



Perceptions Of School Culture (POSC)

User Manual and Technical Report

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September 2005

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at

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CONTENTS

LIST OF TABLES	iii
LIST OF FIGURES	v
LIST OF EXHIBITS.....	v
ACKNOWLEDGEMENTS	vi
ABSTRACT.....	vii
SECTION 1. INTRODUCTION	1
Purpose.....	1
Intended Users	1
Contents of This User Manual	2
Benefits	2
For Additional Information.....	2
SECTION 2. THE POSC AT A GLANCE	3
Overview.....	3
The Six POSC Subscales	3
Administration of the POSC	4
The POSC School Profile	6
Use of POSC Results	6
SECTION 3. RESEARCH SUPPORTING THE POSC DIMENSIONS.....	9
Qualitative Research and Large Multimethod Studies	10
School Culture Questionnaires and Survey Research.....	13
Summary.....	17
SECTION 4. DEVELOPMENT OF THE POSC	18
Pilot Test.....	19
Field Test	21
Internal Consistency Reliability.....	21
Stability Reliability	22
Concurrent Validity	23
Construct Validity.....	24

CONTENTS (continued)

SECTION 5. POSC NORMING STUDY	26
Introduction.....	26
Methods.....	27
Recruitment.....	27
Data Collection	27
Sample.....	27
Step 1: Psychometric Properties of the POSC	30
Construct Validity.....	30
Relationships Among the POSC Subscales	36
Internal Consistency Reliability.....	36
Step 2: Normative Analyses of the POSC	40
Full Group.....	41
Building Level	42
Locale Type	45
School Size.....	48
SECTION 6. POSC PERCENTILE CONVERSION TABLES.....	50
SECTION 7. REFERENCES.....	64
SECTION 8. APPENDIX	
POSC Instrument	

LIST OF TABLES

1: Cronbach Alpha Reliability Coefficients by Full Group for the POSC Dimension Subscales and the MSCI and SCEQ Subscales	22
2: Field Test-Retest Pearson Product Moment Correlations for Four Schools.....	23
3: Pearson Product Moment Correlations by Full Group for POSC Dimension Subscales With MSCI and SCEQ Subscales.....	23
4: Number and Percentage of Respondents and Schools by Various Characteristics ...	28
5: Number and Percentage of Respondents by Demographic Characteristics.....	29
6: Original Norming Study Factor Analysis Results With Varimax Rotation.....	31
7: Final Norming Study Factor Analysis Results With Varimax Rotation.....	32
8: Descriptive Statistics for Final Subscales	35
9: Pearson Product Moment Correlations for POSC Subscales.....	36
10: Cronbach Alpha Reliability Coefficients by Full Group	37
11: Cronbach Alpha Reliability Coefficients by Building Level.....	38
12: Cronbach Alpha Reliability Coefficients by Locale Type.....	38
13: Cronbach Alpha Reliability Coefficients by School Size.....	39
14: POSC Normative Statistics for All 207 Schools.....	41
15: POSC Normative Statistics for 102 Elementary Schools	42
16: POSC Normative Statistics for 43 Middle/Junior High Schools	42
17: POSC Normative Statistics for 28 High Schools.....	43
18: POSC Normative Statistics for 20 K-8 Schools	43
19: POSC Normative Statistics for 14 Other Schools.....	44
20: POSC Normative Statistics for 10 City Schools.....	45
21: POSC Normative Statistics for 56 Suburban Schools	45
22: POSC Normative Statistics for 32 Town Schools	46

LIST OF TABLES (continued)

23: POSC Normative Statistics for 109 Rural Schools.....	46
24: POSC Normative Statistics for 53 Small Schools	48
25: POSC Normative Statistics for 130 Medium Schools	48
26: POSC Normative Statistics for 24 Large Schools	49
27: POSC Subscale Percentile Conversion Table for All Schools ($N = 207$).....	51
28: POSC Subscale Percentile Conversion Table for Elementary Schools ($n = 102$)	52
29: POSC Subscale Percentile Conversion Table for Middle/Junior High Schools ($n = 43$)	53
30: POSC Subscale Percentile Conversion Table for High Schools ($n = 28$)	54
31: POSC Subscale Percentile Conversion Table for K-8 Schools ($n = 20$)	55
32: POSC Subscale Percentile Conversion Table for Other Participating Schools ($n = 14$)	56
33: POSC Subscale Percentile Conversion Table for City Schools ($n = 10$).....	57
34: POSC Subscale Percentile Conversion Table for Suburban Schools ($n = 56$)	58
35: POSC Subscale Percentile Conversion Table for Town Schools ($n = 32$)	59
36: POSC Subscale Percentile Conversion Table for Rural Schools ($n = 109$).....	60
37: POSC Subscale Percentile Conversion Table for Small Schools ($n = 53$)	61
38: POSC Subscale Percentile Conversion Table for Medium Schools ($n = 130$).....	62
39: POSC Subscale Percentile Conversion Table for Large Schools ($n = 24$)	63

LIST OF FIGURES

1: POSC Trimmed Field Test Factors Composed of Individual Items From Original Nine Dimensions.....	25
2: POSC Trimmed Normed Factors Composed of Individual Items From Original Nine Dimensions.....	33
3: Overall POSC Mean Subscale Scores.....	41
4: POSC Mean Subscale Scores by Building Level	44
5: POSC Mean Subscale Scores by Locale Type	47
6: POSC Mean Subscale Scores by School Size.....	49

LIST OF EXHIBITS

1: Sample of the POSC School Profile	7
2: Example for Elementary School ABC.....	50

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ABSTRACT

The Perceptions Of School Culture (POSC) instrument was designed to measure the perceptions of a school staff regarding various dimensions of school culture contained in a hypothesized model of school cultural change. Specifically, this model posits that the development of a high-performance learning culture is influenced by school vision and mission; “strategic structures” (within-school relationships, school policies and procedures, and the school’s physical environment); the professional staff’s core beliefs about teacher efficacy and student effort, student ability and achievement, and the nature of power and control within the school; and the level within the school community of distributed accountability—shared responsibility for the achievement of all students. The 2005 norming study of the POSC was preceded, in 2004, by a pilot test (401 professional staff in 12 schools) and a field test (1,154 professional staff in 42 schools), both of which are briefly described in this report.

The norming study aimed to determine the construct validity and internal consistency of the POSC; explore the factor structure of the instrument; and establish norms for schools varying by grade level, rural-urban locale type, and school size. It was hypothesized that the factor analysis would reveal nine factors aligned with the nine dimensions in the above-mentioned model of school cultural change.

Surveys were completed by 9,618 professional staff in 364 schools in 11 states. Believing that schools with a higher response rate would provide a more accurate reflection of their school culture, project staff decided to analyze only those surveys from schools with at least a 60% return rate. This criterion resulted in a final sample of 6,215 respondents from 207 schools in nine states.

The final sample included 102 elementary schools, 43 middle or junior high schools, 28 high schools, 20 K-8 schools, and 14 other schools (such as K-12, 7-12, or alternative schools). Ten schools were in mid-size city locales, 56 were in urban fringe areas of large or mid-size cities, 32 were in large or small towns, and 109 were in rural locales. By size, the sample included 53 small schools (1-299 students), 130 medium schools (300-749 students), and 24 large schools (750-2,200 students). Eighty percent of survey respondents were female, 70% were regular classroom teachers, 92% were White, and 29% had more than 20 years experience.

The survey instrument contained 71 items with Likert-type response options using a scale ranging from 1 (*not at all*) to 5 (*very much*) and 4 demographic items (gender, role, ethnicity, and years experience). Response time was less than 30 minutes. With the instrument, each respondent received an informed consent form that had been approved by Edvantia’s Institutional Review Board.

Completed surveys were scanned using Remark scanning software and were cleaned before being exported to SPSS for analysis. Principal components factor analysis was conducted using Varimax and Oblique rotations. Cronbach Alpha reliability coefficients were generated for the full instrument and the six subscales created during factor analysis to determine internal consistency for the entire sample and by building level, locale type, and school size. Based on aggregated data for the 207 schools in the final sample, norms were developed for the six subscales for the entire sample and by building level, locale type, and school size.

During the factor analysis, both the Varimax and Oblique rotations generated six robust factors, with the beginnings of a seventh factor. However, the Varimax rotation provided a cleaner, better fit and was the basis for the final results. The seventh factor (containing only one item) was eliminated, and items were trimmed from the larger factors. These revisions resulted in six factors containing 62 items and accounting for a combined total of 61% of variance. Based on the items comprising each factor, the following descriptive subscale names were generated:

- collaborative working relationships
- student-centered vision, mission, and policies
- student responsibility for learning
- teacher responsibility for learning
- inviting physical environment
- students and parents as decision makers

Internal consistency reliability was high for the full instrument and all subscales, for the total sample and all subgroups (nearly all above .90). Norms were generated for the six subscales for the entire sample and by building level, locale type, and school size.

The original survey items had been based on the nine dimensions of culture in the high-performance learning culture model, and nine factors had been hypothesized. Although only six factors were found, all nine dimensions were represented within the six factors. Included in this report are conversion tables and instructions for converting the six subscale means to percentiles to allow users of the instrument to compare their results against norms for the total sample and by building level, locale type, and school size.

Section 1

Introduction

SECTION 1. INTRODUCTION

A high-performance learning culture is one in which each individual member is expected to perform to high standards. In such a culture, colleagues and peers support one another's efforts, and resources and structures are aligned with expected behaviors. To achieve such a culture in a school setting, school leaders take an action-oriented approach to growing a culture that is conducive to high achievement for students and extraordinary performances by adults.

—Jackie A. Walsh, Beth D. Sattes, Christopher Corallo, &
Deborah H. McDonald, *Creating a high-performance learning culture*

More than 38 years of education research and school improvement experience—by practitioners and researchers—contributed to the development of this instrument. Edvantia (formerly AEL), a private nonprofit corporation, has worked since 1966 with schools, communities, districts, states, and other researchers to discover, create, and share effective educational tools and strategies. The Perceptions Of School Culture (POSC) is one such tool.

Purpose

The POSC measures the perceptions of professional staff about various components of their school's culture. The POSC is designed to help respondents focus on specific beliefs, behaviors, and strategic structures that might be overlooked in a more general discussion of school culture. To the extent that staff responses accurately reflect cultural aspects of the school, the results will help the staff understand their school's areas of strength and weakness—understanding that can be used to nurture the growth of a high-performance learning culture.

Intended Users

Each member of the professional school staff responds to the POSC individually. Generally, the smallest unit of analysis is the school, and results apply most directly to specific schools, hence the word “school” in the title. On a larger scale, the POSC may be used for comparisons across a school district, a region, or even a state. However, the most widely intended unit for applying the results is the school, and the educational staff of the school would find the results most useful.

The POSC Respects Your Time

The POSC takes only about 30 minutes to administer. Edvantia analyzes the responses for a school and sends a profile that discusses the school's strengths and weaknesses, based on the responses of professional staff.

Contents of This User Manual

Any professional inventory requires (1) procedures for proper administration, scoring, and reporting of results; and (2) information about the interpretation and use of results. This manual addresses both requirements. The manual also provides information about the research base for the POSC and documents its development through pilot and field tests. Normative data are provided for different types of schools and for schools categorized by size or Johnson code (rural-urban locale). Charts for converting subscale raw scores to percentiles also are provided. This allows users to compare their school's POSC scores to those of other, similar schools that have administered the instrument.

Benefits

Whether you use the POSC as part of your implementation of the *Creating a High-Performance Learning Culture* module, for needs assessment, for professional development planning, or as formative evaluation to take a snapshot of progress as your school undertakes various school improvement initiatives, this instrument will be an important part of your data collection tool kit. You will find the POSC equally valuable for its potential to start conversations about teaching and learning among staff, students, parents, and other community members. Used in this way, the survey can help your school create a high-performance learning community—one that focuses on student achievement and lifelong learning for all members. To learn more about the power of such a community, see Section 3 of this manual, where you will find a review of the relevant research.

