

What Do Children Need to Flourish?

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Conceptualizing and Measuring Indicators of Positive Development

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19 School Engagement

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There is a growing interest in the construct of school engagement. One reason for the interest in engagement is that it is seen as an antidote to low achievement, high levels of student boredom and disaffection, and the high dropout rates in urban areas. Another reason is that engagement is presumed to be malleable and responsive to variations in the environment. In our review of the literature, we found three types of engagement: *Behavioral* engagement draws on the idea of participation, including involvement in academic, social, or extracurricular activities; it is considered crucial for achieving positive academic outcomes and preventing dropping out (Connell, 1990; Finn, 1989). *Emotional* engagement draws on the idea of appeal. It includes positive and negative reactions to teachers, classmates, academics, or school and is presumed to create ties to the institution and influence willingness to do the work (Connell, 1990; Finn, 1989). Finally, *cognitive* engagement draws on the idea of investment; it incorporates being thoughtful and being willing to exert the necessary effort for comprehension of complex ideas and mastery of difficult skills (Corno & Mandinach, 1983; Newmann, Wehlage, & Lamborn, 1992).

Behavioral engagement has been defined in several ways. Some scholars focus on positive conduct, such as following the rules, adhering to classroom norms, and the absence of disruptive behaviors such as skipping school or getting in trouble (Finn, Pannozzo, & Voelkl, 1995; Finn & Rock, 1997). Other

definitions emphasize participation in classroom learning and academic tasks and include behaviors such as persistence, effort, attention, and asking questions (Birch & Ladd, 1997; Finn, 1989; Skinner & Belmont, 1993). Finally, others focus on participation in school-related activities such as athletics or school governance (Finn, 1989; Finn et al., 1995).

Definitions of emotional engagement include students' positive and negative affective reactions in the classroom (Connell & Wellborn, 1991; Skinner & Belmont, 1993) and students' emotional reactions to the school and the teacher (Lee & Smith, 1995; Stipek, 2002). Other scholars conceptualize emotional engagement as identification with the school, which includes belonging, or a feeling of being important to the school, and valuing, or an appreciation of success in school-related outcomes (Finn, 1989; Voelkl, 1997).

In regard to cognitive engagement, definitions from the school engagement literature conceptualize it in terms of a psychological investment in learning, a desire to go beyond the requirements of school, and a preference for challenge (Connell & Wellborn, 1991; Newmann et al., 1992; Wehlage, Rutter, Smith, Lesko, & Fernandez, 1989). Definitions from the learning literature view cognitive engagement in terms of being strategic or self-regulating (Como & Mandinach, 1983; Meece, Blumenfeld, & Hoyle, 1988).

We noted several strengths and limitations of current conceptualizations of behavioral, emotional, and cognitive engagement. First, definitions of engagement encompass a wide variety of constructs that can help explain how children behave, feel, and think in school. For example, behavioral engagement includes doing work and following the rules; emotional engagement incorporates interest, value, and emotions; and cognitive engagement includes motivation, effort, and strategy use. Second, we noted overlap in the definitions across different types of engagement. For instance, effort is included in definitions of behavioral and cognitive engagement, and no distinction is made between effort that reflects a psychological investment in learning and effort that merely demonstrates compliance with the requirements of school. Third, these three types of engagement overlap in many ways with constructs that have been previously studied. The literature on classroom participation, on-task behavior, and student conduct (Finn, 1989; Karweit, 1989; Peterson, Swing, Stark, & Wass, 1984) is similar to the work on behavioral engagement. Further, the research on identification and belonging (Finn, 1989; Goodenow, 1993; Osterman, 2000), interest and values (Eccles et al., 1983), and student attitudes (Epstein & McPartland, 1976; Yamamoto, Thomas, & Karns, 1969) is similar to the conceptualizations of emotional engagement. Finally, the research on metacognition and self-regulation overlaps with cognitive engagement (Pintrich & De Groot, 1990; Zimmerman, 1990).

