A Motivational Perspective on Engagement and Disaffection:
Conceptualization and Assessment of Children’s Behavioral and Emotional Participation in Academic Activities in the Classroom

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Abstract

This paper presents a motivational conceptualization of engagement versus disaffection in the classroom that emphasizes children’s active, constructive, focused enthusiastic participation in the activities of learning, and that distinguishes engagement from disaffection, and behavioral from emotional features. The psychometric properties of brief teacher-report and self (student)-report assessments of behavioral engagement, emotional engagement, behavioral disaffection, and emotional disaffection were examined using data from 1018 students in third through sixth grade. Structural analyses of these four indicators confirmed that they can be distinguished and that a multi-dimensional structure was a better fit to the data than bipolar or unidimensional models. The validity of the measures was supported by findings that teacher-reports were correlated with student-reports, with in vivo observations of engagement in the classroom, and with a set of self-system and social contextual facilitators. We conclude that these measures capture important features of engagement versus disaffection in the classroom, and that, although multiple dimensions can be distinguished, it is theoretically and empirically justified to combine them into an aggregated indicator of engagement versus disaffection in the classroom. Additional dimensions not included in these measures were identified, pointing the way to future research.
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In recent years, enthusiasm for the concept of engagement has emerged from many lines of theory, research, and practice (Fredricks, Blumenfeld, & Parks, 2004). At its most general, academic engagement refers to the quality of a child’s or youth's connection or involvement with the endeavor of schooling and, hence, with the people, activities, tasks, goals, values, customs, and place that comprise it. Educators are attracted to the concept because (compared to status indicators like student SES or race) engagement represents a potentially malleable proximal influence shaping children’s academic retention, achievement, and resilience. Despite emerging consensus about the big picture, however, work on engagement, because it reflects multiple perspectives, has brought with it a profusion of conceptual and operational definitions (Fredricks, Blumenfeld, & Parks, 2004; Jimerson, Campos, & Grief, 2003; Libbey, 2004; O’Farrell & Morrison, 2003). As summarized by Furlong et al. (2003), “These seminal perspectives have, in parallel, emerged over the years to provide a complementary and increasingly multidimensional understanding of what school engagement is and how it contributes to the understanding of youth development and educational outcomes” (p. 101).

At the core of many conceptualizations is a construct that captures the quality of students’
participation with learning activities in the classroom, ranging from energized, enthusiastic, focused, emotionally positive interactions with academic activities to apathetic withdrawal. This feature of engagement is of interest to educational researchers because it represents the kind of interactions with curricula and materials that should produce (or interfere with) actual learning. Even if youth stay emotionally attached or physically present in school, unless they become engaged with learning opportunities, their academic careers cannot be considered a success. This facet of engagement is especially important to motivational researchers, many of whom consider it to be the outward manifestation of a motivated student (e.g., Connell & Wellborn, 1991; Deci & Ryan, 1985, 2000; Skinner et al., in press; Wentzel, 1993).

This paper aims to contribute to ongoing discussions about the meaning of engagement in three ways. First, we present a conceptualization of engagement in the classroom that fits within motivational traditions, and distinguishes engagement from disaffection and behavioral from emotional features. Second, we describe two brief assessments (teacher-report and student-report) designed to capture these four indicators of engagement and test their psychometric and structural properties in a sample of third through sixth graders. Third, we examine the validity and utility of the measures by analyzing their connections with each other and with in vivo observations of engagement in the classroom, and by exploring their concurrent links to a set of self-system and social contextual factors. We do not argue that this conceptualization represents
a comprehensive overview of all indicators of engagement, only that the features it includes are core and important indicators of engagement in the classroom (Fredricks et al., 2004).¹

**Conceptualization and Assessment of Engagement versus Disaffection**

The conceptualization of engagement has been part of a larger model of human motivation developed and elaborated over the last several decades (Connell & Wellborn, 1991; Deci & Ryan, 1985, 2000; Skinner, 1991; Wellborn, 1991). To use the model’s conceptualization of engagement, it is not necessary to agree with its organismic and contextual assumptions about fundamental human needs. However, research inspired by these assumptions (as well as research conducted outside of this framework) has shown that children’s active enthusiastic effortful participation in learning activities in the classroom predicts their achievement in and completion of school (e.g., Connell et al., 1995; Connell, Spencer, & Aber, 1994; Pierson & Connell, 1992; Skinner, Wellborn, & Connell, 1990; Skinner, Zimmer-Gembeck, & Connell, 1998; see Fredricks et al., 2004, for a review). This motivational conceptualization has two notable features: the idea that engagement includes both behavioral and emotional participation in the classroom, and the idea that engagement requires a conceptualization of its opposite, which we term **disaffection** (Connell & Wellborn, 1991).

**Engaged behavior and engaged emotion.** Like other motivational conceptualizations, ours includes key markers of engaged behaviors, including effort exertion and persistence. In
addition, we included indicators of mental effort, such as attention and concentration. This aspect of engagement has also been referred to as on-task behavior, academic behavior, and class participation. Unlike some conceptualizations of engagement, we also include engaged *emotions*. These do not encompass the entire range of positive academic emotions (Meyer & Turner, 2002; Pekrun et al., 2002; Schutz & DeCuir, 2002; Weiner, 1985), only those that reflect energized emotional states, such as enthusiasm, interest, and enjoyment. As opposed to more comprehensive theories of interest (Hidi, Renninger, & Krapp, 2004; Schiefele, 2001) that include personal and situational interest and an analysis of the factors that catch and hold interest, our conceptualization of engagement includes only the state of being caught and held.

*Disaffected behavior and disaffected emotion.* Conceptually, the opposite of engagement is *disengagement*, which implies the *absence* of engagement, including the absence of effort or persistence. Hence, disengagement is typically operationalized as passivity, lack of initiation, and giving up (Murdock, 1999; Vallerand, 1997), sometimes accompanied by the emotions of dejection, discouragement, or apathy (as depicted in theories of learned helplessness, e.g., Peterson, Maier, & Seligman, 1993). However, there are other pathways to disengagement besides helplessness. Participation can also be undercut by coercion (Deci & Ryan, 1985), exclusion (Merton, 1954; Newmann, 1991), or boredom. A fuller account is especially important in describing disengagement in enterprises from which an individual cannot voluntarily exit,
such as school. The normal reaction to helplessness or exclusion is avoidance. However, when physical withdrawal is prohibited, forms of participation may develop that reflect mental or emotional withdrawal, such as frustration, disruptive noncompliance, or simply going through the emotions (Finn et al., 1995).

Hence, the motivational conceptualization employs the term *disaffection* (Connell & Wellborn, 1991). Disaffected behaviors include the core behaviors of disengagement, namely, passivity, lack of initiation, lack of effort, and giving up. In addition, they include mental withdrawal and ritualistic participation, such as lack of attention, pretending to pay attention, and going through the motions. Disaffected emotions included those that reflect enervated emotion (tired, sad, bored), alienated emotion (frustration, anger), and pressured participation (anxiety). It was expected that the range of forms of disaffection included (e.g., withdrawal, alienation, helplessness) might result in a multidimensional construct.