For Additional Information

For assistance or for more information about creating a high-performance learning culture at your school, please contact Kim Cowley at Edvantia (kim.cowley@edvantia.org, 304.347.0418). We look forward to growing with you!

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Section 2

The POSC at a Glance

SECTION 2. THE POSC AT A GLANCE

Overview

The data generated by the POSC are ratings provided by a school's professional staff—principal, teachers, media specialists, librarians, counselors, and any others who have classroom or advisory contact with students and parents. The ratings of the POSC items are categorized into six subscales, whose scores reflect the combined perceptions of the professional staff about six components of school culture. As with any self-report inventory, the validity of the results depends on the extent to which respondents' perceptions represent the true situation. Thus, considered and accurate responses are essential for maximizing the usefulness of the subscale scores.

The Six POSC Subscales

The POSC includes 62 randomly ordered items comprising six subscales: four each containing 13 items, and two each containing 5 items. Each POSC item contributes to the score of only one subscale.

1. **Collaborative Working Relationships** (13 items). This subscale reflects the extent to which faculty work together, trust and respect each other, have open channels of communication, and share leadership and responsibility for problem solving and decision making.
2. **Student-Centered Vision, Mission, and Policies** (13 items). This subscale indicates the degree to which the school's vision, mission, goals, and policies are clear and consistent with each other; incorporate high expectations for all students; and are communicated to staff, students, and parents. It also indicates the extent to which the school uses measurable goals and data-based decision making.
3. **Student Responsibility for Learning** (13 items). This subscale measures faculty perceptions of their students' intrinsic motivation, persistence, awareness of their own learning strengths, and control over their own learning. It also indicates faculty perceptions of the strength of parents' belief in the importance of student effort and parent support.
4. **Teacher Responsibility for Learning** (13 items). This subscale reflects the degree to which faculty strive to improve teaching and learning, at both the individual and collective levels, and share responsibility for high levels of student learning. It also indicates the extent to which teachers accommodate students' different learning styles and encourage student collaboration and self-motivation.
5. **Inviting Physical Environment** (5 items). This subscale indicates the extent to which the school's physical environment is perceived as clean, safe, and attractive. It also reflects the degree to which the school makes visitors comfortable by having a welcoming entrance or helpful signs.

6. **Students and Parents as Decision Makers** (5 items). This subscale assesses the degree to which students and parents participate in planning and decision making that impact the school program. It also reflects the school’s efforts to promote students’ engagement with their own learning.

Each item is rated on a 5-point scale ranging from 1 (*not at all*) to 5 (*very much*). The scores of the items within each subscale are summed, and the totals of the fifth and sixth subscales are each multiplied by a constant of 2.6, yielding six total raw scores that are comparable. The raw scores are then converted to percentile scores, which are more useful for understanding a school’s position relative to the schools on which the POSC was normed.

Administration of the POSC

Purpose. The POSC measures the perceptions of professional staff about various components of school culture. It is designed to help respondents focus on specific beliefs, behaviors, and strategic structures within their school that might be overlooked in a more general discussion of school culture. The results will help the staff understand their school’s areas of strength and weakness—understanding that can be used to work toward cultural change and school improvement. Because responses reflect individual perceptions of the school, there are no correct or incorrect answers.

Preparation. Share information about the purpose (see previous paragraph) with the school staff when announcing that the POSC will be administered. Special events on the school calendar can affect everyone in the school; plan to administer the POSC during a period of “normal” activity. That is, avoid days that immediately follow getting standardized test results, teacher performance reports, and the like.

Who should take the POSC?

- principals
- teachers
- media specialists
- librarians
- counselors
- any others who have classroom or advisory contact with students and parents

Security. Copies of the instrument should not circulate either before or after being administered. Results will be most meaningful if members of the staff answer from their own perceptions and experiences. The POSC is to be completed individually, without discussion of its content or the responses of others. The vocabulary and content of the items were chosen so as to be clear to practicing educators. During the administration of the POSC, there should be no discussion, elaboration, or clarification of item content.

Setting. The POSC should be administered to the entire professional staff of the school at the same time, probably at a faculty meeting or similar assembly. There is no time limit, but the

POSC should be completed easily in 30 minutes. Because it is so important that respondents have time to carefully consider each item, the administration should not take place when people may be in a hurry to leave, such as at the close of a meeting.

Administration. Select someone, such as the principal, to introduce the POSC. If this person is a member of the professional staff, he or she should complete a survey as well.

1. Assemble the staff in a room where each person has adequate writing space and is comfortable.
2. Minimize distractions or disruptions by asking staff to turn off cell phones and to refrain from conversation while completing the questionnaire.
3. Distribute the packets to staff and make sure everyone has a pencil or pen (black or blue ink). Tell staff that the packet (large white envelope) contains an Informed Consent Form, a POSC, and a small white envelope.
4. Tell staff that the Informed Consent Form is for participants to read and keep for their records. Allow time for staff to read this form, then ask if there are any clarifying questions.
5. Read aloud the directions printed at the top of the survey. Mention that there is no time limit for responding. Emphasize the importance of reading each item carefully and responding as accurately as possible, based on personal experiences. (*Do not say “respond truthfully” because this implies some may otherwise be dishonest.*)
6. Assure staff members of the anonymity and confidentiality of their responses. Explain that after completing the survey, each staff member should place his or her survey in the small white envelope and seal it. Then, these envelopes will be collected and placed in a large return envelope preaddressed to Edvantia (one is provided with these materials) and mailed directly to Edvantia. Tell staff that the surveys will not be returned to the school, so no one in the school will see the individual responses. Tell them there is no time limit, but most people finish in about 30 minutes.
7. Some respondents will need more time than others to complete the POSC. There are two options for concluding the administration: (1) have everyone remain until all are finished and then collect the sealed envelopes containing the completed surveys, or (2) have staff return the sealed envelopes as they complete the survey. The first option is preferred because it causes less disruption.
8. Place all sealed envelopes in the preaddressed mailing envelope, and seal it before the staff leaves the room, if possible. Mail the package to Edvantia for analysis; a school profile should be ready within 30 days.

The POSC School Profile

After Edvantia scores and analyzes the POSC surveys, a profile will be provided to the school. If the survey has been administered in two or more schools in a district, a separate profile will be prepared for each school. If a report is to be issued for a unit smaller than a school, such a report must be requested when the school first contacts Edvantia.

The profile contains a summary of the school's subscale mean scores compared to the appropriate building-level norm group (e.g., elementary schools, high schools). The school staff should have this manual available so comparisons can be made with norms for all schools or with norm groups based on locale type or school size. Interpretive comments are included with the results.

The sample profile (see Exhibit 1) portrays the types of information Edvantia provides to users of the POSC. The results and interpretation are intended to help a school staff identify strengths and weaknesses pertaining to school culture. The higher the score on a subscale, the more positive the staff's perceptions of that particular component of culture in their school. The norms supplied in Section 6 of this manual provide realistic bases for comparison. So, although the school staff should address all the dimensions that go into creating a high-performance learning culture, the POSC profile identifies strengths and weaknesses, and, correspondingly, areas that may require special attention.

Use of POSC Results

In the context of the subscales and their meanings, POSC results point to a school's areas of cultural weakness and strength, and can help with planning activities or programs to address weaknesses or build on strengths.

The most common use of these results may be for guiding professional development at either the school or district level, whether or not such activities are part of the *Creating a High-Performance Learning Culture* module. It is unlikely that these results would have value for a single educator. The POSC applies to a group of educators as they move toward creating and maintaining a high-performance learning culture.

Using the results should be a group effort, at both the interpretation and action stages. Promoting meaningful, professional conversations among all members of the school community is one way the POSC can contribute most powerfully to cultural change.

Exhibit 1: Sample of the POSC School Profile

POSC School Results Profile

School: Any Elementary
District: Any School District
State: Any State

Date of Administration: Sept. 2005

Number of Staff Responding: 25

This document displays the school-level results from the *Perceptions Of School Culture (POSC)*. This version of the POSC includes 4 demographic items and 62 rated items. Professional staff were asked to rate the extent to which each item occurred at their school, using a scale of 1 (*not at all*) to 5 (*very much*). The 62 items are analyzed using a six-subscale framework. Possible subscale scores range from 13 to 65. Subscale descriptions are provided below.

Collaborative Working Relationships (13 items). This subscale reflects the extent to which faculty work together, trust and respect each other, have open channels of communication, and share leadership and responsibility for problem solving and decision making.

Student-Centered Vision, Mission, and Policies (13 items). This subscale indicates the degree to which the school's vision, mission, goals, and policies are clear and consistent with each other; incorporate high expectations for all students; and are communicated to staff, students, and parents. It also indicates the school's use of measurable goals and data-based decision making.

Student Responsibility for Learning (13 items). This subscale measures faculty perceptions of their students' intrinsic motivation, persistence, awareness of their own learning strengths, and control over their own learning. It also indicates faculty perceptions of the strength of parents' belief in the importance of student effort and parent support.

Teacher Responsibility for Learning (13 items). This subscale reflects the degree to which faculty strive to improve teaching and learning, at both the individual and the collective levels, and share responsibility for high levels of student learning. It also indicates the extent to which teachers accommodate students' different learning styles and encourage student collaboration and self-motivation.

Inviting Physical Environment (5 items). This subscale indicates the extent to which the school's physical environment is perceived as clean, safe, and attractive. It also reflects the degree to which the school makes visitors comfortable by having a welcoming entrance or helpful signs.

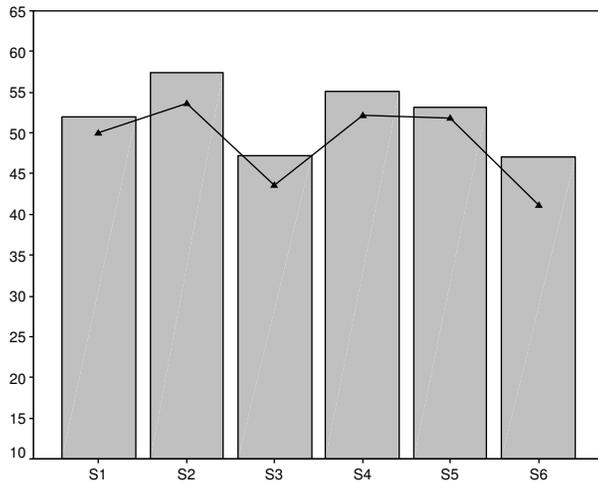
Students and Parents as Decision Makers (5 items). This subscale assesses the degree of student and parent participation in planning and decision making that impact the school program. It also reflects the school's efforts to promote students' engagement with their own learning.

Demographic Information

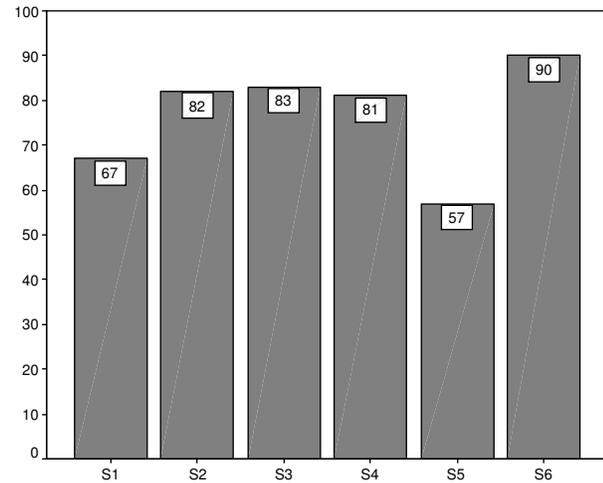
Eighty-two percent (82%) of the respondents were regular classroom teachers; 4% each were counselors, librarian/media specialists, or principals/assistant principals; and 6% selected other. Ninety-seven percent (97%) of the respondents were White and 3% were Black/African American. Seventy percent (70%) of the respondents were female, and 30% were male. More than half of the respondents (55%) had more than 20 years of experience, 40% had more than 5 years to 10 years, and 5% has less than 1 year.