Many studies of engagement involve one or two types but rarely include all three (behavior, emotional, and cognitive) or deal with engagement as a multifaceted construct (see Fredricks, Blumenfeld, & Paris, in press). Examining the components of engagement separately dichotomizes students' behavior, emotion, and cognition, whereas in reality these factors are dynamically embedded within a single individual and are not isolated processes. Although there are

robust bodies of work on each of the components separately, considering engagement as a multidimensional construct provides a rationale for examining antecedents and consequences of behavior, emotion, and cognition simultaneously and dynamically. Some scholars have proposed moving toward a more holistic conceptualization of engagement that integrates all components. For example, Guthrie and Wigfield (2000) developed a model of "engaged reading" that includes aspects of emotional, cognitive, and behavioral engagement.

Common Measures

Behavioral engagement most commonly has been assessed through teacher and student self-report questionnaires and observational methods; emotional engagement has been measured through student self-report surveys. Cognitive engagement has been assessed using self-report questionnaires of strategy use and self-regulation and classroom observations. In addition, parent surveys have been used as general measures of school engagement.

A few measures conceptualize cognitive engagement as a psychological investment in learning. One example is Connell and Wellborn's (1991) measure of cognitive engagement, which contains items about flexible problem solving, preference for hard work, independent work styles, and ways of coping with perceived failure. There are several measures of students' strategy use by scholars who use either the term *cognitive engagement*, the term *self-regulation*, or both interchangeably. Because Wolters, Pintrich, and Karabenick cover self-regulation in chapter 16 of this volume, we do not review the most common measures of strategy use and cognitive engagement in this chapter.

The *Rochester Assessment Package for Schools (RAPS)* is the most common measure of behavioral and emotional engagement (Wellborn & Connell, 1987). There are student, teacher, and parent versions of this survey. The measures of behavioral engagement contain items about effort, attention, classroom participation, and initiative. Sample items from the behavioral engagement scale for the student version include "The first time my teacher talks about a new topic I listen carefully" and "When I am in class, I just act like I am working." Sample items from the teacher version of the behavioral engagement scale are "When in class, the student participates in class discussions" and "When in class this student just acts like he/she is working." The emotional engagement scale includes items about emotional reactions in the classroom, such as being bored, worried, sad, angry, interested, relaxed, and happy. For these items, children were asked to rate the extent to which they felt different emotions in school using three items: "When we start something new in class, I feel . . .," "When I am in class I feel . . .," and "When I am working in class, I feel . . ."

The teacher and student versions of the emotional and behavioral scales have strong reliability (Cronbach's $\alpha = .79$ to $.86$). The RAPS has been primarily used with elementary school students in a rural and suburban school district (i.e., Connell & Wellborn, 1991; Patrick, Skinner, & Connell, 1993; Skinner & Belmont, 1993; Skinner, Wellborn, & Connell, 1990; Skinner, Zimmer-Gembeck,

& Connell, 1998). A few studies also have used this measure in urban middle school samples (Connell, Halpern-Felsher, Clifford, Crichlow, & Usinger, 1995; Connell, Spencer, & Aber, 1994).

The RAPS items have been used to validate the self-system model (Connell, 1990). This model asserts that behavioral and emotional engagement will be higher in social contexts where students' needs for relatedness, autonomy, and competence are met. The assumption is that engagement will be higher in classrooms in which teachers create a caring and supportive environment that meets students' needs for relatedness; children are given choices that are not determined by external threats, so they feel autonomous; and children feel like they know what it takes to do well and can achieve success, so they feel competent. Connell and his colleagues have provided evidence to support the proposed links between individual needs and engagement. However, the research is stronger for competence and relatedness than for autonomy (Connell, 1990; Connell & Wellborn, 1991; Patrick et al., 1993; Skinner & Belmont, 1993; Skinner et al., 1990). These results need to be replicated across diverse samples and developmental levels to test the validity of the measures and model.

Items from the *Teacher Ratings Scale of School Adjustment* (TRSSA) have been used to assess teachers' perceptions of young children's behavioral and emotional engagement in kindergarten and first grade (Birch & Ladd, 1997; Ladd, Birch, & Buhs, 1999; Valeski & Stipek, 2001). This measure includes four subscales: school liking, school avoidance, cooperative participation, and self-directedness. The school liking scale assesses aspects of emotional engagement. The school avoidance scale assesses children's desire to avoid school. The cooperative participation scale assesses the degree to which children accept the teachers' authority and comply with classroom rules and responsibilities (e.g., "follows teachers directions"), and the self-directedness scale reflects the extent to which children display independent and self-directed behavior in the classroom (e.g., "seeks challenge"). These scales have strong psychometric properties ($\alpha = .74-.91$). Scores on these measures of behavioral participation are related to achievement test scores and measures of emotional adjustment including school avoidance, liking, and loneliness (Buhs & Ladd, 2001; Ladd, Buhs, & Seid, 2000). Further research is necessary to confirm whether the relation between behavioral participation and academic and emotional adjustment holds across different developmental levels and populations.