*Purposes of the Current Study*

Based on a conceptualization of engagement that incorporates behavior and emotion as well as engagement and disaffection, this study was designed to examine the structural properties of brief student- and teacher-reports of engagement, and to explore their correlations with each other as well as with in vivo observations of engagement in the classroom and with a set of personal and contextual factors that were hypothesized to facilitate motivation.
Students and teachers as reporters of engagement and disaffection. Recent reviews of motivation in education have questioned whether students know what motivates them (e.g., Pintrich, 2003). In our conceptualization, we do not assume that students know why they are motivated, but we do assume that students know whether they are motivated, that is, students are excellent reporters of their own engagement and disaffection. In fact, the state of being engaged or disaffected is considered to be extremely salient to people of all ages. Those who interact closely with individuals can also accurately evaluate their motivational states, especially when evaluators own engagement in an activity is contingent on the quality of the participation of the target individuals. Student motivation is highly valued by teachers, and hence, student engagement versus disaffection is very salient to them. At the same time, however, accurate assessment by teachers is made more difficult if students attempt to conceal their disaffection by masking their negative emotions or by presenting compliant instead of engaged behaviors.

The structure of engagement and disaffection. By assessing all four indicators of engagement, we could analyze several features of its structure. First, we examined whether the item sets designed to tap each aspect of engagement were unidimensional. We expected that, if multidimensionality were detected, it would be in emotional disaffection. Second, we examined the structure among the four components as depicted in Figure 1. We tested whether behavioral and emotional features of engagement and disaffection (numbered 1 and 2 in the figure) are
better represented by two dimensions or by a single dimension. We expected that they would be better represented by two dimensions which would be highly positively inter-correlated. Next we tested whether the engaged and disaffected features of behavior and emotion (numbered 3 and 4) are better represented by two dimensions or by a single bipolar dimension. We expected that they would be better represented by two dimensions which would be moderately negatively inter-correlated. Finally, we tested all four components at once, expecting that a model of four interrelated dimensions would provide a better fit than one- or two-factors models.

_Theoretical rationale for the structural hypotheses._ It is not intuitively obvious why the components of engagement and disaffection would not be expected to form a single bipolar construct. The most important reason is that children’s engagement in the classroom does not reflect a stable personality trait that should evince itself across situations and time. Instead, it is made up of thousands of different interactions between a developing child and his or her changing assignments on different school subjects and days in a fluctuating social context. Reports of engagement, which reflect the patterns of that involvement cumulated over episodes and subjects (e.g., Marks, 2000), would not necessarily be unidimensional; they would likely be more complex and therefore multi-dimensional (Fredricks et al., 2004). However, even without a unidimensional structure, it makes sense that the components would be related in ways (behavior and emotion positively and engagement and disaffection negatively) systematic enough to allow
a meaningful aggregate to be created. Its lowest point would depict negatively-toned passivity, which could be considered a risk factor for (or the first step of) drop-out; and its highest point would represent enthusiastic energetic participation, found to promote learning and healthy development. Distinguishable components would also suggest that other combinations might be of interest (e.g., Finn et al., 1995; Furrer et al., 2006; Patrick, Skinner, & Connell, 1993).

**Correspondence between student and teacher reports of engagement.** Because engagement and disaffection are both observable and salient, we expected teacher and student reports to be moderately correlated with each other. Since behaviors are more easily observable, we expected the behavioral components to be more highly correlated than the emotional components. In terms of mean level correspondence, we expected students to be more optimistic in their reports of their own behavioral engagement than teachers, and for teachers to overestimate the state of student’s emotions relative to student’s own reports.

**Correlations with in vivo observations of engagement and disaffection in the classroom.** Because engagement and disaffection are observable manifestations of motivation, it is easy to assume that direct observations would be the optimal indicator of engagement in the classroom. And in fact, many researchers have successfully captured some features of engagement in the classroom through direct observation (e.g., Center for the Organization and Restructuring of Schools, 1992, as cited in Marks, 2000). However, taking the entire body of research into
consideration, we conclude that the behavioral features of engagement are more easily captured by direct observations than the emotional features, and the active features (active on-task and active off-task) are more easily captured by observations than their passive counterparts (e.g., Bolstad & Johnson, 1977). That is, it can be difficult to distinguish passive behavior that is off-task from passive behavior that is on-task. It can also be difficult to classify children with a high activity level who show high levels of both actively engaged and actively disaffected behaviors.

**Correlations with predictors of motivation.** We expected that student engagement and disaffection would be correlated with a variety of individual and contextual predictors (Fredricks et al., 2004). Although no study can include markers from all theories of motivation, we included indicators from several theories focusing on individual factors, such as perceived control and competence (10 different strategy and capacity beliefs; Skinner et al., 1998); autonomy orientations reflecting four self-regulatory styles (external, introjected, identified, and intrinsic, Ryan & Connell, 1989); sense of relatedness to four social partners (teachers, parents, friends, and classmates, Furrer & Skinner, 2003); academic optimism and pessimism (Carver & Scheier, 1999; Peterson et al., 1993); goal orientations (Dweck, 1999b; Nicholls, 1984); and reactions following failure. We also included markers of six motivationally supportive and unsupportive features of relationships with teachers and parents, namely, involvement/warmth, structure, autonomy support, neglect/rejection, chaos, and coercion (Skinner & Belmont, 1993; Skinner,
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Johnson, & Snyder, 2005). Taken together, these represent markers of the key constructs of the motivational model upon which this conceptualization of engagement and disaffection was based.

Method

Participants

Data from 1018 children (135 3rd grade students, 340 4th graders, 166 5th graders, and 363 6th graders approximately equally divided by gender) who had participated in a four-year longitudinal study on children’s motivation in school were utilized from two measurement points (Fall (October) and Spring (May) of Year Three). Students and their 53 teachers, drawn from a public elementary school in a rural-suburban school district, were predominantly Caucasian with approximately 5% of the students identifying themselves as non-white. Student socioeconomic status, as determined by parents’ level of education and occupation, ranged between working and middle class. (See Skinner et al., 1998, for details.)

Procedures and Measures

Trained interviewers administered self-report questionnaires to students in their classrooms in three 45-minute sessions. For the questionnaires, respondents used a 4-point Likert scale: Not at all true (1), Not very true (2), Sort of true (3), or Very true (4). Negatively worded items were reverse coded and items in each scale were averaged.

Behavioral and Emotional Engagement vs. Disaffection

Student-report assessment. Each student reported on their own: (1) behavioral engagement using 5 items tapping their effort, attention, and persistence while initiating and participating in learning activities; (2) behavioral disaffection using 5 items tapping their lack of effort and
withdrawal from learning activities while in the classroom; (3) emotional engagement using 6 items tapping their emotions indicating motivated involvement during learning activities; and (4) emotional disaffection using 9 items tapping their emotions indicating motivated withdrawal or alienation during learning activities. The items from the current version of the student-report measure of engagement versus disaffection are presented in Appendix A (Wellborn, 1991; see also Connell et al., 1994, 1995; Furrer et al., 2006; Skinner et al., 1990, 1998, 2007).

