strivings (Brophy, 2008; Reeve et al., 2002).

Rely on informational, noncontrolling language.

Over the course of most learning activities, teachers communicate requirements, invite students to engage in specific activities, ask student to take responsibility for their own learning, comment on progress, discuss strategies, offer feedback, ask questions, address motivational and behavioral problems, and generally converse with students. Teachers who verbally push and pressure students toward specific predetermined products and solutions, right answers, and desired behaviors typically communicate through messages that are rigid, evaluative, and pressure inducing (e.g., "get started"; "no, do it this way"), and they often do so through the use of recurring directives (Assor et al., 2005), two-word commands (e.g., "hurry up," "stop that," "let's go"; Reeve et al., 2004), compliance hooks (e.g., "should," "must," "got to"; Ryan, 1982), and a pressuring tone in general (Noels, Clement, & Pelletier, 1999). In contrast, teachers can support students' autonomy and encourage volitional engagement by relying on noncontrolling language through flexible messages that are nonevaluative and information rich (Koestner et al., 1984; Noels et al., 1999; Turner et al., 1998; Vansteenkiste, Simons, et al., 2004).

Controlling communications are controlling because they functionally interrupt or stop students' autonomous self-regulation to replace it with external regulation (i.e., teacher regulation), whereas autonomy-supportive communications are autonomy supportive because they functionally support and further students' autonomous self-regulation. Uttering solutions, criticizing errors, asking controlling questions (e.g., "Can you do it this way?"), and telling students how to think and act are examples of behavior-interrupting controlling communications; offering hints, advocating risk taking, providing encouragement, and being responsive to student-generated questions exemplify autonomy-supportive communications (Reeve & Jang, 2006).

Display patience to allow time for self-paced learning to occur. The telltale sign of controlling instruction occurs when teachers impatiently grab the learning materials away from the student, show or tell the solution, and then hand the solved materials back to the student with an implicit or explicit communication to reproduce that solution. Examples of such impatience include taking the computer keyboard away from the student and typing the fix to a problem, turning a page or moving to the next PowerPoint slide before the student is ready to do so, pronouncing or translating a

difficult word or phrase before the student has a chance to figure it out for himself or herself, and grabbing almost any piece of equipment (musical instrument, laboratory equipment) without invitation and saying, "Here, let me do this for you." The common denominator in these acts of intrusion into the student's workspace is not only a lack of trust in the student (Yowell, 1999) but a lack of patience to allow the student the opportunity to understand and solve the problem on his or her own.

In contrast, autonomy-supportive teachers trust students' motivational capacities and display the patience that affords opportunities for self-paced learning to occur. They do so by, for instance, taking the time to listen, providing encouragement for initiative and effort, providing time for students to work in their own way, offering helpful hints when students seem stuck, praising signs of progress, postponing advice until they first understand the students' goals and perspective, and providing scaffolding when it is needed and invited (Reeve & Jang, 2006). Learning (assimilation, accommodation, conceptual change) takes time, as learners need time to explore and manipulate the learning materials, make plans, retrieve prior knowledge, formulate and test hypotheses, evaluate feedback and evidence, change their problem-solving strategies, revise their sense of understanding, monitor their progress, revise their work, and so forth. Because learning takes time, students need and benefit from teachers who display the patience that allows students the time they need for self-paced learning.

Acknowledge and accept students' expressions of negative affect. Motivational and behavioral problems are bound to occur for the simple reason that classrooms have rules, requests, requirements, and agendas that are sometimes at odds with students' preferences and natural inclinations. Under such conditions, students sometimes complain and express negative affect. Students say, for instance, that's boring, you are asking us to do too much, it's too hard, it's just busy work, other teachers don't ask us to do that, and so on. When teachers acknowledge, accept, and even welcome expressions of negative affect, they communicate an understanding of the students' perspectives and put themselves in a position to receive students' negative emotionality as constructive information that can help teachers better (a) align, or realign, students' inner motivation with their classroom activity and (b) transform an instructional activity from "something not worth doing" (in the eyes of the students) into "something worth doing." Such acceptance is not the norm, however, as teachers often respond to students' expressions of negative affect with counter-directives and power-assertions to suppress these criticisms (Assor et al., 2002; Assor et al., 2005). Such a reaction may leave the student with the impression that the teacher is insensitive to his or her concerns. "Quit your complaining and just get the work done" sends a message that the work is more important than is the students' emotionality.