Other studies have used items in the U.S. Department of Education's *National Educational Longitudinal Study* (NELS) to measure engagement (Finn, 1993; Finn & Rock, 1997; Lee & Smith, 1993, 1995). NELS is a large nationally representative longitudinal study of the educational status of students in 8th through 12th grades ($N =$ approximately 24,000 students). The study has a random sample of high school students from all regions of the United States including four racial/ethnic groups: Asian or Pacific Islander, Hispanic, Black, and White. This data set includes student survey information, achievement test data, parent surveys, and school administrator surveys.

Researchers have selected different items from NELS as indicators of behavioral and emotional engagement. Lee and Smith (1993, 1995) measured school

engagement with items about affect, school value, adherence to classroom rules, getting in trouble, and level of participation. Finn and his colleagues (Finn, 1993; Finn & Rock, 1997) created several scales to assess different types of classroom and school behavior, including participation, compliance with classroom norms, attendance, preparation, and misbehavior. The NELS data set also has measures of behavioral engagement that reflect the amount of time the student participates in academic- and nonacademic-related activities that are beyond the regular school hours. Sample items include time spent on homework, extracurricular activities, discussing academic issues with school counselor, and discussing academic issues with adults other than parents.

Other scholars have used NELS to measure aspects of emotional engagement. For example, Finn (1993) measured emotional engagement with items about students' feelings of belonging in the school and the extent to which students value school subjects as being important in their future years. Sample items in the belongingness scale include "The only time I get attention in school is when I cause trouble" and "School is one of my favorite places to be." Sample items in the value scale include "School is more important than people think" and "I can get a good job even if my grades are bad." The behavioral and emotional engagement scales correlate in expected ways with achievement measures, behavioral problems, and dropping out (Finn, 1993; Finn & Rock, 1997). Since researchers have selected different items from NELS as measures of behavioral and emotional engagement, there are questions about the validity of these scales and the consistency of the relationships between behavioral and emotional engagement and school related outcomes.

Although most of the measures of engagement are child and teacher measures, the *National Survey of America's Families* (NSAF) is the first large survey to include parent telephone measures of school engagement. NSAF is part of a larger project at the Urban Institute, and Child Trends analyzes the devolution of responsibility for social programs from the federal to state governments. The parent scale of school engagement has also been incorporated in the 1999 Survey of Program Dynamics and the 5-year follow-up of the national Evaluation of Welfare-to-Work Strategies (Ehrle & Moore, 1999). The parent measure of school engagement was adapted from the parent version of the RAPS (Wellborn & Connell, 1987). The school engagement scale includes four questions that ask parents how well each of the statements describes their child: "did schoolwork only when they were forced to," "did just enough schoolwork to get by," "did homework," and "cared about doing well in school" (Ehrle & Moore, 1999).

The parent school engagement scale had strong reliability ($\alpha = .76$) and adequate variation around the mean. Initial analyses of this scale demonstrated strong validity (Ehrle & Moore, 1999). For example, the percentage of students with low school engagement increased with poverty, single parenthood, and low parental education. In addition, a higher percentage of children (ages 6-11) were highly engaged in school as compared to adolescents (ages 12-17). Finally, White children and girls were more highly engaged in school than children in other subgroups.

New Measures of School Engagement

Based on the prior literature, we developed a child survey, teacher survey, and child interview of behavioral, emotional, and cognitive engagement for a study of children's engagement in inner-city schools. This study was conducted in conjunction with the MacArthur Network for Successful Pathways through Middle Childhood. One goal of the study was to use multiple methods to describe the phenomenology of school engagement. Another goal was to examine the links between classroom context and engagement in the elementary school years. For this study, we chose elementary neighborhood schools located in urban high-poverty neighborhoods. We solicited nominations of well-functioning schools from the central office and researchers working in the cities. *Well functioning* means the schools were well run and maintained, safe, had a relatively stable administration, and focused on improving achievement.