Teacher-report assessment. Each student’s teacher reported on that student’s (1) behavioral engagement using 4 items tapping students’ effort, attention, and persistence while initiating and participating in learning activities; (2) behavioral disaffection using 4 items that tapped students’ lack of effort and withdrawal from learning activities while in the classroom; (3) emotional engagement using 4 items tapping students’ emotions indicating motivated involvement during learning activities; and (4) emotional disaffection using 4 items designed to tap students’ emotions indicating motivated withdrawal or alienation during learning activities. The items from the current version of the teacher-report measure of engagement versus disaffection are presented in Appendix B (Wellborn, 1991; see also Connell et al., 1994, 1995; Furrer et al., 2006; Skinner et al., 1990, 1998, 2007).

Individual Motivational Factors

Perceived control in the academic domain. Using ten scales from the Student Perceptions of Control Questionnaire (SPOCQ: Skinner, Chapman, & Baltes, 1988; Skinner, et al., 1990; Skinner et al., 1998), students reported about (1) their Control Beliefs using 6 items that tapped their general expectancies about achieving success and avoiding school failure; (2) their Strategy Beliefs using 25 items tapping their beliefs about the effectiveness of five potential causes (effort, ability, powerful others, luck, and unknown) for success and failure in school; and (3)
their Capacity Beliefs using 16 items tapping their beliefs about the extent to which they have access to the four known causes (effort, ability, powerful others, luck).

**Sense of relatedness.** Students completed four items each regarding their sense of belonging or connectedness to their teachers, their mothers, their fathers, their friends, and their classmates (Connell & Wellborn, 1991; Furrer & Skinner, 2003).

**Autonomy orientation.** The measure of academic autonomy was composed of 17 items that tap whether children engage in activities for: (1) *external* reasons which refers to doing work because of rules or fear of punishment; (2) *introjected* reasons which refers to doing work because one “should” and to avoid negative emotions; (3) *identified* reasons which refers to reasons for working related to desire for understanding and learning; and (4) *intrinsic* reasons which refers to doing work because it is enjoyable (Ryan & Connell, 1989).

**Academic optimism and pessimism.** Students responded to 7 items tapping their optimism (e.g., “When I have trouble with a problem, I usually get it right in the end”) and pessimism (e.g., “If a problem is really hard, I'll probably miss it.”) about success in academic activities.

**Goal orientations.** Students responded to 8 items reflecting the value they placed on learning (e.g., “How much do you care about learning new things in school?”) and on producing good grades (e.g., “How much do you care about getting good grades?”). Performance avoidance goals were not assessed (Elliot & McGregor, 2001).

**Reactions to academic challenges.** Students responded to 9 items about their reactions when encountering academic difficulties. Four items tapped mastery reactions (e.g., “When I run into a difficult question, I try even harder”), 5 items tapped giving up (e.g., “If a problem is really hard, I just quit working on it”), and 11 items tapped negative emotional reactions (e.g., “When I get stuck on a problem, it really bothers me.”).
Social Contextual Factors

Parent motivational support. Students responded to 16 items depicting their perceptions of the amount of general support provided by their parents, using six scales tapping parent involvement, rejection, structure, chaos, autonomy support, and coercion (Skinner et al., 2005).

Teacher motivational support. Students responded to on the level of involvement, structure, and autonomy support they experienced from their teachers (Skinner & Belmont, 1993): 16 items tapped involvement, including warmth/affection, dedication of resources, knowledge about the student and his needs, and dependability; 8 items tapped hostility and neglect (reverse coded); 14 items measured the kind and amount of structure, including clarity of expectations and contingency; 15 items reflected chaos and confusion (reverse coded); 8 items tapped autonomy support, including teacher provision of choice, relevance, and respect; and 13 items tapped teacher coercion and controlling behavior (reverse coded).

Observations of Engagement and Disaffection in the Classroom

Observations were conducted in two fourth-grade classrooms and focused on 56 children (29 girls and 27 boys). Everyday classroom interactions were videotaped between the fifth week and 10th week of school; two prior weeks were used as for warm-up. Observations were conducted during regular classroom lessons; 35% of the observations took place during Math, 35% during English (or other language-oriented lessons), 15% during Social Studies, and 15% during special projects (e.g., preparation and giving of class presentations). Interactions were videotaped according to predetermined random schedules, across periods of 15 school days in each classroom. Each day, a target child was in the camera’s focus for about 20 minutes. On average, each child was observed for a total of 2 hours, on 8 different days (ranging from a low of two times, once in Math and once in Language Arts, to a high of 25 times).
Coding system. The coding system consisted of seven exhaustive and mutually exclusive categories, adapted from systems developed by Charlesworth and Hartup (1967), Horn et al. (1986), and Kerr et al. (1986). Three categories captured children’s on-task behavior: On-Task Active Initiative (e.g., a child contributed something to a lesson on his or her own initiative, raised his or her hand, or volunteered to go to the board), On-Task Working (e.g., reading, working on a problem, continuing with an activity, answering a question), and On-Task Passive (e.g., listening to the teacher or a classmate making an on-task contribution). Three categories captured Off-task behavior: Off-Task Initiative (e.g., disrupting a classmate or interrupting the teacher with a non-academic issue), Off-Task Working (e.g., building paper airplanes, participating in a classmate’s active off-task behavior), and Off-Task Passive Behavior (e.g., looking out the window, daydreaming, or listening to a classmate’s off-task contribution, doodling without following the teacher). A category of “Other” was used for all other events.

Coding procedure and reliability. Codings were sequential in the natural occurrence of behavior and consisted of registering the respective behavior code as well as the running time when a specific event occurred. Each day of observation was taped on one videotape. Twelve trained observers coded the tapes in a random sequence (specifics of the coder training can be found in Sage, et al., 2000). To determine reliability, four 3-minute segments (2 within the first 15 minutes and 2 within the last 15 minutes) of each videotape were coded by two observers separately. Reliability codings proceeded without observer knowledge about which parts would be used for reliability checks, and without the reliability observer present. Thus, reliability estimates are conservative compared to real-time observations when two observers code simultaneously. Across the 29 days of observation (videotapes), 200 3-minute reliability segments were coded twice by two observers (a total of 8000 observations). The average kappa
was .71 (with the lowest agreement of 57% for Off-Task Initiative, and the highest agreement of 87% for On-Task Working behavior; other percentages were as follows: On-Task Initiative: 70%; On-Task Passive: 74%; Off-Task Working: 76%; Off-Task Passive: 69%; observer agreement was 91% on “other”). There were no indications of systematic observer differences, observer fatigue, or decay in observers’ reliability across time.