Acknowledging and accepting students' expressions of negative affect is particularly important (motivationally speaking) when teachers respond to students' listlessness (e.g., passivity during learning activities), poor performance (e.g., sloppy or careless work, low grades), and behavior problems (e.g., disrespectful language, skipping class), because the acknowledgment of negative affect signals the teacher's understanding that the student is struggling and is in need of assistance and support. However, some student acts go beyond complaining and expressing negative affect to involve aggression and harm, and under these conditions the need for teacher control may be appropriate (to protect the welfare of a victim). Indeed, students themselves say, "teachers need to come off as someone who has control" (Woolfolk Hoy & Weinstein, 2006, p. 185), partly because they want the teacher to create an environment in which students feel safe. So acknowledging and accepting students' expressions of negative affect is about giving students voice and understanding their perspective, rather than about being permissive or relinquishing one's responsibilities as the classroom teacher and authority.

Acknowledging and accepting students' expressions of negative affect can be extended beyond the teacher's response to complaints and criticisms to include less emotionally charged, crisislike scenarios such as letting students work at their preferred pace, soliciting students' opinions (publicly during class or privately via an anonymous pencil-and-paper formative assessment), allowing (even encouraging) students to voice their preferences and opinions, and basically being more tolerant and appreciative of students' autonomy (Assor et al., 2005).

Other instructional behaviors beyond these five may function as additional ways to support students' autonomy. But intervention-based research has shown that teachers who incorporate these particular autonomy-supportive acts into their instructional repertoire do internalize a more autonomy-supportive motivating style (Reeve, 1998) and do subsequently instruct in more autonomy-supportive ways (Reeve, Jang, et al., 2004). Nevertheless, it is hoped that additional autonomy-supportive acts of instruction will be identified and validated by future research.

Helping Chronically Controlling Teachers Become More Autonomy Supportive

When teachers harbor preexisting autonomy-oriented beliefs, motivations, values, and personality dispositions, they generally react to information about supporting students' autonomy with acceptance, assimilation, and conceptual integration; however, when teachers harbor preexisting control-oriented beliefs, motivations, values, and personalities, they generally react to this same information with skepticism, resistance, and experience accommodation only under conditions favoring conceptual change (Reeve, 1998). As shown in the conceptual change literature (e.g., Pintrich, Marx, &

Boyle, 1993), teachers' prior beliefs and dispositions affect how new information is attended to, processed, and eventually whether it is accepted or rejected. For teachers with an entrenched controlling style, autonomy support represents an alternative and even foreign approach to motivating students (Skinner & Belmont, 1993). Hence, for these teachers, there typically exists an additional fourth step to becoming more autonomy supportive. Information about autonomy support and its classroom practice needs to be presented to control-oriented teachers in such a way that it creates a sense of dissatisfaction with their current controlling approach to motivating students. It is under these conditions that control-oriented teachers are most likely to sense that an autonomy-supportive approach is a credible, useful, and viable—even superior—alternative to their current controlling approach (Nussbaum & Novick, 1982).

Even if chronically controlling teachers appreciate the benefits of autonomy support and express dissatisfaction with interpersonal control, they may still resist becoming more autonomy supportive if they perceive it to be unrealistic, given the pressing challenges of schooling, the chaotic norms that exist within some classrooms, and the wide range of needs present within any one classroom. To address this criticism that autonomy support is unrealistic (i.e., naïve, situationally inappropriate), it may be helpful to affirm the truism that *both* students' and teachers' perspectives are important and need to be pursued. Autonomy support takes the perspective of the student, and it values that perspective. It does not, however, downplay the importance and necessity of taking, valuing, and acting on the teacher's (or the schools', parents', community's, etc.) perspective during instruction. A teacher's plans, priorities, and goals (i.e., perspective) can be readily expressed through the provision of a highly structured learning environment—such as through communicating expectations, setting goals, giving directions, taking the lead during instruction, and so forth.

From this point of view, autonomy support need not be a stand-alone approach to motivating students. It can be integrated into a highly structured approach to instruction in which teachers plan and monitor the goals they have for their students' learning. It is this combination of high-structure and high-autonomy support that best respects both teachers' and students' perspectives (see Jang, Reeve, & Deci, in press). It may well be that for some student outcomes, autonomy support is necessary but not sufficient in that some outcomes (e.g., responsible self-regulation, achievement) are facilitated best by the coupling of both high-autonomy support and high structure. Hence, to become more autonomy supportive, control-oriented teachers might find merit in transferring elements of their controlling style into the provision of a highly structured teaching style (e.g., "it's not that I want to be controlling per se so much as it is that I want to make sure students are responsible and get their work done."). Once chronically controlling teachers realize their instructional priorities can be met through a highly structured

learning environment, the next teaching task becomes learning how to provide that structured learning environment in a way that is less and less controlling and more and more autonomy supportive.