Results

<u>Subscale</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Percentile</u>
S1 Collaborative Working Relationships	52.03	7.71	67
S2 Student-Centered Vision, Mission, and Policies	57.48	6.14	82
S3 Student Responsibility for Learning	47.14	7.51	83
S4 Teacher Responsibility for Learning	55.10	6.49	81
S5 Inviting Physical Environment	53.08	6.72	57
S6 Students and Parents as Decision Makers	47.07	7.40	90



Subscale Mean Scores



Subscale Percentiles

The bars on the first graph show the mean score for each subscale as rated by professional staff in spring 2005. The solid line shows the average mean score per subscale for 102 elementary schools that completed the same version of the POSC. This line serves as a point of reference for examining staff perceptions at your school in comparison to those at other schools. The bars on the second graph show the percentile placement for your school compared to the elementary school norm. For example, your school scored higher on Subscale 1 than 67% of the elementary schools in the norm group.

Your school's mean subscale scores tended to be fairly high across all subscales and were also higher when compared to the elementary school norms. Staff responses were most favorable for Student-Centered Vision, Mission, and Policies and least favorable for Student Responsibility for Learning and Students and Parents as Decision Makers. When looking at percentiles, your school scored higher than at least half of the elementary schools for each subscale. In fact, most scores were above the 80th percentile. Although Students and Parents as Decision Makers was the lowest mean score for this school, the score was higher than those of 90% of the elementary schools, indicating that this component of culture was weak in many elementary schools.

Using the Results

This profile provides data that may prove useful in several ways. First, the information may be used as input for components of a school's improvement plan. Second, results in future years may be compared to show changes over time. Third, school staff may find these results useful in assessing needs for professional development and school improvement planning. Fourth, the information is valuable for starting conversations, reflections, discussions, and actions about teaching and learning among staff, students, parents, and other community members.

Section 3

Research Supporting the POSC Dimensions

SECTION 3. RESEARCH SUPPORTING THE POSC DIMENSIONS

Many studies of school culture have been influenced by the work of Deal and Kennedy (1982), who described certain aspects of organizational culture: vision, norms, rituals, heroes, and stories. Drawing on this and other earlier work, Deal and Peterson (1999) identified and elaborated on the elements of positive school cultures:

- A mission focused on student and teacher learning
- A rich sense of history and purpose
- Core values of collegiality, performance, and improvement . . .
- Positive beliefs and assumptions about the potential of students and staff to learn and grow
- A strong professional community that uses knowledge, experience, and research to improve practice
- An informal network that fosters positive communication flow
- Shared leadership that balances continuity and improvement
- Rituals and ceremonies that reinforce core cultural values
- Stories that celebrate successes . . .
- A physical environment that symbolizes joy and pride
- A widely shared sense of respect and caring for everyone. (p. 116)

Edvantia staff (Walsh, Sattes, Corallo, & McDonald, 2003) pointed out the need to link understanding of these cultural elements to the kind of faculty inquiry and learning that leads to cultural change. In a training module that describes an approach to creating a *high-performance learning culture* (one in which all students and teachers are expected to perform at high levels), they put forth a model that emphasized three spheres for action and change: vision/mission, core beliefs, and strategic structures.

The theory underpinning the approach posits that, while individuals' behaviors are guided initially by intrinsic personal beliefs, their behaviors can be modified by strategic structures designed to reinforce organizational core beliefs as stated in the vision/mission. Over time, changes in behaviors can lead to changes in [individuals'] beliefs. (p. 7)

Using this framework of dynamic and interactive elements, the module focuses on vision, beliefs, and concrete organizational structures that promote and support distributed accountability—shared responsibility across the school community for the achievement of all students—and ultimately, increased achievement for all students.

The POSC was designed to measure the perceptions of a school staff regarding various aspects of this model: (1) staff vision; (2) school mission; (3) strategic structures (within-school relationships, school policies and procedures, and the school's physical environment); (4) staff's core beliefs about teacher efficacy and student effort, student ability and achievement, and the nature of power and control within the school; and (5) distributed accountability.

The following literature review summarizes recent school culture research that emphasizes these aspects, particularly as they relate to the development of professional learning communities.

Qualitative Research and Large Multimethod Studies

Some qualitative research on school culture has been purely descriptive, while other studies have sought to uncover the elements of school culture that foster success in high-performing or improved schools.

In the early 1990s, the Center for Research on the Context of Secondary School Teaching conducted a 4-year in-depth study of 16 California and Michigan high schools, focusing on the nature of teachers' professional communities and the impact of such communities on high school teaching practices. Three of the schools, and individual departments within two other schools, demonstrated innovative cultures of practice indicative of teacher learning communities. In contrast, most schools had weak professional communities, and several had strong collegial communities that focused on traditional track-based educational practices rather than innovative practices. The development of professional learning communities appeared to depend on strong leadership at the school or department level that promoted and supported teacher growth and collaboration, as well as on the ability of school leaders to build on their school's core values and to fit into and manage their school's particular circumstances (McLaughlin & Talbert, 2001).

A synthesis of 5 years of extensive research by the Center on Organization and Restructuring of Schools (Newmann & Wehlage, 1995), which included the national School Restructuring Study (SRS), found that school restructuring could improve student achievement, but only under certain conditions: the school faculty must have a vision of high-quality student learning and must come together as a professional community with shared goals, collaborative activities, and collective responsibility for student learning. Schools with a strong professional community tended to be characterized by shared governance, interdependent work structures, staff development linked to the school mission, institutional autonomy, small school size, and parent involvement.

As part of the SRS, surveys and site visits were carried out at 24 schools (8 each at the elementary, middle, and high school levels) that were participating in ambitious restructuring efforts. The schools varied widely in the development of teachers' professional community, which was defined by shared norms and values, collective focus on student learning, collaboration, deprivatized practice, and reflective dialogue. Both the structural conditions and the human relationships and resources in a school were related to the development of professional community, which in turn was related to teachers' responsibility for student learning (Louis, Marks, & Kruse, 1996). Further analysis of SRS data (Louis & Marks, 1998) found that professional community was significantly related to *authentic achievement*—high-quality student performance marked by the construction of knowledge, disciplined inquiry, and work that has value beyond school—and that this relationship was mediated by the quality of classroom pedagogy.

Development of professional learning communities was also a focus of the Bay Area School Reform Collaborative (BASRC), which aims to improve education and close achievement gaps in San Francisco Bay area public schools through an evidence-based, continuous improvement process called the Cycle of Inquiry. Introduced in 87 BASRC *leadership schools*, the process requires school faculties to become collaborative communities that use evidence of students' learning needs to determine and guide a *focused effort* for their whole-school reform. An evaluation of BASRC's first 5 years included longitudinal case studies of 10 diverse leadership schools, less intensive field-based research in 21 other leadership schools, and surveys of school staff across the project. Most leadership schools studied showed progress in implementing the inquiry process, and those schools showing the most progress also scored the greatest gains in standardized test scores. Overall, leadership schools had significantly larger gains in test scores than did a group of carefully matched control schools. Also, leadership schools with large populations of economically disadvantaged students had larger achievement gains than did similar schools in the region. As postulated in the theory of cultural change associated with the POSC, the changed behaviors involved in implementing the Cycle of Inquiry gradually became embedded in school culture, resulting in teacher ownership of the process; increased teacher collaboration, sharing, and reflection; and collective responsibility for student achievement (Center for Research on the Context of Teaching, 2002).

Another example of cultural change linked to the inquiry process is found in a study by Aness (2000), who carried out descriptive case studies of three high-performing high schools serving racially and ethnically diverse, poor, at-risk students. All three schools had a mission of providing rigorous academic experiences in a nurturing environment and hired teachers who believed in this mission and engaged in inquiry into their own practice to improve student learning. The study documented a reciprocal pattern in which the inquiry process led teachers to experiment with instructional and structural changes, based on their own students' needs and their school's culture; the changes improved student outcomes; and the improvements led to teachers' deeper understanding of what works in their particular school, wider acceptance of the innovations, and renewed inquiry.

In a study by Caron and McLaughlin (2002), a culture of teacher collaboration and shared responsibility for all students emerged as a primary feature of six schools that had achieved exemplary results with all students. Although the schools varied considerably with regard to specific collaborative practices, the general and special education teachers in all schools "shared a clear set of expectations that they were responsible for improving student performance" (p. 296).

Stein (1998) reported on three schools that experienced dramatic turnarounds while actively participating in their district's systemic approach to improvement and, in the process, were transformed into professional learning communities. Case studies of these schools and the change in their cultures explored the strategies used by their principals, who had been chosen by the district and had made a multiyear commitment to pursuing school improvement. Although the principals had very different leadership styles, they employed several common strategies: (1) focusing the school's mission on student learning and then sharpening the focus to the teaching and learning of literacy; (2) deprivatizing instructional practice and then moving toward peer coaching and critiquing each individual teacher's practice; (3) directing teachers toward job-

embedded, individualized professional development; (4) using professional development to build the school's collective capacity to meet students' literacy needs; (5) using teacher recruitment and removal strategies to shape *membership* in the schoolwide learning community; and (6) promoting a group identity as a learning community through teacher presentations in other schools.

Strahan (2003) analyzed data from the first 2 years of the North Carolina Lighthouse Project, an initiative of the North Carolina General Assembly aimed at understanding the dynamics of successful school reform. Case studies of three low-socioeconomic-status, high-minority elementary schools that had dramatic 5-year achievement gains revealed supportive professional cultures that promoted data-driven, collegial efforts to improve instruction. Teachers and administrators from these schools emphasized the importance of continuous *data-directed dialogue* among staff for maintaining staff energy and the momentum of reform. A report on one of the schools (Strahan, Carlone, Horn, Dallas, & Ware, 2003) reveals three major changes in school culture: the development of a *shared stance toward learning*—a common set of values and beliefs underlying a shared sense of responsibility for learning, the strengthening of instructional norms focused on active student engagement, and the increased use of student assessment data to shape school reform.

Feldman and Tung (2001) also found changes in school culture resulting from the schoolwide inquiry process in six Massachusetts schools engaged in implementing whole-school data-based decision making. These cultural changes included the growth of reflective practice among teachers, deprivatization of practice leading to a more professional culture, and the formation of student-leader inquiry groups to address student problems.

In another study, similar cultural elements were found in five high-poverty Texas elementary schools that had high student performance on the Texas Assessment of Academic Skills (TAAS), even though low percentages of students with disabilities were exempt from taking the TAAS. Observations and individual and focus-group interviews identified common beliefs and strategies across schools: the belief that all students can attain academic success, administrator support and encouragement of teacher creativity and efforts, collegial communication, the use of student assessment data to drive improvement efforts, a culture of student-centered learning, staff participation in schoolwide interventions, and a view of special education referral as a last resort after other interventions (Council of Chief State School Officers & The Charles A. Dana Center at the University of Texas at Austin, 2002).

Ceperley (1999) conducted case studies in four Title I elementary schools in rural Virginia—two *more-effective* and two *less-effective* schools, in terms of actual versus expected student performance on state-mandated achievement tests. More-effective schools were characterized by principal leadership and attention to the quality of instruction; a pervasive and broadly understood instructional focus; an orderly, safe climate conducive to teaching and learning; teacher behaviors that conveyed the expectation that all students would obtain at least minimum mastery; and the use of measures of pupil achievement as the basis for program evaluation. A more in-depth look at one of the less-effective schools documented the ways in which the school's lack of vision, leadership, and teacher collaboration undermined its attempt at schoolwide reform (Ceperley, 2000).