We administered surveys and interviews to children over two waves of data collection. At the first wave, the sample included children in five schools in Chicago, Milwaukee, and Detroit. The sample at the first wave included 661 children ($n_s = 238$ third graders, 205 fourth graders, and 218 fifth graders). These children were in 55 classrooms ranging in size from 5 to 27 children. Two of the schools had a majority of Hispanic children, two schools had a majority of African American children, and one school served children from a variety of ethnic backgrounds. Over 95% of children in these schools qualified for free and reduced-price lunch.

At the second wave, we followed children in three of the five schools in Chicago and Milwaukee into the fourth and fifth grades. Two schools were dropped because of financial constraints in the study. Since the network was focused on middle childhood, we did not follow the fifth graders into middle school. Two of the schools had a majority of Hispanic children, and one school had a majority of African American children. At Wave 2, the sample included 294 students (151 fourth graders and 143 fifth graders). These children were in 22 classrooms with up to 23 students per class. Since the school did not permit us to ask the students' ethnicity, we are unable to give an exact breakdown by ethnic groups, though we do have an ethnic breakdown at the school level. At Wave 2, we collected information from teachers about whether students were receiving special education services. At this wave, approximately 3% of the sample (22 students) received some type of special education services.

In addition, teachers filled out individual ratings on each student participating in this study. These surveys included questions about a variety of behavioral (pays attention, completes work, tries hard, follows rules), emotional (likes school), and cognitive (thoughtful when doing work) indicators of engagement. All items were on Likert scales from 1 to 5 (1 = *not at all true*, 5 = *very true*). Teachers also were asked to rate children's reading and math achievement on a scale from 2 years below achievement level to 2 years above achievement level in each domain. We collected information from children and teachers because we were interested in whether the two groups were assessing behavioral, emotional, and

cognitive engagement similarly. We did not collect survey information from the children's parents.

Survey Measures

The child measures included items about student engagement and classroom perceptions. Behavioral, emotional, and cognitive engagement survey items were drawn from a variety of measures (Finn et al., 1995; Pintrich, Smith, Garcia, & McKeachie, 1993; Wellborn & Connell, 1987) and included new items developed for this study. A list of engagement items is presented in the Appendix. All of the items were on Likert scales from 1 to 5 (1 = *never*, 5 = *all of the time*; or 1 = *not at all true*, 5 = *very true*). The surveys also included items about perceptions of the social context (teacher support and peer support), perceptions of the academic context (task challenge and work orientation), competence, value, and school attachment. These items were drawn from a variety of measures of motivation and classroom climate and context (Eccles, Blumenfeld, & Wigfield, 1984; Midgley et al., 1995; Wellborn & Connell, 1987), as well as new items developed for this study. The surveys were read aloud to students in each class. Bilingual adults administered surveys in Spanish in the bilingual classrooms and to students in other classes who requested a Spanish version or whose teachers felt they were not sufficiently proficient in English. The survey took approximately 30 minutes to administer. We piloted the surveys on individual students in order to assess wording and comprehension.

Procedures

To examine the psychometric properties of the three engagement scales, we examined the quality of the data and the reliability and validity of the scales. We present the psychometric properties of survey items from the first and second wave of data collection for emotional and behavioral engagement. We documented a similar pattern of relations between the behavioral and emotional engagement scales, contextual variables, and demographic factors at both waves. Because Wave 2 had stronger measures of behavioral, emotional, and cognitive engagement, the majority of analyses presented focus on this wave.

We made several changes to the cognitive engagement scale from Wave 1 to Wave 2 because of the low reliability at Wave 1 ($\alpha = .55$; three items). The majority of measures of cognitive engagement have been administered with middle school and high school students. At Wave 1, we had fewer measures and limited items assessing self-regulation and strategy use. Therefore, at Wave 2, we added survey items adapted from measures of strategy use with older grades to use with younger children. The addition of these items improved the reliability of this scale ($\alpha = .82$; eight items). Another possible reason for the low reliability at Wave 1 was the inclusion of third graders. At Wave 1, we included children in third through fifth grade; Wave 2 only included children in fourth

and fifth grade. The reliability of the cognitive engagement scale was lowest for the third-grade students ($\alpha = .50$), followed by the fourth-grade students ($\alpha = .54$), and the fifth-grade students ($\alpha = .63$). Because of the problems with reliability at Wave 1, we only present psychometric properties for Wave 2 measures of cognitive engagement.