This structure-mediated pathway to help controlling teachers become more autonomy supportive is currently an empirically untested pathway, so a few additional words about this process are warranted. Overall, what structure-providing teachers do is provide students with (a) desired outcomes (e.g., “here is what you need to do,” “here is what I expect you to do,”) and (b) information on how to attain those outcomes (e.g., “if you want good grades, then this is how you get there”; Connell & Wellborn, 1991; Skinner, 1995; Skinner et al., 1998). Although such desired outcomes and expectation-laden information constitute the core part of structure, it is the tone of the teacher’s guidance in helping students work toward those outcomes that reflects motivating style. Becoming more autonomy supportive involves providing guidance in autonomy-supportive ways, such as by taking the students’ perspective (rather than ignoring or trampling over it), welcoming students’ input (rather than intruding into their goals and action plans), and supporting students’ motivational development and capacity for autonomous self-regulation (rather than pressuring them to think, feel, or behave in a specific way).

CONCLUSION

Educators generally accept that self-initiated, challenge-seeking, and self-endorsed learning is an ideal model for education (Bruner, 1962; Clifford, 1990), one that recognizes the crucial supportive role played by teachers and the classroom context (Perry et al., 2006). Proponents of this view suggest that when students learn out of curiosity and the desire for optimal challenge, they are more engaged in and satisfied with their learning. They further better understand the material they are trying to learn and are more likely to stay in school. As summarized in Table 2, the motivating style that best favors this ideal is an autonomy-supportive one.

Some teachers already embrace and enact an autonomy-supportive style during their instruction. But other teachers—and perhaps all teachers on an occasional basis—are pushed and pulled toward a controlling style by a multitude of factors, including social roles; burdens of responsibility and accountability; cultural values and expectations; a misconception that controlling means structured, temporarily unmotivated, or unengaged students; personal beliefs about motivation; and their own personal dispositions (i.e., the reasons listed in Table 3). For all these reasons, it is understandable why teachers occasionally or even chronically adopt a controlling style toward students. Still, it is clear that both students and teachers function better in school when teachers support students’ autonomy. Because this is true, the question arises as

to how researchers can help teachers become more autonomy supportive. Doing so requires that teachers work through the steps of becoming less controlling, wanting to support autonomy, and learning the practical “how-to” of classroom autonomy support. Toward this later end, five acts of instruction have been shown to be particularly helpful to teachers as they try to become more autonomy supportive—namely, nurture inner motivational resources, provide explanatory rationales, rely on noncontrolling and informational language, display patience to allow time for self-paced learning to occur, and acknowledge and accept students’ expressions of negative affect.

ACKNOWLEDGMENTS

I thank editor Gale Sinatra and four anonymous reviewers for their insightful and constructive suggestions on an earlier version of the article.

REFERENCES

- The superscript number preceding a citation corresponds to the note associated with Table 2.
- Allen, J. D. (1986). Classroom management: Students’ perspectives, goals, and strategies. *American Educational Research Journal*, 23, 437–459.
- ¹Amabile, T., Hennessey, B., & Grossman, B. (1986). Social influences on creativity: The effects of contracted-for reward. *Journal of Personality and Social Psychology*, 50, 14–23.
- ²Assor, A., Kaplan, H., Kanat-Maymon, Y., & Roth, G. (2005). Directly controlling teacher behaviors as predictors of poor motivation and engagement in girls and boys: The role of anger and anxiety. *Learning and Instruction*, 15, 397–413.
- ³Assor, A., Kaplan, H., & Roth, G. (2002). Choice is good, but relevance is excellent: Autonomy-enhancing and suppressing teaching behaviors predicting students’ engagement in schoolwork. *British Journal of Educational Psychology*, 77, 261–278.
- Assor, A., Roth, G., & Deci, E. L. (2004). The emotional costs of parents’ conditional regard: A self-determination theory analysis. *Journal of Personality*, 72, 47–88.
- ⁴Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). A motivational basis of performance and well-being in two work settings. *Journal of Applied Social Psychology*, 34, 2045–2068.
- Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child Development*, 67, 3296–3319.
- Barrett, M., & Boggiano, A. K. (1988). Fostering extrinsic orientations: Use of reward strategies to motivate children. *Journal of Social and Clinical Psychology*, 6, 293–309.
- ⁵Benware, C., & Deci, E. L. (1984). The quality of learning with and active versus passive motivational set. *American Educational Research Journal*, 21, 755–765.
- ⁶Black, A. E., & Deci, E. L. (2000). The effects of instructors’ autonomy support and students’ autonomous motivation on learning organic chemistry: A self-determination theory perspective. *Science Education*, 84, 740–756.
- Boggiano, A. K., Barrett, M., Weiher, A. W., McClelland, G. H., & Lusk, C. M. (1987). Use of the maximal-operant principle to motivate children’s intrinsic interest. *Journal of Personality and Social Psychology*, 53, 866–879.