D'Amico (2000) reported case studies of four rural midwestern school districts where improvement initiatives had shown positive impacts on student performance. Although the districts and the initiatives varied considerably, several elements were common across sites, including a school culture that was open to change and that emphasized continuous improvement and self-analysis.

A Vermont study of factors contributing to student success in reading employed observations and interviews in nine K-4 schools—two schools with high reading achievement and one less successful school in each of three demographic clusters. Although instructional practices varied widely across the successful schools, these schools consistently displayed certain factors that were less evident in lower-achieving schools. These factors included opportunities and time for students to read; high-quality teachers; a long-term commitment to literacy and literacy improvement, backed by extensive professional development and stable leadership; and a shared vision across the school community (Mosenthal, Lipson, Mekkelsen, Russ, & Sortino, 2001).

Piontek and Dwyer (1998) generated *maps* of the reform process in six high-poverty urban elementary schools that have been nationally recognized for excellence. Ten commonly used reform strategies and processes were identified, including development of a common vision of school purpose, recognition of the school's culture and core beliefs, focus on learning for both students and teachers, experimentation with structural changes that may improve student outcomes, teaming, and decentralized decision making.

Finnan, Schnepel, and Anderson (2003) found large variations in culture across classrooms in four elementary schools in the Accelerated Schools Project, which attempts to *reculture* schools through intensive teacher training in certain principles and values that underlie *powerful learning environments*. Structured observations in 40 classrooms focused on 15 classroom manifestations of these elements of school culture. Significant differences were found at the grade level, but not the school level; these differences were linked to significant differences in student achievement between certain grades.

School Culture Questionnaires and Survey Research

A number of survey questionnaires concerning school culture have been developed in the past 20 years. The following studies developed instruments or used quantitative methods to examine one or more variables similar to those of the POSC.

The 42-item School Cultural Elements Questionnaire (SCEQ) (Cavanagh & Dellar, 1996, 1997a) is presented to school staff twice, first to assess their perceptions of their present school and then to assess their preferences for an ideal school. Statements such as “I spend time in personal reflection about my work” and “Teachers learn from each other” are rated on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Half of the items are worded negatively. Following administration of the SCEQ to 422 Australian teachers, factor analysis yielded six subscales: teacher efficacy, emphasis on learning, collegiality, collaboration, shared planning, and transformational leadership. Each school's mean scale scores were mapped on radial (wheel-like) graphs, with the scores indicated by the distance from the center. Comparison

of five schools' radial graphs showed similar profiles for the four high schools, which differed from that of the one elementary school. Comparison of one school's profiles from 2 consecutive years showed evidence of stability and change in various elements of school culture. The authors (1997b, 1998) drew on their cumulative survey findings to formulate a *school improvement model of school culture*, in which 11 propositional statements pertain to the stability of school culture, internal and external influences on it, and school improvement as a process of cultural change.

Davis, Ellett, and Rugutt (1999) modified Cavanagh and Dellar's SCEQ for use in the United States, administered it to 3,279 teachers in 80 urban schools, and generated a 55-item instrument with five factors: vision/leadership, collegial teaching and learning, professional commitment, openness/collaboration, and professional relations/interactions. Separate factor analyses of elementary, middle, and high school teachers' responses produced similar factors, but their relative strength varied across school levels.

The 50-item School Culture Inventory (Furtwengler & Upton, 1986) measures staff attitudes toward their implicit *shared social agreements* relative to effective-school culture. Statements such as "Teachers share a focused intensity toward their work" and "Students identify with the goals of the school" are rated on a 5-point scale ranging from A (*strongly agree*) to E (*strongly disagree*). Principal components factor analysis of responses from 962 teachers yielded 11 constructs: instructional leadership, problem-solving support, enforcement of consistency/order, clarity of staff and student roles, sense of community, recognition of success, commitment to quality, environmental support (by the school facilities, activities, and interpersonal caring), student membership (belonging), collaborative problem solving, and personal and professional self-worth.

The Continuous School Improvement Questionnaire (CSIQ) has professional staff rate their school on six dimensions: learning culture; connections among school, family, and community; shared leadership; shared goals for learning; purposeful student assessment; and effective teaching. Respondents use a 6-point scale to indicate the extent to which items such as "Assessment data are used to improve student performance" are present in their school, ranging from 1 (*not present*) to 6 (*present to a high degree*). Meehan et al. (2002) reported on the field test of the CSIQ with 3,821 staff in 132 schools in Kentucky, Tennessee, Virginia, and West Virginia. Within the sample, a subgroup of 11 schools previously identified as both high-performing schools *and* professional learning communities was labeled *Known* schools. Staff in elementary schools and schools containing elementary grades gave their schools the highest ratings overall and for all subscales. Scores were not related to rural/urban location. With the exception of one middle school, the *Known* schools had higher scores than other schools of the same type.

In another study, the CSIQ was administered to the professional staff of 48 Kentucky schools identified as high-performing on standardized achievement tests. The schools were placed in two groups based on achievement gap: those in which average subgroup achievement scores for African American students, students eligible for free and reduced-price lunch, and students in programs for *struggling learners* were within 10 points of the school average; and those in which average subgroup scores were more than 10 points below the school average.

Compared to schools with large achievement gaps, the staff in minimal-gap schools had significantly more positive perceptions of their school's learning culture, shared goals for learning, and effective teaching (Cowley & Meehan, 2003).

Gaziel (1997) developed the 30-item Perceived School Culture Inventory, which has six factors: academic emphasis, norm of continuous school improvement, norm of orderliness, norm of teamwork, adaptation to customer demands, and student participation. The instrument was completed by 724 teachers at 20 Israeli schools with large disadvantaged populations. Approximately 44% of the variance in school effectiveness (success on national matriculation exams in math, English, and Hebrew) was explained by school culture factors, including 30% for academic emphasis and 9% for the norm of continuous school improvement.

Heck and Marcoulides (1996) developed a 42-item instrument in which subscales were aligned with variables in a path model of organizational culture and school outcomes. Respondents indicate the accuracy of each statement on a scale ranging from 1 (*highly inaccurate*) to 5 (*highly accurate*). The instrument was administered to 156 teachers in 26 Singapore secondary schools. The strongest direct effects on school outcomes were through teacher attitudes about students' academic abilities and backgrounds, which, in turn, were influenced by organizational values (time for collaboration, encouragement of innovation, and participative decision making) and organizational climate (social relationships, open communication, and teacher collegiality).

The School Culture Quality Survey (Katzenmeyer, Uekawa, Borman, & Lee, 2001) measures the quality of school professional community as characterized by the four factors of shared vision, facilitative leadership, teamwork, and learning community. The instrument was completed by staff at 39 schools participating in the National Science Foundation's Urban Systemic Initiative. A value-added criterion for school-level math achievement gain was created, and schools were categorized as high, average, or low math gain. The high-gain group had significantly higher subscale scores than the other two groups, with the largest effect sizes on the shared vision and learning community subscales. No differences were found between the subscale scores of average- and low-gain schools.

Supovitz (2002) developed five school culture survey scales with a total of 32 items to examine peer collaboration, collective responsibility, faculty influence (on school policy and practices), deprivatization (team-teaching, observation, and coaching), and reflective dialogue. As part of a major districtwide restructuring effort, 41 Cincinnati schools took part in a team-based schooling initiative to promote collaborative teacher practices aimed at improving instruction and student outcomes. A 4-year evaluation of the district's efforts included three administrations of the survey to approximately 3,000 teachers in all Cincinnati schools. Significant differences were found between team-based and non-team-based schools on faculty influence at all levels and for all three administrations. On the other school culture scales, patterns of differences between team-based and non-team-based schools varied across teacher level, with all scales showing differences by the final year at the high school level and with few differences seen at the elementary level. However, there was no evidence that change in school culture produced change in instructional practices. Teachers reported that professional

development related to the initiative focused on teaming processes, but not on the next step of using those processes to plan instruction.

Licata and Harper (2001) examined the correlates of a *robust* school vision shared by teachers. A robust vision is defined as one that *dramatizes the discrepancy* between a school's present challenges and its future goals and thereby elicits staff empathy and engagement in the struggle. A survey of 554 middle school and junior high school teachers in 38 schools found that teachers' use of more dramatic adjectives to describe their school's vision was related to their perceptions of their school's organizational health, particularly academic emphasis (high academic standards and student respect for achievement) and institutional integrity (protection of teachers from unreasonable outside demands).

In a survey of 179 teachers in 37 New Jersey elementary schools, Hoy and Woolfolk (1993) studied the relationships between teacher efficacy and school organizational structures. Teachers' personal efficacy—confidence in their own ability to teach even the most difficult students—was related to their perceptions of a schoolwide emphasis on academic excellence and their principal's influence with superiors and willingness to use it in support of teachers.

Using surveys of 475 teachers and 47 school leadership team members in 12 middle schools, Lucas and Valentine (2002) explored possible relationships among six transformational leadership behaviors of principals, those same behaviors as they were exhibited by school leadership teams, and six aspects of school culture. Significant relationships were found between the principal's transformational leadership behaviors and those of the school team of teacher-leaders. One aspect of school culture—collaborative leadership and decision making—was related to all six leadership behaviors, primarily when exercised by the leadership team. In relation to this aspect, the principal's articulation of a vision was mediated by the leadership team. Among the other aspects of school culture, teacher collaboration and schoolwide unity of purpose were more strongly related to principal behaviors than to those of the leadership team; professional development and collegial support were related to a mixture of principal and leadership team behaviors; and schoolwide learning partnership had the weakest relationships to leadership behaviors.

Lauer (2001) surveyed 155 K-5 teachers in 10 midwestern schools to examine their perceptions of their professional development experiences and school culture (school support and recognition of staff, shared decision making, home-school connections, and shared responsibility for the learning of all students). Three high-performing, high-needs (HPHN) schools were compared to seven others with varying combinations of economic need and proficiency level on state assessments. Ratings of school culture were most positive among teachers in HPHN schools and least positive among teachers in low-performing, high-needs schools. Shared responsibility for the learning of all students was rated highest in HPHN schools and was significantly higher in all high-performing schools, compared to moderate- and low-performing schools.

Barnett and McCormick (2004) reported on a survey of a random sample of 373 secondary teachers in New South Wales, Australia, which examined the relationships between the principal's leadership style and behaviors and various dimensions of the school's learning

culture. Teachers' perceptions of their principal's concern for each teacher and fostering of teacher development were significantly related to perceptions that the principal had a strong vision for the school. Teachers' perceptions of strong principal vision, in turn, were related to *task-focus* school goals and teachers' instructional strategies that encouraged students to value learning, as well as to expectations that teachers would work hard and seek to improve their teaching. Teachers' beliefs in their ability to affect student learning were related to the school's task-focus goals.

A 3-year evaluation of the National Science Foundation's Urban Systemic Initiative (USI) in four cities used structural equation modeling and path analysis to examine factors that influence math achievement and gender and racial/ethnic gaps in math achievement. Findings highlighted the success of USI schools in closing the achievement gap and expanded the previous NSF model of *improvement drivers* to include aspects of school culture, including a shared vision, facilitative leadership, shared decision making, a belief in students' ability to learn, and a faculty focus on collaborative working and learning (Borman et al., 2002).

The 60-item School Work Culture Profile (Johnson, Snyder, Anderson, & Johnson, 1993) measures staff perceptions of the collective work practices in a school or district. Reames and Spencer (1998) administered the instrument, along with measures of organizational commitment and teacher efficacy, to 275 Georgia middle school teachers. The instrument's four dimensions (teachers' perceptions of schoolwide planning, staff development, program development, and school assessments) were significantly related to teachers' organizational commitment and, to a lesser extent, to personal teaching efficacy but accounted for only 8% of the variance in these two variables.

Summary

Many of the qualitative and large multimethod studies cited here focused on the development of professional learning community as an indicator of school cultural change. Such communities were characterized by a collegial environment in which teachers held common educational beliefs and goals and were actively engaged in self- and school improvement efforts linked to their students' needs. The development of professional learning community was frequently related to such desired outcomes as improved instructional practices and gains in student achievement.