We examined the distribution of the responses to confirm that there was variation. We anticipated that the distribution of responses would be negatively skewed, as we assumed that most elementary school children would report positive behavioral, emotional, and cognitive engagement. The rate of missing data was low and appeared to be completely random. We tested the internal consistency of the items that compose the behavioral, emotional, and cognitive engagement scales using Cronbach's alpha.

We conducted exploratory factor analysis with all scales and examined their demographic patterns, concurrent validity, and prospective validity. We did not collect demographic data from parents, and therefore we were only able to examine the engagement patterns by gender and age. For construct validity, we examined whether aspects of classroom context (teacher support, peer support, task challenge, and work norms) that have been identified in the literature were associated with the three engagement scales at Wave 2. Further, we ran correlations between engagement and measures of school attachment and value. We ran these correlations using both the whole engagement scale and using each individual item. The purpose of these analyses was to examine the strength of the correlation between individual items and the outcome variables in order to determine whether a more parsimonious scale could be developed.

In addition, we ran zero-order correlations between students' reports of engagement and teachers' individual assessment of students' behavior. The purpose of these analyses was to examine whether teachers and students were seeing similar behaviors. We also conducted hierarchical regression analyses to examine the independent contributions of the four contextual variables (teacher support, peer support, task challenge, and work norms) on the three types of engagement, controlling for gender and grade. Finally, we ran correlations to examine the stability of behavioral and emotional engagement from Wave 1 to Wave 2. Because we made changes in the cognitive engagement measure, we did not examine correlations in this measure over time. We did not collect longitudinal outcome data, and therefore we were not able to use our data to examine prospective validity.

Since there are few empirical or theoretical guidelines for establishing cut points in engagement, in our analyses we used the measures as continuous scales, the common method in the literature.

Results

We documented substantial variation for the three scales at both waves. As expected, there was a higher concentration of scores over 3 (indicating that students report higher behavior, affect, and cognitive engagement). Each of the

Table 1. Overall Descriptives

Relationship Scale	M	SD	Skewness	Kurtosis
Behavior engagement, Wave 1	4.00	.76	-.71	.28
Emotional engagement, Wave 1	3.60	1.00	-.51	-.56
Behavior engagement, Wave 2	4.00	.76	-.40	-.60
Emotional engagement, Wave 2	3.76	.85	-.57	.27
Cognitive engagement, Wave 2	3.49	.79	-.30	-.17

Note: Score range = 1-5.

scales was negatively skewed (behavioral engagement, $-.565$; emotional engagement, $-.301$; and cognitive engagement, $-.391$), indicating a distribution toward higher scores.

We conducted exploratory factor analysis, and all items loaded onto the theorized factor (see Appendix). The three factors corresponded to the hypothesized scales: behavioral, emotional, and cognitive engagement. Based on this factor analysis and theoretical considerations, scales were developed to measure behavioral engagement ($\alpha = .72$ [Wave 1]; $\alpha = .77$ [Wave 2]), emotional engagement ($\alpha = .83$ [Wave 1]; $\alpha = .86$ [Wave 2]) and cognitive engagement ($\alpha = .82$ [Wave 1]). The reliability of the scales was also examined by gender and grade. In general, the results were similar for boys and girls. The reliability for the behavioral engagement scale ($\alpha = .67$) was slightly lower for third grade than for fourth ($\alpha = .74$) and fifth grade ($\alpha = .73$). The reliability for emotional engagement was similar across the grades at both waves.

Validity

The means and standard deviations for the whole sample are presented in Table 1. Tables 2 and 3 show the demographic patterns for the three engagement scales at Wave 1 and Wave 2, which were as expected and confirm previous research (Fredricks et al., in press). Girls reported significantly higher behavioral, emotional, and cognitive engagement than did boys (Table 2). In addition, at Wave 1, we found that behavioral, emotional, and cognitive engagement decreased from third to fifth grade (Table 3). We did not document grade differences between the fourth and fifth graders during the second wave of data collection.