- ⁷Boggiano, A. K., Flink, C., Shields, A., Seelbach, A., & Barrett, M. (1993). Use of techniques promoting students' self-determination: Effects of students' analytic problem-solving skills. *Motivation and Emotion, 17*, 319–336.
- Brophy, J. (2008). Developing students' appreciation for what is taught in school. *Educational Psychologist, 43*, 132–141.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84*, 822–848.
- Brown, K. W., Ryan, R. M., & Creswell, J. D. (2007). Mindfulness: Theoretical foundations and evidence for its salutary effects. *Psychological Inquiry, 18*, 211–237.
- Bruner, J. S. (1962). *On knowing: Essays for the left hand*. Cambridge, MA: Harvard University Press.
- Cai, Y., Reeve, J., & Robinson, D. T. (2002). Home schooling and teaching style: Comparing the motivating styles of home school and public school teachers. *Journal of Educational Psychology, 94*, 372–380.
- ⁸Chirkov, V., & Ryan, R. M. (2001). Parent and teacher autonomy-support in Russian and U.S. adolescents: Common effects on well-being and academic motivation. *Journal of Cross Cultural Psychology, 32*, 618–635.
- Chirkov, V., Ryan, R. M., & Willness, C. (2005). Cultural context and psychological needs in Canada and Brazil: Testing a self-determination approach to the internalization of cultural practices, identity, and well-being. *Journal of Cross-Cultural Psychology, 36*, 423–443.
- Clifford, M. M. (1990). Students need challenge, not easy success. *Educational Leadership, 48*, 22–26.
- Connell, J. P., & Wellborn, J. G. (1991). Competence, autonomy, and relatedness: A motivational analysis of self-system processes. In M. R. Gunnar & L. A. Sroufe (Eds.), *Self processes in development: Minnesota symposium on child psychology* (Vol. 23, pp. 167–216). Chicago: University of Chicago Press.
- Cordova, D. I., & Lepper, M. R. (1996). Intrinsic motivation and the process of learning: Beneficial effects of contextualization, personalization, and choice. *Journal of Educational Psychology, 88*, 715–730.
- Davidson, A. L. (1999). Negotiating social differences: Youths' assessments of educators' strategies. *Urban Education, 34*, 338–369.
- Davidson, A. L., & Phelan, P. (1999). Students' multiple worlds: An anthropological approach to understanding students' engagement with school. In T. Urdan (Ed.), *Advances in motivation and achievement* (Vol. 11, pp. 233–273). Stanford, CT: JAI.
- ⁹deCharms, R. (1976). *Enhancing motivation: Change in the classroom*. New York: Irvington.
- ¹⁰Deci, E. L., Driver, R. E., Hotchkiss, L., Robbins, R. J., & Wilson, I. M. (1993). The relation of mothers' controlling vocalizations to early adolescents' intrinsic motivation. *Journal of Experimental Child Psychology, 55*, 151–162.
- ¹¹Deci, E. L., Eghrari, H., Patrick, B. C., & Leone, D. R. (1994). Facilitating internalization: The self-determination theory perspective. *Journal of Personality, 62*, 119–142.
- Deci, E. L., Hodges, R., Pierson, L., & Tomassone, J. (1992). Autonomy and competence as motivational factors in students with learning disabilities and emotional handicaps. *Journal of Learning Disabilities, 25*, 457–471.
- Deci, E. L., La Guardia, J. G., Moller, A. C., Scheiner, M. J., & Ryan, R. M. (2006). On the benefits of giving as well as receiving autonomy support: Mutuality in close friendships. *Personality and Social Psychology Bulletin, 32*, 313–327.
- ¹²Deci, E. L., Nezlak, J., & Sheinman, L. (1981). Characteristics of the rewarder and intrinsic motivation of the rewardee. *Journal of Personality and Social Psychology, 40*, 1–10.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology, 53*, 1024–1037.