Similarly, instruments have been developed and quantitative assessments of school culture have been conducted that examine school staff's perceptions of various aspects of school culture. These have included collegiality, collaboration, shared vision and leadership, attitudes toward learning, teacher efficacy, and accountability for student and school outcomes and for school improvement.

In sum, the literature supports the importance of the dimensions of culture on which the POSC was based. Of particular note, across various types of studies, is the pervasiveness of faculty collaboration, shared mission/vision focused on student learning, a common set of beliefs and expectations about teaching and learning, and a sense of collective responsibility for the success of all students.

Section 4

Development of the POSC

SECTION 4. DEVELOPMENT OF THE POSC

In January 2004, Edvantia staff began work on developing an instrument to measure school culture, based on the model presented in the *Creating a High-Performance Learning Culture* training module (Walsh et al., 2003). The model contains nine dimensions:

1. Ability and Achievement
2. Effort and Efficacy
3. Power and Control
4. Physical Environment
5. Policies and Procedures
6. Vision
7. Mission
8. Distributed Accountability
9. Relationships

The underlying theory of the model “posits that, while individuals’ behaviors are guided initially by intrinsic personal beliefs, their behaviors can be modified by strategic structures designed to reinforce organizational core beliefs as stated in the vision/mission. Over time, changes in behaviors can lead to changes in beliefs” (Walsh et al., 2003, p. 7).

In February 2004, module developers began the process of generating draft items for an inventory initially named the School Culture Survey (SCS). An external consultant reviewed the 335 draft items, eliminated unclear or redundant items, and split items that contained multiple topics. Module developers then reviewed the remaining 311 items and eliminated any they believed would not show differentiation in respondents’ scores. The pilot test version of the SCS that emerged from this process included 205 selected-response items grouped by the nine dimensions and 4 demographic items: role, gender, ethnicity, and building level (elementary, middle/junior, and high school).

Pilot Test

The pilot test of the SCS was conducted in May and June 2004. The purpose of the pilot test was to begin an exploration of the instrument's dimensions and statistical properties. Edvantia staff sought to reveal the correlations between items intended to constitute distinct subscales and assess discrete concepts, and to delete items not highly correlated with others in each subscale. In other words, staff sought data reduction, because the 205-item instrument was cumbersome and excessively long. Staff also were interested in the reliability of the instrument's components.

The 205-item version of the SCS required four pages, front/back. Five selected-response options in a Likert scale ranged from 1 (*not at all*) to 5 (*very much*). Since this was a pilot test, a sixth option of *don't know* also was provided. Items were distributed randomly throughout the inventory and were not grouped by dimension.

The SCS was administered at 12 schools (401 completed surveys) in three states: 1 middle school in Virginia; 2 elementary schools, 2 middle schools, and 1 high school in West Virginia; and 3 elementary schools, 1 middle school, and 2 high schools in Tennessee. Respondents were 85% female and 15% male; three fourths were regular classroom teachers; nearly all (97%) were White. Respondents were from all three building levels: elementary (39%), middle/junior high (26%), and high school (35%).

Surveys were scanned into school files using Remark software; responses to the items were exported to SPSS statistical software for cleaning, merging, and subsequent analyses.

Internal consistency reliability was measured using Cronbach's Alpha. The coefficient for all items on the survey was .99; coefficients ranged from .94 to .97 on dimension subscales. Means per item ranged from 3.61 to 4.09, and standard deviations ranged from 0.57 to 0.69. Content validity was assumed, based on the involvement of the developers of the high-performance learning culture module in the creation and refinement of survey items.

The SCS included nine hypothesized dimension subscales:

1. **Distributed Accountability** assesses the extent to which staff believe that the adults within the school community share responsibility for the achievement of all students.
2. **Policies and Procedures** measures the degree to which staff perceive the written and unwritten norms and standards are aligned with the espoused core beliefs of the school.
3. **Effort and Efficacy** reflects the degree to which teachers believe that good teaching is the primary determinant of achievement and that they can make a difference in the learning of all students. It also reflects how the school communicates that all students can learn and that parents can make a difference in the effort their child expends.
4. **Vision** assesses the extent to which staff perceive that all students are engaged in learning and all are achieving at high levels. Staff work together to ensure that each student receives appropriate instruction and support in a learning-enriched environment. It also

assesses the extent to which students and adults believe their individual and collective efforts will improve performance.

5. **Relationships** reflects the degree to which staff perceive that the core beliefs of the school manifest themselves in the quality of connections between and among individuals and groups within a school.
6. **Ability and Achievement** reflects the extent to which staff believe that all students can learn and succeed in school. It also indicates the extent to which staff believe ability and achievement are related to individual factors such as socioeconomic, racial, cultural and ethnic background, or gender.
7. **Power and Control** assesses the extent to which power and control operate on different stages of school life—schoolwide, within classrooms, across classrooms, and between home and school. It also assesses whether school administrators dominate decision making or there are mechanisms for involving teachers, students, and parents.
8. **Physical Environment** measures the extent to which staff perceive that the physical environment in which learning occurs—including school grounds, hallways, restrooms, office space, the gymnasium, and, most of all, classrooms—is a highly visible arena in which to address how things are done in the school.
9. **Mission** assesses the extent to which staff believe they set high expectations for all students and provide the environment, instruction, and support to ensure that all students are learning and achieving as measured by rigorous standards.

Letters of appreciation and school profiles were sent to participating schools. These profiles included brief definitions and mean item scores for the nine dimension subscales. Aggregated mean scores of other participating schools were provided as a source of comparison.

Edvantia staff completed the pilot test analyses, revised the instrument accordingly, and renamed it the Perceptions Of School Culture (POSC) to more clearly describe the intent of the instrument. As a first step in reducing the number of items, any item with a skew value of 1.00 or higher, or with a response percentage of 5% or more for *don't know*, was eliminated. Retainment criteria included inspection of the median scores, standard deviations, item-to-item correlations, item-to-subscale correlations, Cronbach Alpha reliability coefficients, and Varimax and Oblique factor analyses. To be retained, an item had to meet the cut-off value specified for at least three of the retainment criteria. Of the 205 items in the pilot test version of the survey, 79 (39%) were eliminated, and 126 (61%) were retained for the field test version of the POSC.

Field Test

The field test of the POSC took place in fall 2004. The field test version of the instrument included 126 selected-response items and 6 demographic items (role, gender, ethnicity, building level, years experience, and education level), and was three pages long (front/back).

Schools that participated in the pilot test were invited to take part in the field test, and additional schools from across the United States were recruited by notices posted on both the Edvantia Web site and the Regional Educational Laboratory Network Web site. A total of 42 schools from eight states volunteered to participate in the field test of the POSC. A limited number of participating schools were given the opportunity to take part in a test-retest reliability activity.

By November 2004, after several follow-up efforts, 31 schools had returned the completed inventories (a 74% return rate), and 4 of those schools took part in the test-retest reliability check. The 31 schools generated a total of 1,154 respondents, and 141 of them completed the instrument twice for the test-retest analysis. Nearly three fourths (73%) of the total respondents were female, 72% were regular classroom teachers, and 88% were White. Respondents were from all three building levels: elementary (32%), middle/junior high (24%), and high school (44%).

The completed inventories were scanned into school files using Remark software and then exported to SPSS statistical software for cleaning, merging, and subsequent analyses. The participating schools received a school culture profile that included brief definitions and the school's mean item scores for the nine dimension subscales.

Four types of analyses were conducted to establish the instrument's reliability and validity. Internal consistency reliability was measured via Cronbach Alpha reliability coefficients for the full POSC (all 126 items) and for the dimension subscales; this analysis was also conducted for the external subscales used in the assessment of concurrent validity. For each dimension subscale, test-retest (stability) reliability was measured via Pearson Product Moment correlations between test and retest scores. Concurrent validity was established via Pearson Product Moment correlations between POSC dimension subscales and corresponding subscales from the Measure of School Capacity for Improvement (MSCI) and the School Culture Elements Questionnaire (SCEQ). Construct validity was measured via factor analysis of the 126 POSC items. The results of these analyses are presented in the following sections.

Internal Consistency Reliability

The reliabilities of the POSC and its dimension subscales were estimated with the Cronbach Alpha coefficient, a measure of the internal consistency reliability of a scale. Alpha reliability estimates for the nine dimension subscales ranged from .90 to .96, with the full instrument having a reliability of .99. The alpha coefficients showed that the POSC dimension subscales were highly reliable for this administration.

As a measure of the internal consistency of the additional subscales used in the assessment of concurrent validity, Cronbach Alpha reliability coefficients were generated for two subscales from the Measure of School Capacity for Improvement (MSCI) and four subscales from the School Culture Elements Questionnaire (SCEQ). Alpha reliability estimates for the six subscales ranged from .83 to .94, showing that the subscales were highly reliable. Table 1 shows the internal consistency reliability coefficients for the POSC, each of the POSC dimension subscales, and the MSCI and SCEQ subscales. The *N* values vary because respondents who omitted items in a subscale were dropped from that analysis.

Table 1: Cronbach Alpha Reliability Coefficients by Full Group for the POSC Dimension Subscales and the MSCI and SCEQ Subscales

	<i>N</i>	Cronbach Alpha Coefficient
All items on the POSC	858	.99
POSC: Distributed Accountability	1,098	.92
POSC: Policies & Procedures	1,070	.95
POSC: Effort & Efficacy	1,068	.96
POSC: Vision	1,074	.95
POSC: Relationships	1,093	.94
POSC: Ability & Achievement	1,083	.94
POSC: Power & Control	1,095	.91
POSC: Physical Environment	1,095	.90
POSC: Mission	1,076	.95
MSCI: Differentiated Instruction	1,117	.94
MSCI: Expectations for Student Performance	1,122	.93
SCEQ: Teacher Efficacy	1,128	.83
SCEQ: Collaboration	1,121	.84
SCEQ: Shared Planning	1,109	.90
SCEQ: Transformational Leadership	1,120	.84

Note: All significant at .01.

Stability Reliability

Table 2 shows the Pearson Product Moment correlations between participants' original test scores and subsequent retest scores for each dimension subscale. This table shows an overall pattern of stability for the entire POSC across its nine dimension subscales. The Relationships dimension subscale had the highest correlation at .73; the Ability and Achievement dimension subscale held up least well over time, with a correlation of .53. Overall, these correlations indicate moderate to high positive relationships (Hinkle, Wiersma, & Jurs, 2003). All analyses were significant at the .01 level.

Table 2: Field Test-Retest Pearson Product Moment Correlations for Four Schools

Dimension Subscale	<i>N</i>	Correlation
Distributed Accountability	106	.71
Policies and Procedures	106	.71
Effort and Efficacy	106	.62
Vision	106	.71
Relationships	107	.73
Ability and Achievement	106	.53
Power and Control	107	.60
Physical Environment	107	.71
Mission	106	.64

Note: All significant at .01.

Concurrent Validity

In order to assess concurrent validity, additional subscales were included in the field test instrument: two subscales (eight items each) from the MSCSI (Riffle, Howley, & Ermolov, 2004), and four subscales (seven items each) from the SCEQ by Cavanagh and Dellar (1996). The POSC and the additional subscales were merged into one inventory for ease of administration. Table 3 shows the results of Pearson Product Moment correlations for each of eight POSC dimension subscales with the corresponding MSCSI or SCEQ subscale. Seven of the eight correlations were in the .70s and .80s; the eighth correlation was .69. The Physical Environment dimension subscale did not have a subscale match with either of the other instruments.