Table 2. Gender Differences in Engagement at Wave 2

Scale	Girls		Boys		F
	M	SD	M	SD	
Behavioral	4.18	.68	3.76	.78	25.15***
Emotional	3.89	.80	3.60	.88	8.68**
Cognitive	3.60	.78	3.36	.78	6.59**

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Table 3. Grade Differences in Engagement

	Third		Fourth		Fifth		F
	M	SD	M	SD	M	SD	
Behavioral, Wave 1	4.13	.75	4.01	.78	3.84	.72	8.51**
Emotional, Wave 1	3.84	1.00	3.50	1.00	3.42	.93	12.00***
Behavioral, Wave 2			4.00	.80	4.01	.72	.00
Emotional, Wave 2			3.70	.87	3.79	.83	.54
Cognitive, Wave 2			3.46	.80	3.50	.73	.52

To examine the concurrent validity, we ran simple zero-order correlations between perceptions of the classroom context and the three components of engagement. We included aspects of classroom context (teacher support, peer support, task challenge, and work orientation) that have been identified in the literature as related to engagement (see Fredricks et al., in press). The teacher and peer support measure included items about whether teachers and peers care and create a supportive social environment. The task challenge scale contained items about level of task difficulty and authentic instruction. The work orientation scale included items about work norms and classroom management.

All zero-order correlations were significant and in the expected direction. Perceived teacher support was positively related to behavioral, emotional, and cognitive engagement ($r = .35$ to $.49$). Perceived peer support had similar correlations with the three engagement scales ($r = .23$ to $.41$). Work orientation was positively related to behavioral, emotional, and cognitive engagement ($r = .37$ to $.42$); task challenge was associated with the three constructs ($r = .30$ to $.41$). Students' reports of engagement were more strongly correlated with teachers' reports of behavior ($r = .29$ to $.43$) than with teachers' perceptions of emotion ($r = .15$ to $.20$). The stronger correlation with behavior was not surprising because teachers tend to be better able to observe behavior than to make inferences about students' emotional state. Finally, students' reports of engagement were highly correlated with school attachment ($r = .44$ to $.57$) and moderately correlated with perceptions of school value ($r = .26$ to $.32$).

Not surprisingly, the correlations were stronger when we used the full scale than when we correlated each individual item with the outcome variables. In general, the correlations between the individual items and outcome variables were similar, making it difficult to tear apart the scales to pick out the items that were best able to predict the outcome variables. Two exceptions were that children's perceptions of being bored were slightly less strongly correlated with the outcome variables than the other items in the emotional engagement scale, and that children's reports of completing homework on time were slightly less strongly correlated with the outcome variables than the other items in the behavioral engagement scale.

Standardized regression coefficients are presented in Table 4. Work orientation ($\beta = .28$, $p \leq .001$), task challenge ($\beta = .23$, $p \leq .001$), and peer support

Table 4. Standardized Regression Coefficients

	Behavior		Emotional		Cognitive	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Controls						
Grade	.03	-.03	.06	-.03	.03	-.05
Gender	.29***	.21***	.17*	.05	.15*	.03
Contextual Variables						
Teacher support		.10		.27***		.25***
Peer support		.13*		.13*		.17***
Task challenge		.23***		.29***		.30***
Work orientation		.28***		.33***		.25***
Change in R ²		.26***		.49***		.41***
Total R ²		.34		.52		.44

Note: $N = 297$. Gender is coded 0 = male and 1 = female.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

($\beta = .13$, $p \leq .01$) were significant predictors of behavioral engagement. After controlling for other variables in the model, perceptions of teacher support were not related to behavioral engagement. Each of four contextual factors was uniquely associated with emotional engagement. Similarly, aspects of both the social context (teacher and peer support) and academic context (work orientation and task challenge) were significant predictors of cognitive engagement.

Finally, we ran zero-order correlations between the behavioral and emotional engagement measures at Wave 1 and Wave 2. The behavioral ($r = .60$) and emotional ($r = .50$) measures were highly correlated at the two waves, suggesting considerable stability in children's engagement over time.