- Deci, E. L., & Ryan, R. M. (2002). The paradox of achievement: The harder you push, the worse it gets. In J. Aronson (Ed.), *Improving academic achievement: Contributions of social psychology* (pp. 59–85). New York: Academic Press.
- ¹³Deci, E. L., Ryan, R. M., Gagné, M., Leone, D. R., Usunov, J., & Kornazheva, B. P. (2001). Need satisfaction, motivation, and well-being in the work organizations of a former Eastern Bloc country: A cross-cultural study of self-determination. *Personality and Social Psychology Bulletin, 27*, 930–942.
- ¹⁴Deci, E. L., Schwartz, A., Sheinman, L., & Ryan, R. M. (1981). An instrument to assess adult's orientations toward control versus autonomy in children: Reflections on intrinsic motivation and perceived competence. *Journal of Educational Psychology, 73*, 642–650.
- Deci, E. L., Spiegel, N. H., Ryan, R. M., Koestner, R., & Kauffman, M. (1982). Effects of performance standards on teaching styles: Behavior of controlling teachers. *Journal of Educational Psychology, 74*, 852–859.
- Feldman, S. S., & Quartman, T. (1988). Factors influencing age expectations for adolescents: A study of early adolescents and parents. *Journal of Early Adolescence, 8*, 325–343.
- Filak, V., & Sheldon, K. (2003). Student psychological need satisfaction and college teacher-course evaluations. *Educational Psychology, 23*, 235–247.
- ¹⁵Flink, C., Boggiano, A. K., & Barrett, M. (1990). Controlling teaching strategies: Undermining children's self-determination and performance. *Journal of Personality and Social Psychology, 59*, 916–924.
- Forstadt, L. (2007). *Swimming with the sharks: Basis of job satisfaction for teachers who educate at-risk, high-school students*. Unpublished dissertation, University of Iowa, Iowa City.
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*, 59–109.
- Furrer, C., & Skinner, E. A. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of Educational Psychology, 95*, 148–162.
- ¹⁶Garbarino, J. (1975). The impact of anticipated reward upon cross-age tutoring. *Journal of Personality and Social Psychology, 32*, 421–428.
- Gottfried, A. E., Fleming, J. S., & Gottfried, A. W. (1994). Role of parental motivational practices in children's academic intrinsic motivation and achievement. *Journal of Educational Psychology, 86*, 104–113.
- ¹⁷Grolnick, W. S., Farkas, M. S., Sohmer, R., Michaels, S., & Valsiner, J. (2007). Facilitating motivation in young adolescents: Effect of an after-school program. *Journal of Applied Developmental Psychology, 28*, 332–344.
- ¹⁸Grolnick, W. S., & Ryan, R. M. (1987). Autonomy in children's learning: An experimental and individual difference investigation. *Journal of Personality and Social Psychology, 52*, 890–898.
- Grolnick, W. S., Weiss, L., McKenzie, L., & Wrightman, J. (1996). Contextual, cognitive, and adolescent factors associated with parenting in adolescence. *Journal of Youth and Adolescence, 25*, 33–54.
- ¹⁹Guay, F., Boggiano, A. K., & Vallerand, R. J. (2001). Autonomy support, intrinsic motivation, and perceived competence: Conceptual and empirical linkages. *Personality and Social Psychology Bulletin, 27*, 643–650.
- Halusic, M., & Reeve, J. (2009). *Instructional strategies to nurture students' inner motivational resources*. Unpublished manuscript, University of Iowa, Iowa City.
- Halvari, A. E. M., & Halvari, H. (2006). Motivational predictors of change in oral health: An experimental test of self-determination theory. *Motivation and Emotion, 30*, 295–306.
- ²⁰Hardre, P. L., & Reeve, J. (2003). A motivational model of rural students' intentions to persist in, versus drop out of, high school. *Journal of Educational Psychology, 95*, 347–356.
- Husman, J., & Lens, W. (1999). The role of the future in student motivation. *Educational Psychologist, 34*, 113–125.