Results

Analyses were conducted in four parts. First, multiple models depicting the structure of the assessments of engagement and disaffection were compared, using structural equation modeling with AMOS 4.0. Second, the correspondence between teacher- and child- reports was determined. Third, for a subset of children, the links between the assessments and in vivo observations in the classroom were investigated. Fourth, the correlations between indicators of engagement and a set of individual and social factors were analyzed.

The Structure of Engagement and Disaffection

Testing unidimensionality of the four item sets. The first step was designed to identify a set of unidimensional and internally consistent items for each of the four components. Hence, the unidimensionality of each item set was assessed separately, using four confirmatory analyses of one-factor models. For student-reports of engagement, using data from the spring time point, three of the four item sets showed a good fit to a single-factor model: behavioral engagement (4 items, $\chi^2 = 6.59$ (2,1018), $p < .05$; CFI =1.00), behavioral disaffection (4 items, $\chi^2 = 16.13$ (2,1018), $p < .001$; CFI =1.00), and emotional engagement (6 items, $\chi^2 = 62.08$ (9,1018), $p < .001$; CFI =1.00). As expected, the item set for emotional disaffection, which contained items referring to boredom, worry, and general “badness,” was better fit by a hierarchical model, in which the disaffected emotions were differentiated. When parcels were formed for these subconstructs (one
each for boredom, worry, and feeling bad), these parcels loaded with the rest of the items in the set to form a unidimensional construct (9 items, $\chi^2 = 94.25 \, (24,1018), \ p < .001; \ CFI = 1.00$). The resulting internal consistencies were satisfactory (averaging .79). These results were replicated using data from the fall. For the teacher report assessments, items had to be deleted from each item set to create unidimensional subscales. Hence, no fit statistics were reported because they were all saturated models. The resulting internal consistencies for the 3-item scales (or inter-item correlation for emotional engagement) were high, averaging .86.

*Correlations among the components of engagement.* The correlations among the four components are presented separately for student-reports and teacher-reports in Table 1. Of greatest interest were the correlations between emotion and behavior within engagement and disaffection, and between engagement and disaffection within emotion and behavior. As can be seen, all correlations were significant and in the expected directions (i.e. emotion and behavior were positively correlated whereas engagement and disaffection were negatively correlated). For student-reports, emotion and behavior were more tightly connected (average $r = .61$) than were engagement and disaffection (average $r = -.52$), but all the correlations were well below |1.0|, which suggested a multidimensional structure among the components. For teacher-reports, however, emotion and behavior were more tightly connected for engagement ($r = .72$, averaged over fall and spring) than for disaffection ($r = .62$, averaged over fall and spring); and engagement and disaffected were more highly correlated for behavior ($r = -.82$, averaged over fall and spring) than for emotion ($r = -.63$, averaged over fall and spring). In fact, the negative correlations between behavioral engagement and behavioral disaffection were much higher than for students and suggested a potentially bipolar structure for teacher-reports. None of the other correlations approached |1.0|, which suggested a multidimensional structure.
Comparing the fit of models that distinguished behavior from emotion. For each pair of components, we used confirmatory analyses to compare one-factor and two-factor models. Of greatest interest were model comparisons. Because the one- and two-factor models were nested, we were able to directly test whether one model was a significantly better fit to the data than the other. First, we compared the fit of a one factor model with a model of two factors that distinguished behavior from emotion, for engagement and for disaffection, separately (depicted in Figure 1 by the arrows numbered 1 and 2, respectively). For both engagement and disaffection, models including separate factors for behavior and emotion were a significantly better fit to the data from the spring time point: student-reports, for engagement, $\chi^2$ difference (1) = 106.73 and for disaffection, $\chi^2$ difference (1) = 137.33; teacher-reports, for engagement, $\chi^2$ difference (1) = 226.65; and for disaffection, $\chi^2$ difference (1) = 277.33. This pattern of results was replicated using data from the fall time point. In the two-factor models, all critical ratios associated with regression weights had absolute values higher than 2. For student-reports, factor loadings for the two-factor model ranged from .55 to .84; squared multiple correlations (SMC) ranged from .30 to .71. For teacher-reports, factor loadings ranged from .72 to .92; SMC ranged from .52 to .85.

Comparing the fit of models that distinguished engagement from disaffection. Second, we compared a model of one bipolar factor (engaged versus disaffected) with a model that distinguished engagement from disaffection, for emotion and behavior, separately (as depicted in Figure 1 by the arrows numbered 3 and 4, respectively). For both behavior and emotion, models that included separate factors for engagement and disaffection were a better fit to the data from the spring time point than were one-factor models: for student-reports, behavior, $\chi^2$ difference (1) = 183.38, and emotion, $\chi^2$ difference (1) = 298.60; for teacher reports, behavior, $\chi^2$ difference
(1) = 48.45; and emotion, $\chi^2$ difference (1) = 328.03. This pattern of results was replicated using data from the fall. In the two-factor models, all critical ratios associated with regression weights had absolute values higher than 2. For student-reports, factor loadings in the two-factor model ranged from .57 to .88; SMC ranged from .33 to .77. For teacher-reports, factor loadings ranged from .73 to .92; SMC ranged from .53 to .85.

Comparing the fit of a four-factor model with two-factor alternative models. The final set of structural analyses directly compared a four-factor model distinguishing among all the components with two two-factor alternatives: (1) behavior (engaged versus disaffected) and emotion (engaged versus disaffected), and (2) engagement (behavior and emotion) and disaffection (behavior and emotion). As can be seen in Table 2, the four factor models were a significantly better fit to the data from the spring time point than either of the two factor models: for student-reports, behavior and emotion, $\chi^2$ difference (1) = 530.90, and engagement and disaffection, $\chi^2$ difference (1) = 305.35; for teacher-reports, behavior and emotion, $\chi^2$ difference (1) = 448.07, and engagement and disaffection, $\chi^2$ difference (1) = 631.70. This pattern of results was replicated using data from the fall.

Descriptive statistics for the components from the final model. Table 3 presents the means, standard deviations, and internal consistency reliabilities (Cronbach’s alphas) for the four components of engagement, separately for fall and spring, as well as the correlations between fall and spring assessments. In terms of the student-reports, internal consistency reliabilities were generally satisfactory (.70 or above), with the exception of the 4-item behavioral engagement subscale in the fall, although it improved by spring. The cross time correlations revealed a moderately high level of stability over the school year (average $r$ = .62). Comparison of mean levels from fall to spring revealed the typical pattern of losses in both behavioral and emotional
engagement across the school year. In terms of teacher-reports, internal consistency reliabilities were all satisfactory (above .80). Interindividual stability over the school year was moderately high (average $r = .74$). Comparison of mean levels from fall to spring also revealed a loss in emotional engagement across the school year, although the loss in behavioral engagement seen in student-reports was not found. As shown in the last rows of Table 3, despite the fact that the four components can be distinguished, they can also be combined in different ways (e.g., by averaging emotion and behavior or by subtracting disaffection from engagement) to create conceptually interesting scores that were internally consistent and highly stable.²

*Comparison of Student- and Teacher- reports of Engagement in the Fall and Spring*

The correlations between student- and teacher- reports of the four components of engagement in fall and spring, as well as the mean level comparisons are presented in Table 4. As can be seen, teachers and students showed a moderate degree of convergence in their ratings of engagement and disaffection (average $r = .30$), especially for the behavioral indicators, which were more directly observable (average $r = .36$). As would be expected, inter-reporter correlations are even higher for the aggregated measures, for example, the correlations between teacher- and student-ratings of behavioral engagement/disaffection average .43.