Interview Data

To take a more qualitative approach to understanding the phenomenology of engagement, we also interviewed a subset of students in great depth. The purpose of the interviews was to examine differences in how students, identified as high or low in engagement based on their survey responses, talked about their classrooms, schools, work, teachers, and peers. We were interested in whether the two groups noticed different aspects of the classroom or whether they told us similar things about their classrooms but responded to these environments differently. The interviews included questions about aspects of the classroom that were assessed in the student surveys. We asked about teachers, peers, academic tasks, work norms, the school, and the family's participation in and help with school activities and assignments. Children also were asked about their behaviors, their emotions, and cognition. The only difference between the interviews at the two waves was that in our efforts to examine change, the interviews in the second wave included more questions about differences in engagement

and a comparison of classroom environments that might explain changes in engagement across the years.¹

The interviews were conducted individually, audiotaped, and took approximately 30–45 minutes. A bilingual interviewer talked with low-English-proficiency students. We used the survey data to initially select individuals to interview in greater depth about their school experiences. The selection criteria differed across the two waves. At Wave 1, we selected children in classrooms with the highest average total engagement and children in classrooms with the most variation in total engagement scores. The total interview sample at Wave 1 was 92 students. At Wave 2, we selected students who exhibited different engagement trajectories; that is, students who increased or decreased fairly significantly in their total engagement on the surveys compared with the rest of the sample. In total, we interviewed 46 children at this wave.

We used several different analytic techniques to compare the survey and interview responses. First, we took a sample of 10 of the high-engagement interviews and 10 of the low-engagement interviews. Research assistants who were blind to the survey scores read each interview and sorted them into either a high- or a low-engagement group. There was perfect correspondence between the interview sorting and the survey scores, demonstrating that it was possible to discriminate reliability between the high- and low-engagement students. Careful notes were taken about students' comments related to work, behavior, peers, and teacher. Overall, the high-engaged students were more positive about their classroom, teacher, and peers than were the low-engaged students.

Next, we rated the interviews in terms of engagement and aspects of classroom context, including teachers, peers, work, and school. After reading the entire interview transcript, we gave each dimension a numerical rating (1–3 rating or 1–5 rating). For example, we rated children on their own behavior and any indication of cognitive engagement in terms of going beyond the requirements or being strategic. Within the larger dimensions of classroom context, we created subcategories based both on what students discussed and distinctions that have been identified in the literature. For example, we rated teachers on a variety of dimensions (e.g., fairness, personal characteristics, and interpersonal support). We ran zero-order correlations between these numerical interview ratings and the survey scales for engagement and classroom context. We found that the numerical ratings of engagement from the interviews were moderately correlated with the survey scales of engagement. Similarly, the interview ratings of classroom context were associated with individuals' perceptions of classroom context. Finally, the engagement survey scales were moderately correlated with the interview ratings of classroom context. These results provide additional evidence for the validity of interview and survey measures.

In addition to the quantitative analyses of the interview data, we examined interviews more holistically for themes that cut across students in the low-engagement group. We found considerable variability in the reasons why

¹ The student engagement interview is available from the authors.

students were disengaging from school. For example, some of the students in the low-engagement group were disengaged because of the academic work, either because it was too easy or too challenging, while others were disengaged because of social problems with their teachers and/or peers.

In sum, these results illustrate the benefits of including interview questions in studies of engagement. In the quantitative analyses, we documented correspondence between the interview and survey responses. However, the thematic analyses revealed variability in low-engagement students' perceptions of the work, teachers, peers, and their classroom. These results show that it is important not to assume that all students within one group are similar. The interviews provided in-depth information about what aspects of the school experience were creating low engagement. This information is critical for designing targeted interventions to increase engagement.

Summary and Discussion

One of the strengths of our study is that we included child survey items assessing behavioral, emotional, and cognitive engagement. In general, the three scales have good face validity, adequate internal consistency, and adequate predictive validity. There is variability in the distribution of responses, though students are more likely to answer these survey questions positively as they do in other measures in the elementary school grades. A strength of this study is that it was conducted with inner-city elementary school students of various backgrounds. These scales appear to be reliable measures of engagement in this sample. The Cronbach's alphas suggest that the items in each scale hang together well as a construct. The descriptive analyses suggest that the three scales are valid measures and follow expected patterns by age and gender. The zero-order correlations between engagement and classroom context were in the expected direction.