Table 3: Pearson Product Moment Correlations by Full Group for POSC Dimension Subscales With MSCSI and SCEQ Subscales

Dimension Subscale with Additional Subscale	<i>N</i>	Correlation
POSC Distributed Accountability - SCEQ Transformational Leadership	1,153	.82
POSC Policies & Procedures - SCEQ Shared Planning	1,153	.81
POSC Effort & Efficacy - SCEQ Teacher Efficacy	1,153	.77
POSC Vision - SCEQ Shared Planning	1,153	.81
POSC Relationships - SCEQ Collaboration	1,154	.76
POSC Ability & Achievement - MSCSI Differentiated Instruction	1,153	.80
POSC Power & Control - SCEQ Transformational Leadership	1,153	.77
POSC Mission - MSCSI Expectations for Student Performance	1,153	.69

Note: All significant at .01.

The fact that these correlations were statistically significantly different from zero is not particularly noteworthy. With *N* greater than 1,100, almost any correlation other than zero would be statistically significant. The noteworthy results here are (1) all correlations are in the anticipated direction, that is, positive, and (2) the magnitudes of the correlations are substantial for this type of concurrent validity estimate.

Construct Validity

Factor analysis is a technique that generates artificial variables (factors) representing one or more constructs measured by the entire inventory or test—in this case, the 126 items of the field test version of the POSC. Although factors are artificial variables, they are defined or described in terms of the variables (126 items) on which they are based. Pattern/structure coefficients (also known as factor loadings) are correlations between the scores on individual items and factors. Thus, a high positive pattern/structure coefficient indicates that the item contributes extensively to the composition of the factor.

Factor analysis was conducted using Varimax and Oblique rotations. The commonly used criterion for retaining extracted factors is to retain those with an eigenvalue of 1.0 or greater. That criterion was followed in these analyses.

A desirable outcome of factor analysis is to have as many noteworthy factors as there are logical constructs underlying the concept being studied. For the POSC, it would be desirable to have the 126 items form nine factors, with each factor being equivalent to a dimension, or subscale. After inspecting the results from both rotations, staff decided the Varimax version provided the cleanest fit, giving the best picture of the 126 items. This factor analysis resulted in 10 factors with eigenvalues greater than 1.0, accounting for 67% of the variance. However, Factor 9 had only one item with a pattern/structure coefficient above .300, and Factor 10 had none. Factors 7 and 8 included four and three items, respectively. However, all seven of these items had nearly equivalent coefficients in one of the previous six factors; therefore, these items were moved into the six more robust factors. By making these adjustments, the variance accounted for dropped from 67% to 60%.

The resulting six factors included items from all of the original nine dimensions. However, Edvantia staff made the decision to keep the original nine dimension subscales when conducting the norming study so that the six factors could be reconfirmed with a larger sample before reducing the number of POSC subscales from nine to six. In an effort to keep a fairly equivalent number of items from each of the original nine dimensions, staff reviewed the items within each of the six factors and retained a balanced set of items for the norming version of the POSC. As a result of this review, 55 items were eliminated from the field test version of the instrument, leaving 71 items for the norming version of the POSC.

Figure 1 provides a visual depiction of the six field test factors and the retained items within them. The color coding illustrates the distribution of the items from the original nine dimensions to the six factors. For example, items from the Power and Control dimension (dark blue) were assigned to Factors 3, 4, and 5. Also, note that there are 10, not 9, colors in the color key. This demonstrates the fact that the items from the Effort and Efficacy dimension split neatly into two groups located in two factors; one group was composed entirely of student-based items, the other of teacher-based items. This same explanation applies to the color code of Figure 2 (in Section 5).

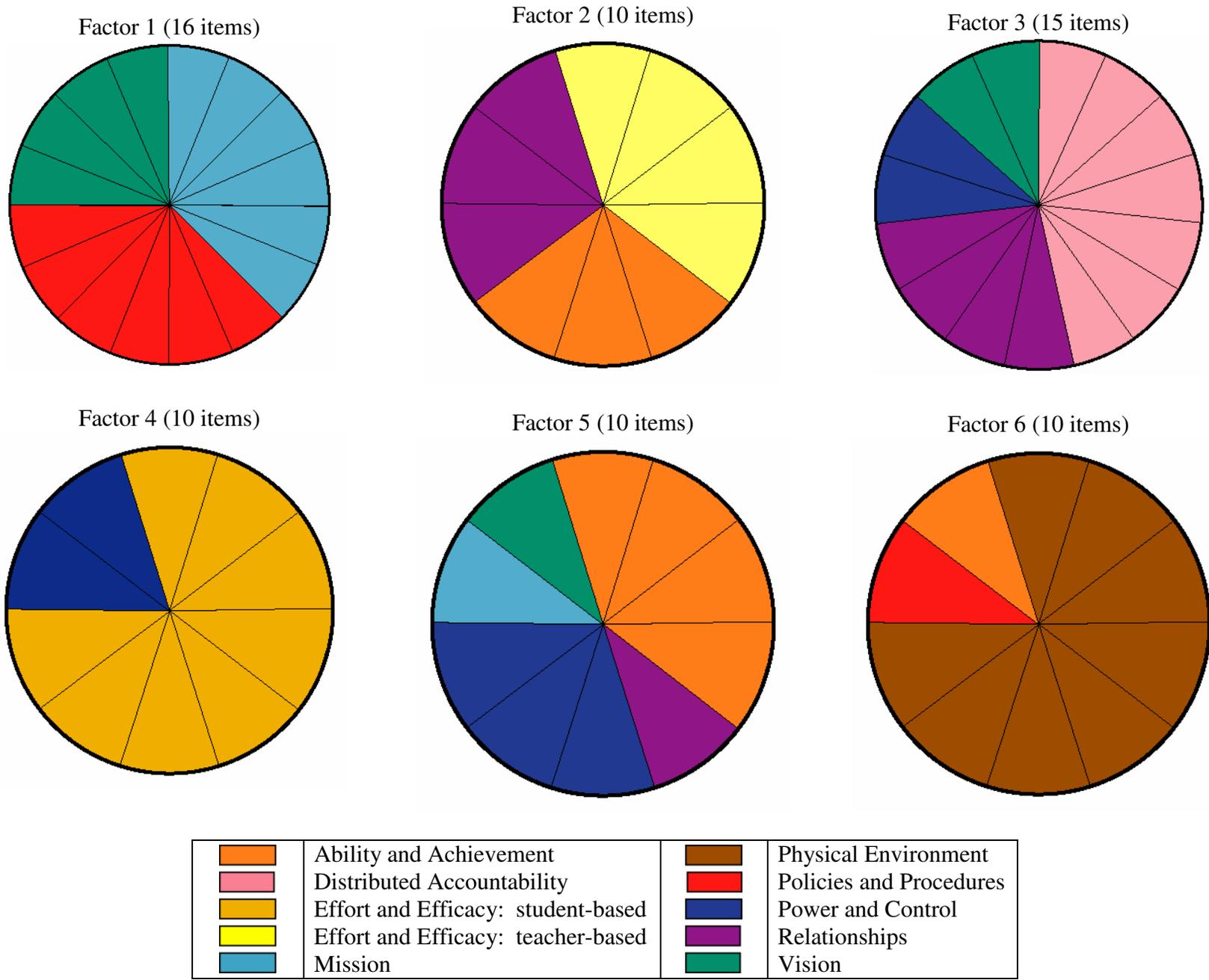


Figure 1: POSC Trimmed Field Test Factors Composed of Individual Items From Original Nine Dimensions

Section 5

POSC Norming Study

SECTION 5. POSC NORMING STUDY

Introduction

After pilot and field testing, the POSC instrument needed to be tested further with a large number of schools in order to (1) confirm field test factors (see Step 1: Psychometric Properties of the POSC) and (2) establish norms for different groups (see Step 2: Normative Analyses of the POSC). Further, the norming study would confirm the utility of the POSC for school improvement initiatives.

The objectives of the norming study were four-fold: (1) to administer the revised POSC following the 2004 field test to a large sample of schools representing a variety of building levels, locale types, and school sizes; (2) to explore construct validity (factor analysis) and estimate internal consistency (Cronbach Alpha); (3) to establish norm groups based on relevant characteristics; and (4) to produce the POSC User Manual and Technical Report.

Two primary research questions guided the norming study: (1) What are the underlying factors of the POSC? (2) What are the POSC norms for various groups of schools? Norms were established so that a raw score on the POSC can be converted quickly into a percentile score for the purpose of comparisons, such as at the building level (elementary, middle or junior high, high school, K-8, or other); locale type (rural, town, suburban, or city); and school size (small, medium, or large).

The POSC was revised based on field test results. As noted earlier, the norming version contained 71 items with Likert-type response options using a scale of 1 (*not at all*) to 5 (*very much*) and 4 demographic items (gender, role, ethnicity, and years experience). This machine-scorable revised version was printed on ivory paper and stapled; the first page (printed front/back) contained the 71 items; the second page contained the 4 demographic items. Response time was less than 30 minutes, although it is important to recognize that the administration of the POSC is untimed.

A packet of materials (containing the norming version of the POSC and an Informed Consent Form) was submitted to the Edvantia Institutional Review Board for review and approval before the norming study began. A copy of the Informed Consent Form was provided to participants with each copy of the survey.

Methods

Recruitment

In an effort to involve staff from a large number of diverse schools, Edvantia staff began school recruitment in February 2005. Letters of invitation were sent to all schools that had participated in either the pilot and/or field tests. Similarly, letters were sent to all district superintendents in the Appalachia Educational Laboratory region (Kentucky, Tennessee, Virginia, and West Virginia), as well as in North Carolina and South Carolina (both states were in the region served by the Region IV Comprehensive Center). Announcements were placed on both the Edvantia and Regional Educational Laboratory Network Web sites. Finally, Edvantia staff worked with staff of the Kentucky Association of School Administrators to announce the norming study to Kentucky schools participating in the Kentucky Leadership Academy.

Data Collection

By the middle of March 2005, 477 schools from 13 states had volunteered to participate in the POSC norming study. The 13 states included Florida, Georgia, Kentucky, Louisiana, Michigan, New York, North Carolina, Ohio, South Carolina, Tennessee, Texas, Virginia, and West Virginia. Packets were prepared and shipped to each school. These packets included instructions for administering the surveys; a postage-paid, self-addressed return envelope for shipping the completed surveys; and an envelope for each professional (certified) staff member that included a blank survey and a copy of the Informed Consent Form. Respondents were to seal their completed surveys in the envelopes before returning them to the designated school contact person, who would return all of the completed surveys to Edvantia. All 477 school packets were shipped out by the middle of March. The suggested deadline for returning completed surveys was March 31, although schools that came on board later in the recruitment process were given an extra couple of weeks.

By the end of April, 9,618 completed surveys were received from 364 schools in 11 states (no surveys were returned from Michigan or South Carolina). Survey data were scanned electronically using Remark scanning software and were cleaned before being exported to SPSS for analysis. Individual school files were merged to form one master file for analyses.

As a token of appreciation, each participating school and district (where multiple schools participated) received a free profile of its aggregated results on the POSC. These profiles were generated and mailed in May and June, and consisted of a two-page summary of each school's (or district's) results on the nine hypothesized dimensions.

Sample

Because of the high degree of variance in response rates within schools, only those schools with at least a 60% return rate were included in the final database. Presumably, these schools would provide a more accurate reflection of their school culture than those with a lower response rate. Staff created a new database containing only those schools where the response rate by professional staff equaled or exceeded 60%. This new database contained 207 schools (57%

of total schools) and 6,215 cases (65% of total cases) and represented nine states (excluding Ohio and Texas). The number of professional staff ranged from 4 to 129, and the number of students per school ranged from 38 to 2,200. Table 4 displays the number and percentage of respondents and schools in the database based on various characteristics (by state, building level, locale type, and school size). Locale types are based on National Center for Education Statistics (NCES) Johnson codes (Naum, Sable, & Sietsema, 2005); school sizes are based on NCES categories (Hoffman, 2003).