Cross-reporter comparison of mean levels revealed that students felt that they were more behaviorally engaged (i.e., that they were trying harder and exerting more effort) than teachers observed them to be. Students and teachers did not differ in their ratings of behavioral disaffection, perhaps because teachers were providing direct feedback to students about their behaviors. Teachers and students did differ on their ratings of student emotions in the classroom: Teachers viewed students as more emotionally engaged than students themselves reported, and students indicated that they were more emotionally disaffected than teachers perceived them to
be. These differences may reflect the fact that emotions are not as easily observed by teachers, or that students have learned to mask the expression of their emotions. In the case of emotional disaffection, it may also be due to the slightly different mix of emotions included in the item sets for students than for teachers. Although there are few comparison studies, these findings are consistent with others that have been reported (Skinner & Belmont, 1993).

**Observations of Engagement and Disaffection in the Classroom**

The third goal of this study was to examine whether student- and teacher-report assessments of engagement were correlated significantly with *in-vivo* observations of students' engagement in the classroom. In total, 46,756 observations were coded during the 95.5 hours of observations (i.e., with an average about 8.2 codes per minute). 40% of all the observations occurred each during Mathematics and Language lessons, 10% each in Social Studies and Projects. Rates per minute were computed, reflecting the length of time children were observed to engage in the behaviors of each observation category each minute. Most of the time, children were observed to be On-Task, and On-Task behaviors were typically of a longer duration than off-task behaviors.

**Relations between behavior frequencies and self-reported and teacher-reported engagement.**

Correlations between children’s observed behavior (rates and durations per minute) and their engagement in the classroom (self- and teacher-reports) were modest; strongest relations (ranging from .35 to .40) were found for teacher-ratings; for student-reports, ratings of disaffection were correlated with only classroom behaviors, but even these relations were comparably small. The correlational pattern between teacher-rated engagement and observed behaviors was not affected when children’s gender was controlled.

Figure 2 contains the model of the relations between teacher-ratings of engagement (combining all four components) and the behavioral observations, organized into On-task
behaviors (combining on-task initiative, working, passive, and the maximum time spent on-task) and Off-task behaviors (combining off-task initiative, working, passive, and the maximum time spent off-task). In this model, totally activity level, duration of negative emotions, and achievement were also included, because it became apparent that some children were just more active and/or emotionally reactive than others. The highly active children showed more behaviors of both types (on- and off-task) and the highly emotionally reactive children showed more emotions of both types (engaged and disaffected). The model showed a satisfactory fit with the data: $\chi^2 (df, 56) = 64.66$, CFI = .943, CMIN/df = 1.22, RMSEA = .070. As can be seen in Figure 3, children whom teachers rated as more behaviorally and emotionally engaged (vs. disaffected) also showed overall higher amounts and durations of On-Task behavior (standardized coefficient = .28) and lower amounts and durations of Off-Task behavior (standardized coefficient = -.34). Models depicting the connection between student-ratings of engagement and their observed behavior in the classroom did not show a good fit with the data.

Correlations with Personal and Social Facilitators of Motivation

The fourth goal of this study was to examine the extent to which student- and teacher-reports of engagement were correlated with a set of variables posited by motivational theories to facilitate engagement. These included markers of perceived control, autonomy, relatedness, optimism vs. pessimism, goal orientations, reactions to academic challenges and difficulties, and interactions with parents and teachers. The means, standard deviations, and cross-year stabilities for all these student-report variables (presented in Table 5) suggested a generally well-functioning group of third through sixth graders, whose inter-individual rankings remained relatively stable over the school year (average cross-year correlation = .57) and whose mean levels were consistent with other research on these self-perceptions.
Correlations between engagement and its potential facilitators, also in Table 5, showed the predicted pattern of correlations in both fall and spring, in that engagement was correlated positively with personal and social facilitators and negatively with factors hypothesized to undermine motivation. As expected, student ratings of engagement showed a stronger pattern of correlations, given that the facilitators were also reported by students. Only three potential facilitators were not significantly correlated with both reporters’ ratings of engagement at both time points. First, Strategy beliefs for effort was not correlated with student-ratings of engagement (and only marginally correlated with teacher-ratings), suggesting that, even though students agreed that effort is an effective strategy for school success, this belief alone was not sufficient to support constructive classroom engagement (see Skinner et al., 1988, for similar findings). Second, Strategy beliefs for ability were not correlated with teacher-ratings of engagement, although they showed a low negative correlation with student-reports of engagement. In general, beliefs in ability as a strategy, because they focus on ability and imply that success requires “talent,” are typically thought to undermine constructive engagement especially in the face of challenge (Dweck, 2002; Skinner et al., 1998). And, third, an Introjected self-regulatory style was marginally correlated with student-ratings (positively) and with teacher-ratings (negatively), but only at one time point. This style of self-regulation (in which students’ reasons for completing homework or doing school work reflect guilt or internal pressure) seems to be a double-edged sword, in that the pressure spurs on behavior but at the expense of enjoyment and enthusiasm (e.g., Patrick et al., 1993).

Discussion

A study was conducted to analyze the structure, psychometric properties, validity, and correlates of two assessments of children’s behavioral and emotional participation in learning
activities in the classroom, referred to as engagement and disaffection. Multidimensional structures were found for both student- and teacher-reports, revealing behavioral and emotional components that are positively correlated, and engaged and disaffected components of each, which are negatively correlated with each other. Moreover, for student report, disaffected emotions, although highly intercorrelated, could nevertheless be further distinguished according to whether students were feeling anxious, bored, or frustrated/bad. Note that there was no evidence that attention deployment represented a dimension distinct from effortful behavior.

The psychometric properties of individual components, tapped by only three or four items each, were for the most part satisfactory; for a few components, additional supplementary items were suggested (see Appendices A and B). Correlations across the school year revealed components to be interindividually stable, although they tended to worsen in mean level over the year. Comparison of student- and teacher-reports showed the predicted pattern: Teachers and students showed modest agreement, which was higher for behavior than for emotion. Students overestimated their behavioral engagement relative to teacher evaluations, and teachers overestimated student enthusiasm relative to students’ actual feelings. Despite its multidimensional structure, components were systematically interrelated in ways that allowed items to be combined (with disaffection items reverse coded) into aggregates with satisfactory internal consistencies, high cross-time stabilities, and good correspondence between reporters. This suggests that scores could also be created to differentiate children with specific profiles, for example, children who are highly behaviorally engaged but emotionally disaffected (Patrick et al., 1993) or children who are anxiously withdrawn (Finn et al., 1995).