Nevertheless, there are several limitations with our survey analyses. First, we were unable to test the prospective validity because we had not collected long-term outcome data. Although there is evidence in the research literature of the association between engagement and positive academic outcomes, more research is needed to test the concurrent and prospective validity of these specific items. The age of the students likely impacted the reliability and validity of this construct. Modifications of these measures may be necessary for older children. The psychometric properties of these items need to be tested across wider and more diverse samples before inclusion into national surveys. Finally, in our analysis, we used the scales as continuous variables, a common practice in the literature. More theoretical and empirical work is necessary to determine the minimum level of behavioral, emotional, and cognitive engagement necessary to achieve positive achievement outcomes.

In our review of the research, we noted several problems with measurement that cut across different surveys of engagement (see Fredricks et al., in press, for a more detailed discussion). One problem is that many studies combine behavioral, emotional, and cognitive items into a single scale, which precludes

examining distinctions among the various types of engagement. A second problem is that conceptual distinctions are blurred because similar items are used to assess different types of engagement. For example, questions about persistence and preference for hard work are used as indicators of behavioral engagement (Finn et al., 1995) and cognitive engagement (Connell & Wellborn, 1991).

Another concern is that the three types of engagement overlap with other behavioral and motivational constructs. However, because engagement encompasses several constructs that are usually tapped individually, the measures of engagement are less well developed and differentiated than these constructs. For instance, emotional engagement scales typically include one or two items about interest and value along with items about feelings. Other measures that only focus on interest and values include many items that make distinctions within interest, such as intrinsic versus situational interest, and within value, such as intrinsic, utility, and attainment value (Eccles et al., 1983; Krapp, Hidi, & Renninger, 1992).

An additional limitation with current measures is that survey items do not distinguish a target or source of engagement. In some measures the target is quite general, such as "I like school." Furthermore, these measures are rarely attached to specific tasks and situations, yielding information about engagement as a general tendency. This makes it difficult to determine if students are more engaged in certain parts of the classroom, such as the social or academic dimensions; whether they are more engaged in certain tasks, such as working in groups or doing presentations; or whether they are more engaged in some subjects than others.

There also are likely to be developmental differences in the appropriateness of certain measures. One issue is that children at different ages may interpret engagement items differently because of their developmental capacities. For example, participation may mean different things to elementary and high school students. Finally, assessing cognitive engagement in young children is difficult. Thus, there exists an abundance of self-report data on older students (middle school, high school, and college students) but a dearth of studies with younger children (Pintrich, Wolters, & Baxter, 2000).

There are extensive child and teacher measures of behavioral engagement that include adherence to classroom norms and participation in school and out-of-school activities from a variety of surveys that could be included in national databases. These scales have strong psychometric properties and concurrent and prospective validity. In addition, the measures of emotional engagement provide a quick and easy measure that distinguishes between low- and high-engaged students. However, if researchers want to know about the sources of affect, we recommend using more detailed measures designed to tap specific motivational constructs such as interest, value, and flow (Csikszentmihalyi, 1988; Eccles et al., 1983; Schiefele, Krapp, & Winteler, 1992). Researchers who want to know specifically about how students use learning strategies should refer to more detailed measures of strategy use and metacognition (Pintrich et al., 2000). Finally, our measure of cognitive engagement provided a quick measure that is valid for use with elementary school children.

Appendix

Engagement Scales and Factor Loadings

Items	Behavioral	Emotional	Cognitive
I follow the rules at school.	.83		
I get in trouble at school. (REVERSED)	.78		
When I am in class, I just act as if I am working. (REVERSED)	.72		
I pay attention in class.	.72		
I complete my work on time.	.52		
I like being at school.		.79	
I feel excited by my work at school.		.75	
My classroom is a fun place to be.		.73	
I am interested in the work at school.		.72	
I feel happy in school.		.71	
I feel bored in school. (REVERSED)		.67	
I check my schoolwork for mistakes.			.73
I study at home even when I don't have a test.			.72
I try to watch TV shows about things we do in school.			.69
When I read a book, I ask myself questions to make sure I understand what it is about.			.67
I read extra books to learn more about things we do in school.			.66
If I don't know what a word means when I am reading, I do something to figure it out.			.62
If I don't understand what I read, I go back and read it over again.			.58
I talk with people outside of school about what I am learning in class.			.58

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