- Jang, H. (2008). Supporting students' motivation, engagement, and learning during an uninteresting activity. *Journal of Educational Psychology, 100*, 798–811.
- Jang, H., & Reeve, J. (2009). *Personality predictors of teachers' motivating styles*. Unpublished manuscript, University of Wisconsin–Milwaukee.
- Jang, H., Reeve, J., & Deci, E. L. (in press). Engaging students in learning activities: It's not autonomy support or structure, but autonomy support and structure. *Journal of Educational Psychology*.
- ²¹Jang, H., Reeve, J., & Ryan, R. M. (in press). Can self-determination theory explain what underlies the productive, satisfying learning experiences of collectivistically-oriented Korean adolescents? *Journal of Educational Psychology*.
- Jelsma, B. M. (1982). *Adult control behaviors: The interaction between orientation toward control in women and activity level of children*. Unpublished doctoral dissertation, University of Rochester, Rochester, NY.
- ²²Jeon, S. (2007). *The effects of parents' and teachers' motivating styles on adolescents' school outcomes and psychological well-being: A test of self-determination theory in a Korean context*. Unpublished dissertation, University of Iowa, Iowa City.
- ²³Koestner, R., Ryan, R. M., Bernieri, F., & Holt, K. (1984). Setting limits on children's behavior: The differential effects of controlling versus informational styles on intrinsic motivation and creativity. *Journal of Personality, 52*, 233–248.
- ²⁴Levesque, C., Zuehlke, A. N., Stanek, L. R., & Ryan, R. M. (2004). Autonomy and competence in German and American University students: Comparative study based on self-determination theory. *Journal of Educational Psychology, 96*, 68–84.
- Maehr, M. L., & Midgley, C. (1991). Enhancing student motivation: A schoolwide approach. *Educational Psychologist, 26*, 399–427.
- ²⁵McGraw, K. O., & McCullers, J. C. (1979). Evidence of a detrimental effect of extrinsic incentives on breaking a mental set. *Journal of Experimental Social Psychology, 15*, 285–294.
- Mageau, G. A., & Vallerand, R. J. (2003). The coach-athlete relationship: A motivational model. *Journal of Sport Sciences, 21*, 883–904.
- Magee, J. C., Galinsky, A. D., & Gruenfeld, D. H. (2007). Power, propensity to negotiate, and moving first in competitive interactions. *Personality and Social Psychology Bulletin, 33*, 200–212.
- ²⁶Moller, A. C., Deci, E. L., & Ryan, R. M. (2006). Choice and ego-depletion: The moderating role of autonomy. *Personality and Social Psychology Bulletin, 32*, 1024–1036.
- Nachtsheim, N. M., & Hoy, W. K. (1976). Authoritarian personality and control ideologies of teachers. *Alberta Journal of Educational Research, 22*, 173–178.
- Newby, T. J. (1991). Classroom motivation: Strategies of first-year teachers. *Journal of Educational Psychology, 83*, 195–200.
- ²⁷Nix, G. A., Ryan, R. M., Manly, J. B., & Deci, E. L. (1999). Revitalization through self-regulation: The effects of autonomous and controlled motivation on happiness and vitality. *Journal of Experimental Social Psychology, 35*, 266–284.
- ²⁸Noels, K. A., Clement, R., & Pelletier, L. G. (1999). Perceptions of teachers' communicative style and students' intrinsic and extrinsic motivation. *Modern Language Journal, 83*, 23–34.
- Nussbaum, J., & Novick, S. (1982). Alternative frameworks, conceptual conflict, and accommodation: Toward a principled teaching strategy. *Instructional Science, 11*, 183–200.
- ²⁹Patrick, B. C., Hisley, J., Kempler, T., & College, G. (2000). 'What's everybody so excited about?' The effects of teacher enthusiasm on student intrinsic motivation and vitality. *Journal of Experimental Education, 68*, 217–236.
- ³⁰Patrick, B. C., Skinner, E. A., & Connell, J. P. (1993). What motivates children's behavior and emotion? Joint effects of perceived control and autonomy in the academic domain. *Journal of Personality and Social Psychology, 65*, 781–791.