Table 4: Number and Percentage of Respondents and Schools by Various Characteristics

Characteristics	Respondents		Schools	
	Number	Percent	Number	Percent
State				
Florida	35	1	1	1
Georgia	38	1	1	1
Kentucky	2,336	38	81	39
Louisiana	202	3	7	3
New York	35	1	1	1
North Carolina	454	7	13	6
Tennessee	882	14	31	15
Virginia	1,298	21	34	16
West Virginia	935	15	38	18
Building Level				
Elementary	2,643	43	102	49
Middle/Junior High	1,388	22	43	21
High	1,341	22	28	14
K-8	492	8	20	10
Other	351	6	14	7
Locale Type (Johnson Code)				
2 Midsize City	295	5	10	5
3 Fringe of Large City	789	13	22	11
4 Fringe of Midsize City	1,038	17	34	16
5 Large Town	85	1	3	1
6 Small Town	1,003	16	29	14
7 Rural Outside CBSA	1,713	28	66	32
8 Rural Inside CBSA	1,292	21	43	21
School Size (Student Enrollment)				
Very Small (1 to 99)	39	1	4	2
Small (100 to 299)	842	14	49	24
Medium (300 to 749)	3,898	63	130	63
Large (750 to 1,499)	1,221	20	22	11
Very Large (1,500 to 2,200)	215	4	2	1

The professional staff members responding to the POSC were primarily women (80%); the predominant ethnicity was White (92%). The majority were regular classroom teachers (70%); nearly a third (29%) had extensive teaching experience (more than 20 years). Table 5 displays the number and percent of respondents in the database, based on demographic characteristics (by gender, role, ethnicity, and years experience).

Table 5: Number and Percentage of Respondents by Demographic Characteristics

Demographic Characteristics	Number*	Percent
Gender		
Male	1,177	20
Female	4,874	80
Role		
Counselor	154	3
Librarian/Media Specialist	135	2
Principal/Assistant Principal	191	3
Regular Classroom Teacher	4,277	70
Special Education Teacher	711	12
Other	626	10
Ethnicity		
American Indian	41	1
Asian	13	<1
Black/African American	306	5
Hispanic/Latino	35	1
Native Hawaiian/Pacific Island	5	<1
White	5,450	92
Other	75	1
Years Experience		
Less than 1 year	287	5
1 year to 5 years	1,222	20
More than 5 to 10 years	1,107	18
More than 10 to 15 years	905	15
More than 15 to 20 years	774	13
More than 20 years	1,777	29

*Numbers do not equal 6,215 due to item-level missing responses.

Step 1: Psychometric Properties of the POSC

Construct Validity

To confirm the factors within the POSC and thereby assess the construct validity of the instrument, researchers performed factor analyses. As stated earlier, factor analysis is a technique that generates artificial variables (factors) representing the constructs measured by the entire instrument—in this case, the 71 items of the POSC. Although factors are artificial variables, they are defined or described in terms of the variables (71 items) on which they are based. Pattern/structure coefficients (“loadings”) are correlations between the scores on individual items and factors that vary between ± 1.0 and indicate the strength and direction of a relationship between an item (variable) and a factor. Thus, a high positive pattern/structure coefficient indicates that the item contributes extensively to the composition of a factor. The most desirable outcome is for an item to load on only one factor, or at least to have a high pattern/structure coefficient (loading) on one factor and a low one (below .30) on other factors. However, items do sometimes load on multiple factors (cross-load). Generally, researchers assign the item to the factor with which it is most strongly associated (highest coefficient). For the POSC, it would have been desirable to have the 71 items form nine factors, with each factor equivalent to one of the nine hypothesized dimensions from the learning culture model.

Principal components factor analysis was used with Varimax (orthogonal, in which rotated axes remain at right angles, or uncorrelated) and Oblique (nonorthogonal) rotations. Both rotations specified that factors with eigenvalues greater than 1.00 should be extracted; no other specifications about the number of factors were stipulated. While this is a common practice, Thompson (2004) suggests that researchers “exercise some judgment” (p. 32) in using this strategy. Factor analyses were performed on individual respondent-level data (6,215 cases). The N:p ratio (number of observations for each variable) was approximately 88:1, far above the minimum of 10:1 recommended by Gable and Wolf (1993). Both the Varimax and Oblique rotations generated six robust factors, with the beginnings of a seventh factor. However, the Varimax rotation provided the cleanest, best fit for the 71 items and forms the basis for the following results.

Cases (respondents) with missing item-level responses were excluded from the factor analysis, resulting in 4,996 cases (a revised N:p of 70:1). The principal components Varimax rotation factor analysis resulted in final communalities in the .50s (13 items), .60s (39), and .70s (16). These statistics reflect “how much of the variance in a measured variable the factors as a set can reproduce” (Thompson, 2004, p. 20); therefore, the results indicate that at least 50% of the variance in each item was explained by the factor solution. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy test (a measure of whether the distribution of values is adequate for conducting factor analysis) resulted in a statistic of .99, deemed “marvelous” by Kaiser (George & Mallery, 2003). The Bartlett Test of Sphericity (a measure of the multivariate normality of the set of distributions) resulted in a significant chi square value of 285114.7 (2485 df, sig. .000), indicating the data are acceptable for factor analysis.

Table 6 presents the rotated pattern/structure coefficients for the POSC from the Varimax rotation. The first column indicates the items within each factor (the number refers to the

intensity with which each item loaded, not the actual item number from the instrument). The stronger the association between an item and a factor (high coefficient), the quicker the item will be assigned to a factor (i.e., item 1, 2, 3, etc.). Also, the factors are extracted in order of greatest variance accounted for by the items comprising the factor. Thus, Factor 1 accounts for more total variance than any of the other factors, which generally show a consecutively decreasing pattern.

Table 6: Original Norming Study Factor Analysis Results With Varimax Rotation

Number of Items	Pattern/Structure Coefficients (Loadings)						
	Factor 1 (14% of variance)	Factor 2 (13% of variance)	Factor 3 (13% of variance)	Factor 4 (11% of variance)	Factor 5 (6% of variance)	Factor 6 (4% of variance)	Factor 7 (3% of variance)
1	.78	.70	.79	.71	.79	.57	.42
2	.76	.68	.78	.71	.78	.51	
3	.71	.66	.74	.66	.70	.49	
4	.69	.65	.70	.63	.68	.44	
5	.69	.64	.69	.60	.51		
6	.68	.62	.68	.59			
7	.68	.62	.66	.52			
8	.63	.58	.64	.51			
9	.60	.57	.55	.50			
10	.59	.55	.55	.48			
11	.58	.54	.54	.48			
12	.57	.54	.53	.48			
13	.50	.51	.53	.40			
14	.46	.50	.43				
15		.49	.39				
16		.48	.37				
17		.47					
18		.37					

As Table 6 shows, the Varimax rotation resulted in six factors, with the emergence of a seventh factor with one item loading above .30. The combined amount of variance accounted for by the first six factors was 61%. Edvantia researchers examined these factors to ensure that all items fit cohesively into one construct/factor. Further, individual items were examined to determine their contribution to the reliability of each factor and to the POSC as a whole. Because the seventh factor contained only one item with a pattern/structure coefficient above .30, this factor was eliminated. The item within the factor was also eliminated, since it did not load elsewhere above .30. In an effort to further reduce the number of items on the final version of the POSC, and to provide more balanced factors (which would later become subscales), the number of items was reduced within each of the first four factors to the first 13 items loading within them (i.e., the first three factors were “trimmed” so that the first four factors had 13 items each). One item that was trimmed from Factor 3 also loaded above .30 on Factor 6; the decision was made to include the item in Factor 6 so that Factors 5 and 6 each contained five items. Therefore, nine items were eliminated from the norming version of the POSC. Table 7 displays the final results of the factor analysis, after these revisions to the instrument.

Table 7: Final Norming Study Factor Analysis Results With Varimax Rotation

Number of Items	Pattern/Structure Coefficients (Loadings)						
	Factor 1 (14% of variance)	Factor 2 (13% of variance)	Factor 3 (13% of variance)	Factor 4 (11% of variance)	Factor 5 (6% of variance)	Factor 6 (4% of variance)	Factor 7 (3% of variance)
1	.78	.70	.79	.71	.79	.57	.42
2	.76	.68	.78	.71	.78	.51	This factor was eliminated.
3	.71	.66	.74	.66	.70	.49	
4	.69	.65	.70	.63	.68	.44	
5	.69	.64	.69	.60	.51	.39	
6	.68	.62	.68	.59			
7	.68	.62	.66	.52			
8	.63	.58	.64	.51			
9	.60	.57	.55	.50			
10	.59	.55	.55	.48			
11	.58	.54	.54	.48			
12	.57	.54	.53	.48			
13	.50	.51	.53	.40			

Recall that the original high-performance learning culture model contained nine dimensions; initially, it was hypothesized that the POSC also contained nine discrete dimensions. Factor analysis revealed that, in actuality, only six discrete factors exist. However, all nine of the dimensions are represented within the six factors, as had been found previously in the field test factor analysis. Figure 2 presents each factor as a pie chart, with each “slice” representing an item within the factor. Each slice is color coded to indicate which of the original nine dimensions it represents. Each factor is described in more detail below.

- Factor 1 contains a total of 14 items: 6 from the Relationships dimension (purple), 5 from the Distributed Accountability dimension (pink), 2 from the Power and Control dimension (dark blue), and 1 from the Vision dimension (green). However, the green item has a series of stripes on it, indicating this item was eliminated (trimmed) to yield the final factor of only 13 items. This factor primarily focuses on Relationships and Distributed Accountability.
- Factor 2 contains 18 items: 7 from the Policies and Procedures dimension (red), 6 from the Mission dimension (light blue), 4 from the Vision dimension (green), and 1 from the Physical Environment dimension (brown). Two red items and 1 each of the green, brown, and blue items were eliminated, resulting in a final factor of 13 items. This factor primarily focuses on Vision, Mission, and Policies and Procedures.