Teacher reports, but not student-reports, were correlated with in vivo observations of engagement in the classroom, likely because teachers are also observers of student engagement.
and disaffection. All components of engagement and disaffection, for both reporters, were correlated with a variety of individual factors hypothesized to shape motivation and with markers of supportive and unsupportive features of teacher and parent relationships.

Taken together, findings suggest that these two assessments of engagement and disaffection are satisfactory indicators of the quality of children’s participation in academic activities in the classroom. As such, they should be comparable to other teacher or child-report assessments of student participation (e.g., Berndt & Miller, 1990; Finn et al., 1995) and other measures of student engagement that focus on involvement in school tasks (Murdock, 1999; Sinclair et al., 2001), academic effort (e.g., O’Donnell et al. 1995), or effort and interest in the classroom (e.g., Wentzel, 1998). Although the psychometric properties of some of these assessments are not well established, it is likely they also possess multidimensional structures with correlations among components high enough to justify their aggregation. Research has shown that these features of classroom participation are correlated as expected with other indices of day-to-day academic involvement, such as attendance/absenteeism, completion of homework, and preparedness for class (e.g., Johnson et al., 2001; Finn, 1989).

**Limitations of the Assessments of Engagement and Disaffection**

The current assessments are limited, both within the footprint of the item sets included in current versions, and in relation to other conceptualizations of engagement. In terms of the current item sets, it should be noted that more multidimensionality may be present than is depicted by the four components of engagement and disaffection. For example, within children’s reports of emotional disaffection, we found evidence that multiple negative emotions can be differentiated: in this case, feeling bored, worried, and frustrated/bad. Moreover, in the teacher reports, we needed to delete several items from behavioral and emotional engagement in order to
identify unidimensional item sets. This suggests that additional dimensions might be present, if we had had sufficient items to detect them. Taken together, these findings suggest that engagement and disaffection may eventually be best represented by a hierarchical structure, with multiple dimensions within each of the four components identified in this study. Conceptually-driven generation of items combined with the kinds of structural comparisons used in the present study may lead to a more complete picture of the structure of engagement.

Other conceptualizations of engagement. It should also be noted that the current assessments of engagement and disaffection did not contain all the components that are sometimes included as indicators of student classroom participation or academic involvement. Some researchers add student “commitment” or “beyond the call,” which refer to preference for challenge, exertion to complete difficult assignments, and willingness to take on extra work; these features are tapped in assessments of intrinsic or mastery motivation (e.g., Gottfried, 1985; Harter, 1981). To disaffection, some assessments add student oppositional, disruptive, rebellious, defiant, or otherwise actively off-task behavior (e.g., Finn et al., 1995; Roeser, Strobel, & Quihuis, 2002). To both components, it is possible to add the assessment of “re-engagement” or reactions to challenges and setbacks, also studied as “coping” (Skinner & Wellborn, 1994, 1997). In the present study, correlations between preliminary indicators of these constructs and the four components of engagement indicated that they are closely connected. Future research can examine how each of these potential components is related structurally to behavior and emotion. The findings of this study suggest that they are likely to be distinguishable but closely related.

Other motivational perspectives. The current assessment of engagement and disaffection, although representing a core feature of most major theories of motivation, does not include all the features and shadings considered by every theoretical framework. For example, attribution
theories include a wider variety of academic emotions, such as pride and shame (Weiner, 1985), self-determination theory emphasizes the experience of psychological freedom or pressure (Deci & Ryan, 1985), learned helplessness includes cognitive and self-esteem deficits (Peterson et al., 1993), volition perspectives focus on energetic depletion and cognitive exhaustion (Kuhl, 1984), theories of achievement goals point out their effects on enjoyment, hope, pride, shame, hopelessness, anxiety, boredom, and anger (Pekrun, Elliot, & Maier, 2006). In fact, a fuller account of motivated action would include, not only ongoing action, but also the direction of action, as manifested in choice, selection, and preference (Wigfield et al., 1998, 2006), and the regulation of action, sometimes called self-regulated learning (Schunk & Zimmerman, 1994; Zimmerman, 2000) or academic coping (Skinner & Wellborn, 1997).

In sum, we bring to discussions of children’s engagement in school a conceptualization and two assessments of student’s behavioral and emotional involvement in academic activities in the classroom, which we have referred to as engagement and disaffection. It captures core constructs key to motivational theories in the field today. A more complete account of motivated action may need to add “orientation,” both the engaged orientation of going beyond what is required and the disaffected orientation of opposition and disruption as well as an explicit conceptualization of “direction”, by including choice and the regulation of action in the face of obstacles, sometimes referred to as coping. We hope that future work on the conceptualization and assessment of motivated participation in academic activities in the classroom can build on the conceptual arguments and empirical strategies presented in this paper.
Footnotes

1 We recognize that there is no single correct definition of “engagement” and we do not want terminological or territorial disputes surrounding the term to impede productive discussion. The primary reason we use the term engagement to refer to the construct defined in this paper is to remain consistent with conceptual and empirical work conducted over the last several decades. In addition, our definition meets the criteria specified in recent authoritative reviews of the concept (Fredricks et al., 2004). However, if it is easier to substitute “constructive participation in academic activities” for engagement throughout the paper, we do not object.

2 Multivariate analyses of mean level differences in the four components of engagement as a function of gender and grade revealed the expected significant effects. As is typical, girls tended to be motivationally “better off” than boys, demonstrating consistently higher levels of behavioral and emotional engagement, as well as lower levels of behavioral and emotional disaffection at both time points. Moreover, younger children tended to be motivationally “better off” than children starting middle school, demonstrating consistently higher levels of behavioral and emotional engagement, as well as lower levels of behavioral and emotional disaffection at both time points. At the same time, comparisons of the cross-year stability correlations for the four components of engagement revealed that none differed as a function of gender or grade level.
References


achievement. Journal of Educational Psychology, 82, 22-32.