- Pelletier, L. G., Seguin-Levesque, C., & Legault, L. (2002). Pressure from above and pressure from below as determinants of teachers' motivation and teaching behaviors. *Journal of Educational Psychology, 94*, 186–196.
- Pelletier, L. G., & Vallerand, R. J. (1996). Supervisors' beliefs and subordinates' intrinsic motivation: A behavioral confirmation analysis. *Journal of Personality and Social Psychology, 71*, 331–340.
- Perry, N. E. (1998). Young children's self-regulated learning and the contexts that support it. *Journal of Educational Psychology, 90*, 715–729.
- Perry, N. E., Turner, J. C., & Meyer, D.K. (2006). Classrooms as contexts for motivating learning. In P. Alexander & P. Winne (Eds.), *Handbook of educational psychology* (pp. 327–348). Mahwah, NJ: Erlbaum.
- Pintrich, P. R., Marx, R. W., & Boyle, R. A. (1993). Beyond cold conceptual change: The role of motivational beliefs and classroom contextual factors in the process of conceptual change. *Review of Educational Research, 63*, 167–199.
- Reeve, J. (1998). Autonomy support as an interpersonal motivating style: Is it teachable? *Contemporary Educational Psychology, 23*, 312–330.
- Reeve, J. (2006). Teachers as facilitators: What autonomy-supportive teachers do and why their students benefit. *Elementary School Journal, 106*, 225–236.
- Reeve, J., Bolt, E., & Cai, Y. (1999). Autonomy-supportive teachers: How they teach and motivate students. *Journal of Educational Psychology, 91*, 537–548.
- Reeve, J., Deci, E. L., & Ryan, R. M. (2004). Self-determination theory: A dialectical framework for understanding the sociocultural influences on student motivation. In D. McInerney & S. Van Etten (Eds.), *Research on sociocultural influences on motivation and learning: Big theories revisited* (Vol. 4, pp. 31–59). Greenwich, CT: Information Age Press.
- Reeve, J., & Halusic, M. (2009). How K-12 teachers can put self-determination theory principles into practice. *Theory and Research in Education, 7*, 145–154.
- ³¹Reeve, J., & Jang, H. (2006). What teachers say and do to support students' autonomy during a learning activity. *Journal of Educational Psychology, 98*, 209–218.
- ³²Reeve, J., Jang, H., Carrell, D., Barch, J., & Jeon, S. (2004). Enhancing high school students' engagement by increasing their teachers' autonomy support. *Motivation and Emotion, 28*, 147–169.
- ³³Reeve, J., Jang, H., Hardre, P., & Omura, M. (2002). Providing a rationale in an autonomy-supportive way as a strategy to motivate others during an uninteresting activity. *Motivation and Emotion, 26*, 183–207.
- ³⁴Reeve, J., Nix, G., & Hamm, D. (2003). Testing models of the experience of self-determination in intrinsic motivation and the conundrum of choice. *Journal of Educational Psychology, 95*, 375–392.
- Reeve, J., & Tseng, C. (2009a). *Adding students' voice to the conceptualization of engagement in learning activities*. Unpublished manuscript, University of Iowa, Iowa City.
- Reeve, J., & Tseng, C. (2009b). *Teachers' motivating styles toward students: The psychobiology of being controlled*. Unpublished manuscript, University of Iowa, Iowa City.
- Ricks, T. E. (1997). *Making the corps*. New York: Scribner.
- Roth, G., Assor, A., Kanat-Maymon, Y., & Kaplan, H. (2007). Autonomous motivation for teaching: How self-determined teaching may lead to self-determined learning. *Journal of Educational Psychology, 99*, 761–774.
- Ryan, R. M. (1982). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology, 43*, 450–461.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68–78.
- Ryan, R. M., & Deci, E. L. (2004). Autonomy is no illusion: Self-determination theory and the empirical study of authenticity, awareness, and will. In J. Greenberg, S. L., Koole, & T. Pyszczynski (Eds.), *Handbook of experimental existential psychology* (pp. 449–479). New York: Guilford.
- ³⁵Ryan, R. M., & Grolnick, W. S. (1986). Origins and pawns in the classroom: Self-report and projective assessments of individual differences in