Table 1 *Correlations among Dimensions for Student-reports and for Teacher-reports of Engagement and Disaffection*

<table>
<thead>
<tr>
<th>Student-report</th>
<th>Behavioral Engagement</th>
<th>Behavioral Disaffection</th>
<th>Emotional Engagement</th>
<th>Emotional Disaffection</th>
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</thead>
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<td>Behavioral Engagement</td>
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<td>-.55</td>
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<td>---</td>
<td>-.52</td>
<td>.67</td>
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<td>-.41</td>
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<td>.61</td>
<td>-.51</td>
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</table>

<table>
<thead>
<tr>
<th>Teacher-report</th>
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<th>Behavioral Disaffection</th>
<th>Emotional Engagement</th>
<th>Emotional Disaffection</th>
</tr>
</thead>
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<td>Behavioral Disaffection</td>
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<td>-.67</td>
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<tr>
<td>Emotional Engagement</td>
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<td>---</td>
<td>-.66</td>
</tr>
<tr>
<td>Emotional Disaffection</td>
<td>-.50</td>
<td>.55</td>
<td>-.59</td>
<td>---</td>
</tr>
</tbody>
</table>

*Note. N = 1018 students. Correlations for fall are below the diagonal; correlations for spring are above the diagonal. All correlations were significant at the *p* < .001 level.*
### Table 2

**Comparison of Two-factor and Four-Factor Models for Behavior and Emotion and for Engagement vs. Disaffection**

<table>
<thead>
<tr>
<th>Goodness-of-Fit Indices</th>
<th>Student-report Assessments</th>
<th>Teacher-report Assessments</th>
</tr>
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<tr>
<td></td>
<td>Two-Factor Model</td>
<td>Two-Factor Model</td>
</tr>
<tr>
<td><strong>χ^2</strong></td>
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<td>1614.16</td>
</tr>
<tr>
<td><strong>df</strong></td>
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<td>226</td>
</tr>
<tr>
<td><strong>p</strong></td>
<td>&lt; .001</td>
<td>&lt; .001</td>
</tr>
<tr>
<td><strong>CFI</strong></td>
<td>0.97</td>
<td>0.98</td>
</tr>
<tr>
<td><strong>TLI</strong></td>
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<td>0.97</td>
</tr>
<tr>
<td><strong>RMSEA</strong></td>
<td>0.08</td>
<td>0.08</td>
</tr>
<tr>
<td><strong>NFI</strong></td>
<td>0.97</td>
<td>0.97</td>
</tr>
<tr>
<td><strong>RFI</strong></td>
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<td>0.97</td>
</tr>
<tr>
<td><strong>PCFI</strong></td>
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<td>0.80</td>
</tr>
<tr>
<td><strong>ECVI</strong></td>
<td>1.95</td>
<td>1.73</td>
</tr>
<tr>
<td><strong>HOELTER</strong></td>
<td>145</td>
<td>166</td>
</tr>
</tbody>
</table>

*Note. N = 1018 students. These data were from the spring measurement point; patterns were replicated using data from the fall measurement point.*
Table 3. Internal Consistency Reliabilities, Means, Standard Deviations, and Cross-year Stabilities of Student- and Teacher-reports

<table>
<thead>
<tr>
<th>Construct</th>
<th>Student-report Assessments</th>
<th>Teacher-report Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fall</td>
<td>M</td>
</tr>
<tr>
<td>Behavioral Engagement</td>
<td>.61</td>
<td>3.39</td>
</tr>
<tr>
<td>Behavioral Disaffection</td>
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<td>1.84</td>
</tr>
<tr>
<td>Emotional Engagement</td>
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<td>3.12</td>
</tr>
<tr>
<td>Emotional Disaffection</td>
<td>.83</td>
<td>1.88</td>
</tr>
<tr>
<td>Behavioral and Emotional Engagement</td>
<td>.79</td>
<td>3.25</td>
</tr>
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<td>Behavioral and Emotional Disaffection</td>
<td>.86</td>
<td>1.86</td>
</tr>
<tr>
<td>Behavioral Engagement vs. Disaffection</td>
<td>.73</td>
<td>3.27</td>
</tr>
<tr>
<td>Emotional Engagement vs. Disaffection</td>
<td>.86</td>
<td>3.12</td>
</tr>
<tr>
<td>Engagement vs. Disaffection</td>
<td>.88</td>
<td>3.20</td>
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</tbody>
</table>

Note. $N = 1018$ students. All correlations significant at the $p < .001$ level.
Table 4
Correlations and Mean Level Differences between Student- and Teacher-reports of the Components of Engagement in Fall and Spring

<table>
<thead>
<tr>
<th>Construct</th>
<th>Fall Correlation between Student- and Teacher-reports</th>
<th>Fall Mean Level Differences</th>
<th>Spring Correlation between Student- and Teacher-reports</th>
<th>Spring Mean Level Differences</th>
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</thead>
<tbody>
<tr>
<td>Behavioral Engagement</td>
<td>.32***</td>
<td>MD = 0.20</td>
<td>.37</td>
<td>MD = 0.15</td>
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<tr>
<td></td>
<td></td>
<td>t(1017) = 8.90***</td>
<td>t(1017) = 6.71***</td>
<td></td>
</tr>
<tr>
<td>Behavioral Disaffection</td>
<td>.38***</td>
<td>MD = -0.01</td>
<td>.35</td>
<td>MD = 0.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td>t(1017) = -0.47</td>
<td>t(1017) = 1.74</td>
<td></td>
</tr>
<tr>
<td>Emotional Engagement</td>
<td>.24***</td>
<td>MD = -0.13</td>
<td>.30</td>
<td>MD = -0.13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>t(1017) = -5.13***</td>
<td>t(1017) = -5.34***</td>
<td></td>
</tr>
<tr>
<td>Emotional Disaffection</td>
<td>.21***</td>
<td>MD = 0.36</td>
<td>.24</td>
<td>MD = 0.32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>t(1017) = 14.52***</td>
<td>t(1017) = 12.66***</td>
<td></td>
</tr>
<tr>
<td>Behavioral and Emotional Engagement</td>
<td>.34***</td>
<td>MD = 0.04</td>
<td>.38</td>
<td>MD = 0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>t(1017) = 1.79</td>
<td>t(1017) = 0.45</td>
<td></td>
</tr>
<tr>
<td>Behavioral and Emotional Disaffection</td>
<td>.35***</td>
<td>MD = 0.17</td>
<td>.36</td>
<td>MD = 0.18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>t(1017) = 8.21***</td>
<td>t(1017) = 8.12***</td>
<td></td>
</tr>
<tr>
<td>Behavioral Engagement vs. Disaffection</td>
<td>.44***</td>
<td>MD = 0.10</td>
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<td>MD = 0.05</td>
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<td></td>
<td></td>
<td>t(1017) = 5.25***</td>
<td>t(1017) = 2.51*</td>
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</tr>
<tr>
<td>Emotional Engagement vs. Disaffection</td>
<td>.26***</td>
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<td>MD = -0.22</td>
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<tr>
<td></td>
<td></td>
<td>t(1017) = -11.50***</td>
<td>t(1017) = -10.35***</td>
<td></td>
</tr>
<tr>
<td>Engagement vs. Disaffection</td>
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<td>.42</td>
<td>MD = -0.09</td>
</tr>
<tr>
<td></td>
<td></td>
<td>t(1017) = -3.78***</td>
<td>t(1017) = -4.37***</td>
<td></td>
</tr>
</tbody>
</table>

Note. N = 1018 students. MD = mean difference. Positive mean differences indicate higher student report scores; negative mean differences indicate higher teacher report scores. * p < .05, *** p < .001.
Table 5. Means, Standard Deviations, and Cross-year Stabilities of Potential Facilitators of Motivation and their Correlations with Student- and Teacher-reports of Engagement at two Time Points