- children's perceptions. *Journal of Personality and Social Psychology*, 50, 550–558.
- Sarrazin, P. G., Tessier, D. P., Pelletier, L. G., Trouilloud, D. O., & Chanal, J. P. (2006). The effects of teachers' expectations about students' motivation on teachers' autonomy-supportive and controlling behaviors. *International Journal of Sport and Exercise Psychology*, 4, 283–301.
- Schraw, G., & Lehman, S. (2001). Situational interest: A review of the literature and directions for future research. *Educational Psychology Review*, 13, 23–52.
- ³⁶Shapira, Z. (1976). Expectancy determinants of intrinsically motivated behavior. *Journal of Personality and Social Psychology*, 34, 1235–1244.
- ³⁷Sheldon, K. M., & Krieger, L. (2004). Does law school undermine law students? Examining change in goals, values, and well-being. *Behavioral Sciences and the Law*, 22, 261–286.
- Sierens, E., Goossens, L., Soenens, B., Vansteenkiste, M., & Dochy, F. (2007, May). *The interactive effect of perceived autonomy support and structure in the prediction of self-regulated learning*. Paper presented at the 3rd international conference on self-determination theory. Toronto, Ontario, Canada.
- Skinner, E. A. (1995). *Perceived control, motivation, and coping*. Newbury Park, CA: Sage.
- ³⁸Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology*, 85, 571–581.
- Skinner, E. A., Zimmer-Gembeck, M. J., & Connell, J. P. (1998). Individual differences and the development of perceived control. *Monographs of the Society for Research in Child Development*, 63(2–3), Whole No. 204).
- ³⁹Soenens, B., & Vansteenkiste, M. (2005). Antecedents and outcomes of self-determination in three life domains: The role of parents' and teachers' autonomy support. *Journal of Youth and Adolescence*, 34, 589–604.
- Soenens, B., Vansteenkiste, M., Duriez, B., Luyten, P., & Goossens, L. (2005). Maladaptive perfectionistic self-representations: The mediational link between psychological control and adjustment. *Personality and Individual Differences*, 38, 487–498.
- Stefanou, C. R., Perencevich, K. C., DiCintio, M., & Turner, J. C. (2004). Supporting autonomy in the classroom: Ways teachers encourage student decision making and ownership. *Educational Psychologist*, 39, 97–110.
- Turner, J. C., Meyer, D. K., Cox, K. E., Logan, C., DiCintio, M., & Thomas, C. (1998). Creating contexts for involvement in mathematics. *Journal of Educational Psychology*, 90, 730–745.
- ⁴⁰Vallerand, R. J., Fortier, M. S., & Guay, F. (1997). Self-determination and persistence in a real-life setting: Toward a motivational model of high school dropout. *Journal of Personality and Social Psychology*, 72, 1161–1176.
- Vansteenkiste, M., Lens, W., & Deci, E. L. (2006). Intrinsic versus extrinsic goal contents in self-determination theory: Another look at the quality of academic motivation. *Educational Psychologist*, 41, 19–31.
- ⁴¹Vansteenkiste, M., Simons, J., Lens, W., Sheldon, K. M., & Deci, E. L. (2004). Motivating learning, performance, and persistence: The synergistic role of intrinsic goals and autonomy support. *Journal of Personality and Social Psychology*, 87, 246–260.
- ⁴²Vansteenkiste, M., Simons, J., Lens, W., Soenens, B., & Matos, L. (2005). Examining the impact of extrinsic versus intrinsic goal framing and internally controlling versus autonomy-supportive communication style upon early adolescents' academic achievement. *Child Development*, 76, 483–501.
- ⁴³Vansteenkiste, M., Zhou, M., Lens, W., & Soenens, B. (2005). Experiences of autonomy and control among Chinese learners: Vitalizing or immobilizing? *Journal of Educational Psychology*, 97, 468–483.
- Williams, G. C., & Deci, E. L. (1996). Internalization of biopsychosocial values by medical students: A test of self-determination theory. *Journal of Personality and Social Psychology*, 70, 115–126.
- ⁴⁴Williams, G. C., Weiner, M. W., Markakis, K. M., Reeve, J., & Deci, E. L. (1994). Medical students' motivation for internal medicine. *Journal of General Internal Medicine*, 9, 327–333.
- Woolfolk Hoy, A., & Weinstein, C. S. (2006). Student and teacher perspectives on classroom management. In C. M. Evertson & C. S. Weinstein (Eds.), *Handbook of classroom management: Research, practice, and contemporary issues* (pp. 181–219). Mahwah, NJ: Erlbaum.
- Yowell, C. M. (1999). The role of the future in meeting the challenge of Latino school dropouts. *Educational Foundations*, 13, 5–28.

Copyright of Educational Psychologist is the property of Lawrence Erlbaum Associates and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.