<table>
<thead>
<tr>
<th></th>
<th>Fall M</th>
<th>Fall SD</th>
<th>Spring M</th>
<th>Spring SD</th>
<th>Stability</th>
<th>Student-report of Engagement Fall</th>
<th>Spring</th>
<th>Teacher-report of Engagement Fall</th>
<th>Spring</th>
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<td></td>
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<tr>
<td>Perceived Control Beliefs</td>
<td>3.42</td>
<td>.50</td>
<td>3.43</td>
<td>.52</td>
<td>.55</td>
<td>.58***</td>
<td>.62***</td>
<td>.40***</td>
<td>.44***</td>
</tr>
<tr>
<td><strong>Strategy Beliefs</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effort Strategy</td>
<td>3.09</td>
<td>.58</td>
<td>3.08</td>
<td>.57</td>
<td>.45</td>
<td>-.01</td>
<td>.05</td>
<td>.04</td>
<td>.14***</td>
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<tr>
<td>Ability Strategy</td>
<td>2.54</td>
<td>.71</td>
<td>2.51</td>
<td>.69</td>
<td>.50</td>
<td>-.29***</td>
<td>-.29***</td>
<td>-.05</td>
<td>-.04</td>
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<tr>
<td>Powerful Others Strategy</td>
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<td>.66</td>
<td>1.73</td>
<td>.66</td>
<td>.58</td>
<td>-.48***</td>
<td>-.55***</td>
<td>-.27***</td>
<td>-.37***</td>
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<tr>
<td>Luck Strategy</td>
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<td>.69</td>
<td>1.80</td>
<td>.68</td>
<td>.59</td>
<td>-.42***</td>
<td>-.45***</td>
<td>-.25***</td>
<td>-.30***</td>
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<td>.67</td>
<td>.54</td>
<td>-.50***</td>
<td>-.60***</td>
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<td>-.38***</td>
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<td><strong>Capacity Beliefs</strong></td>
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<tr>
<td>Effort Capacity</td>
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<td>3.30</td>
<td>.57</td>
<td>.59</td>
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<td>.71***</td>
<td>.38***</td>
<td>.47***</td>
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<td>.65</td>
<td>.66***</td>
<td>.66***</td>
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<td>.42***</td>
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<td>Powerful Others Capacity</td>
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<td>.53</td>
<td>.52***</td>
<td>.57***</td>
<td>.33***</td>
<td>.48***</td>
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<tr>
<td>Luck Capacity</td>
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<td>3.06</td>
<td>.60</td>
<td>.57</td>
<td>.58***</td>
<td>.62***</td>
<td>.38***</td>
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### Conceptualization and Assessment of Engagement and Disaffection

#### Autonomy Orientation

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<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
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<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
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<td>External self-regulatory style</td>
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<td>.79</td>
<td>2.76</td>
<td>.74</td>
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<td>-.26***</td>
<td>-.28***</td>
<td>-.13***</td>
<td>-.12***</td>
<td></td>
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<tr>
<td>Introjected self-regulatory style</td>
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<td>.77</td>
<td>2.71</td>
<td>.77</td>
<td>.53</td>
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*Note. N = 1018 students. All potential facilitators were measured using student-reports.*

* p < .05  ** p < .01  *** p < .001.
Figure Captions

Figure 1. A depiction of the possible structural relations among the four components of engagement. Arrows 1 and 2 depict hypotheses that behavioral and emotional features of engagement and disaffection are better represented by two dimensions than by one. Arrows 3 and 4 depict hypotheses that engaged and disaffected features of behavior and emotion are better represented by two dimensions than by a single bipolar dimension.

Figure 2. A model of the relations between teacher-ratings of student engagement and in vivo behavioral observations of student on-task and off-task behavior in the classroom.
Appendix A.
Engagement vs. Disaffection with Learning: Student-report

Behavioral Engagement
1. I try hard to do well in school.
2. In class, I work as hard as I can.
3. When I’m in class, I participate in class discussions.
4. I pay attention in class.
5. When I’m in class, I listen very carefully.

Emotional Engagement
1. When I’m in class, I feel good.
2. When we work on something in class, I feel interested.
3. Class is fun.
4. I enjoy learning new things in class.
5. When we work on something in class, I get involved.

Behavioral Disaffection
1. When I’m in class, I just act like I’m working. (-)
2. I don’t try very hard at school. (-)
3. In class, I do just enough to get by. (-)
4. When I’m in class, I think about other things. (-)
5. When I’m in class, my mind wanders. (-)

Emotional Disaffection
1. a. When we work on something in class, I feel bored. (-)
   b. When I'm doing work in class, I feel bored. (-)
   c. When my teacher first explains new material, I feel bored. (-)
2. a. When I’m in class, I feel worried. (-)
   b. When we start something new in class, I feel nervous. (-)
   c. When I get stuck on a problem, I feel worried. (-)
3. When we work on something in class, I feel discouraged. (-)
4. Class is not all that fun for me. (-)
5. a. When I’m in class, I feel bad. (-)
   b. When I'm working on my classwork, I feel mad. (-)
   c. When I get stuck on a problem, it really bothers me. (-)
   d. When I can't answer a question, I feel frustrated. (-)

Note. Adapted from Wellborn (1991). The items added to the Emotional Disaffection subscale can be used to tap the more differentiated disaffected emotions.
Appendix B.

Engagement vs. Disaffection with Learning: Teacher-report

Behavioral Engagement
1. In my class, this student works as hard as he/she can.
2. When working on classwork in my class, this student appears involved.
3. When I explain new material, this student listens carefully.
4. In my class, this student does more than required.
5. When this student doesn’t do well, he/she works harder.

Emotional Engagement
1. In my class, this student is enthusiastic.
2. In class, this student appears happy.
3. When we start something new in class, this student is interested.
4. When working on classwork, this student seems to enjoy it.
5. For this student, learning seems to be fun.

Behavioral Disaffection
1. When we start something new in class, this student thinks about other things. (-)
2. In my class, this student comes unprepared. (-)
3. When faced with a difficult assignment, this student doesn’t even try. (-)
4. In my class, this student does just enough to get by. (-)
5. When we start something new in class, this student doesn’t pay attention. (-)

Emotional Disaffection
1. a. When we work on something in class, this student appears to be bored. (-)
   b. When doing work in class, this student looks bored. (-)
2. a. When working on classwork, this student seems worried. (-)
   b. In my class, this student is anxious. (-)
3. a. In class, this student seems unhappy. (-)
   b. In my class, this student appears to be depressed. (-)
4. a. In my class, this student is angry. (-)
   b. When working on classwork, this student appears frustrated. (-)
5. a. When I explain new material, this student doesn’t seem to care. (-)
   b. When working on classwork in my class, this student seems uninterested. (-)

Note. Adapted from Wellborn (1991). The items added to the Emotional Disaffection subscale can be used to tap the more differentiated disaffected emotions.