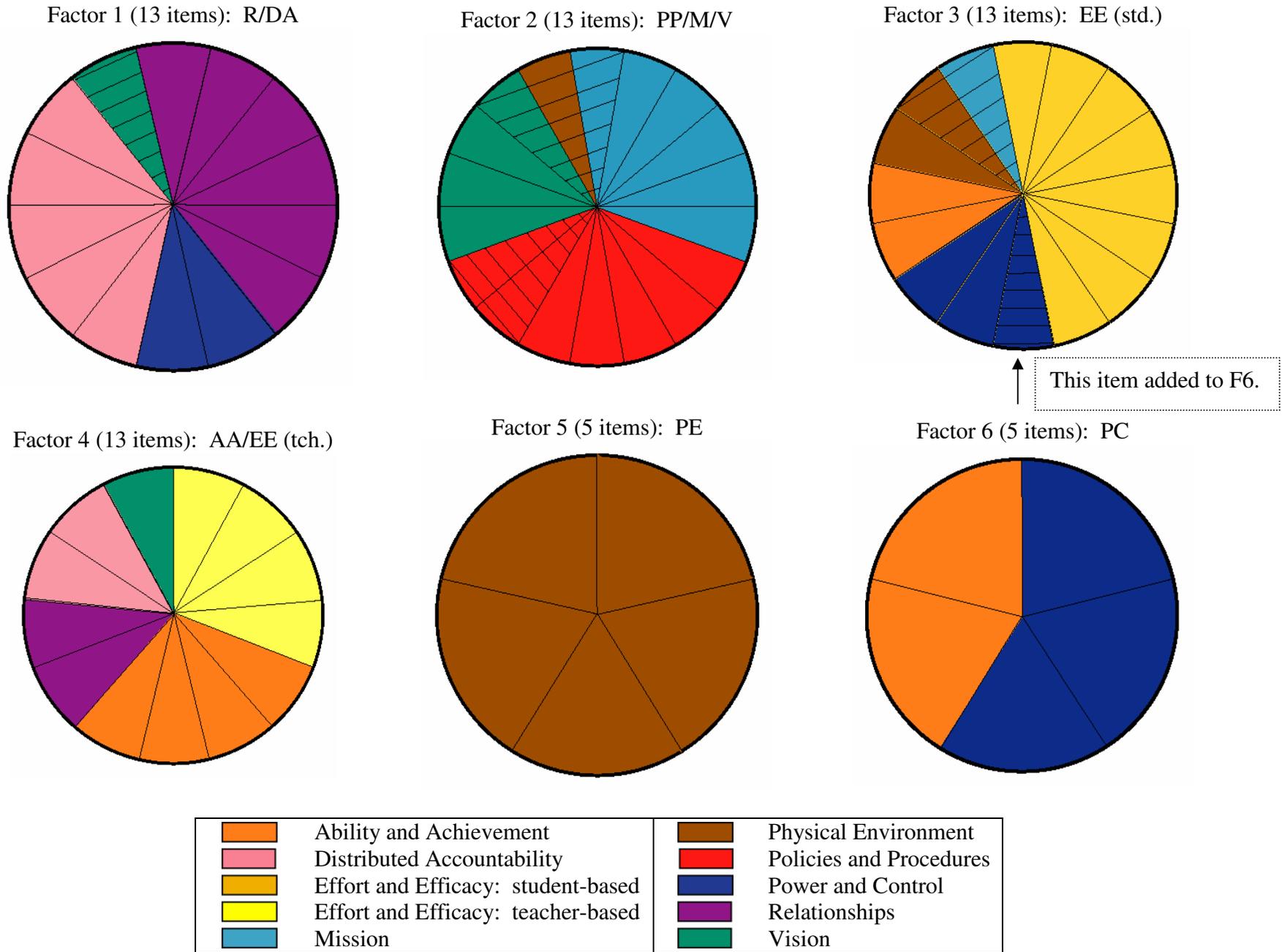


Figure 2: POSC Trimmed Norming Factors Composed of Individual Items From Original Nine Dimensions (black stripes indicate which items were eliminated from the POSC)

- Factor 3 contains 16 items: 8 from the Effort and Efficacy dimension (gold), 3 from the Power and Control dimension (dark blue), 2 from the Ability and Achievement dimension (orange), 2 from the Physical Environment dimension (brown), and 1 from the Mission dimension (light blue). One brown, 1 light blue, and 1 dark blue items were eliminated (although 1 item was subsequently added to Factor 6), resulting in a final factor of 13 items. This factor primarily focuses on Effort and Efficacy; all of the items from this dimension pertain to student-focused effort and efficacy.
- Factor 4 contains 13 items: 4 from the Ability and Achievement dimension (orange), 4 from the Effort and Efficacy dimension (yellow), 2 from the Relationships dimension (purple), 2 from the Distributed Accountability dimension (pink), and 1 from the Vision dimension (green). No items were eliminated from this factor; it retained all 13 items and primarily focuses on Ability and Achievement and Effort and Efficacy (all teacher-focused).
- Factor 5 contains five items, all from the Physical Environment dimension (brown). All items were retained.
- Factor 6 contains five items: three from the Power and Control dimension (dark blue) and two from the Ability and Achievement dimension (orange). The fifth item was added from Factor 3, where it had been eliminated. This resulted in a final factor of five items, primarily focusing on Power and Control.

Edvantia staff and module developers discussed and reflected on the items comprising each of these six factors and subsequently generated descriptive names for the factors. Descriptive definitions of the factors are also provided.

- **Factor 1: Collaborative Working Relationships.** This subscale reflects the extent to which faculty work together, trust and respect each other, have open channels of communication, and share leadership and responsibility for problem solving and decision making.
- **Factor 2: Student-Centered Vision, Mission, and Policies.** This subscale indicates the degree to which the school's vision, mission, goals, and policies are clear and consistent with each other; incorporate high expectations for all students; and are communicated to staff, students, and parents. It also indicates the extent to which the school uses measurable goals and data-based decision making.
- **Factor 3: Student Responsibility for Learning.** This subscale measures faculty perceptions of their students' intrinsic motivation, persistence, awareness of their own learning strengths, and control over their own learning. It also indicates faculty perceptions of the strength of parents' belief in the importance of student effort and parent support.
- **Factor 4: Teacher Responsibility for Learning.** This subscale reflects the degree to which faculty strive to improve teaching and learning, at both the individual and the

collective levels, and share responsibility for high levels of student learning. It also indicates the extent to which teachers accommodate students' different learning styles and encourage student collaboration and self-motivation.

- **Factor 5: Inviting Physical Environment.** This subscale indicates the extent to which the school's physical environment is perceived as clean, safe, and attractive. It also reflects the degree to which the school makes visitors comfortable by having a welcoming entrance or helpful signs.
- **Factor 6: Students and Parents as Decision Makers.** This subscale assesses the degree to which students and parents participate in planning and decision making that impact the school program. It also reflects the school's efforts to promote students' engagement with their own learning.

Six factor analytic-derived subscales (hereafter termed "subscales") were created by summing the item scores within each of the six final factors. For the first four subscales, possible scores ranged from 13 to 65 (response options of 1 to 5 x 13 items). For the fifth and six subscales, a constant (multiplier) of 2.6 was applied to the subscale totals so that scores were in a comparable range (i.e., 13 to 65). See Table 8 for descriptive statistics for these subscales.

Table 8: Descriptive Statistics for Final Subscales

Factor/ Subscale	Subscale Name	Number of Items	Number of Cases	Mean	Standard Deviation
1	Collaborative Working Relationships	13	6,212	48.16	11.24
2	Student-Centered Vision, Mission, and Policies	13	6,212	51.50	9.73
3	Student Responsibility for Learning	13	6,213	41.03	9.50
4	Teacher Responsibility for Learning	13	6,212	50.07	8.97
5	Inviting Physical Environment	5*	6,207	51.09	10.57
6	Students and Parents as Decision Makers	5*	6,203	40.04	9.99

*Constant multiplier of 2.6 applied to these subscale scores.

Relationships Among the POSC Subscales

As shown in Table 9, Pearson Product Moment correlation coefficients between the subscales were all high and significant at .01. Overall, Teacher Responsibility for Learning (Subscale 4) had the highest correlations with the other subscales; Inviting Physical Environment had the lowest correlations with the other subscales. The highest correlation was .82; the lowest was .51. All correlations were positive, as expected, indicating that improvement in one area tends to go along with improvement in the other areas. These coefficients reflect the somewhat holistic nature of school culture; although certain areas may be stronger or weaker than others, they tend to move forward (or decline) in a unified manner.

Table 9: Pearson Product Moment Correlations for POSC Subscales

Subscale	1	2	3	4	5	6
1						
2	.80					
3	.67	.70				
4	.75	.82	.75			
5	.60	.63	.54	.56		
6	.67	.67	.77	.74	.51	

Internal Consistency Reliability

In order to measure the internal consistency of the six subscales of the POSC in the norming study, Cronbach Alpha reliability coefficients were generated for the full group and by building level, locale type, and school size. The levels for locale type and school size were collapsed as follows. For locale type, data were collapsed from seven Johnson Code categories to four new categories. For school size, data were collapsed from five NCES categories to three new categories.

Old Categories	New Categories	Old Categories	New Categories
Midsize City	City	Very Small	Small
Fringe of Large City	Suburban	Small	Medium
Fringe of Midsize City		Medium	
Large Town	Town	Large	Large
Small Town		Very Large	
Rural Outside CBSA	Rural		
Rural Inside CBSA			

Table 10 shows that the internal consistency of the full instrument for the full group was very high, at .98. Four of the subscale coefficients were also in the .90s; the coefficients for the last two subscales were slightly lower at .84 and .85—not unexpected, given the fewer items that make up these two subscales.

Table 11 shows that the internal consistency of the full instrument by building level was very high, at .98 for each level. The coefficients for the first four subscales were in the .90s. As expected, the coefficients were slightly lower for the last two subscales, but were still in the .80s.

Table 12 shows that the internal consistency of the full instrument by locale type was very high, at .98 for each type. The coefficients for the first four subscales were in the .90s. As expected, the coefficients were slightly lower for the last two subscales, but were still in the .80s.

Table 13 shows that the internal consistency of the full instrument by school size was very high, at .98 for each type. The coefficients for the first four subscales were in the .90s. As expected, the coefficients were slightly lower for the last two subscales, but were still in the .80s.

Table 10: Cronbach Alpha Reliability Coefficients by Full Group

Subscale	Number of Items	Number of Cases	Cronbach Alpha Coefficient
(1) Collaborative Working Relationships	13	5,799	.95
(2) Student-Centered Vision, Mission, and Policies	13	5,751	.95
(3) Student Responsibility for Learning	13	5,782	.94
(4) Teacher Responsibility for Learning	13	5,834	.94
(5) Inviting Physical Environment	5	6,037	.85
(6) Students and Parents as Decision Makers	5	5,978	.84
Full Instrument	62	5,119	.98

Table 11: Cronbach Alpha Reliability Coefficients by Building Level

Subscale	Elementary	Middle/Jr.	High	K-8	Other
1	.95	.95	.95	.95	.96
2	.95	.95	.94	.94	.95
3	.93	.94	.93	.92	.95
4	.93	.93	.93	.93	.94
5	.85	.85	.84	.81	.87
6	.83	.84	.83	.85	.88
Full Instrument	.98	.98	.98	.98	.98

Note: Subscale names and number of items did not change from Table 10 and are not reported again.

Table 12: Cronbach Alpha Reliability Coefficients by Locale Type

Subscale	City	Suburban	Town	Rural
1	.96	.95	.96	.95
2	.96	.95	.95	.95
3	.93	.94	.94	.94
4	.94	.94	.95	.93
5	.88	.86	.86	.84
6	.84	.84	.84	.84
Full Instrument	.98	.98	.98	.98

Note: Subscale names and number of items did not change from Table 10 and are not reported again.

Table 13: Cronbach Alpha Reliability Coefficients by School Size

Subscale	Small	Medium	Large
1	.95	.95	.95
2	.95	.95	.94
3	.93	.94	.93
4	.93	.94	.93
5	.85	.85	.84
6	.83	.84	.83
Full Instrument	.98	.98	.98

Note: Subscale names and number of items did not change from Table 10 and are not reported again.

Step 2: Normative Analyses of the POSC

Instrument results are useful only when there is some basis for interpreting them. Norms are typically the basis for interpretation due to their familiarity and understandability. Norms are created by using instrument scores to calculate statistics for groups that are representative of larger populations. Such group norms provide a comparison base against which schools can measure their individual results. Norms are generally considered to be credible bases for comparison because they represent the typical results expected for any given group.

This section provides normative data for the POSC. Note that all of these analyses were conducted at the aggregated school-level unit of analysis. Normative statistics are presented first for the full group, then by building level, locale type, and school size. These variables were chosen in order to provide users with information about schools similar to their own. To aid readability, each set of normative statistics begins on a separate page. Each set includes a brief descriptive paragraph, followed by statistical tables and a graph depicting mean scores.

Full Group

Table 14 presents overall norms, based on the results of all 207 schools that participated in the norming study; statistics include mean, standard deviation, and Cronbach Alpha reliability coefficient. Figure 3 presents the mean scores for the six subscales.

Table 14: POSC Normative Statistics for All 207 Schools

Subscale Number and Name	Mean	Std. Dev.	Cronbach Alpha Coefficient
(1) Collaborative Working Relationships	49.18	5.62	.98
(2) Student-Centered Vision, Mission, and Policies	52.34	4.64	.98
(3) Student Responsibility for Learning	41.91	5.09	.98
(4) Teacher Responsibility for Learning	50.85	4.29	.98
(5) Inviting Physical Environment	51.30	6.07	.93
(6) Students and Parents as Decision Makers	40.81	4.73	.93

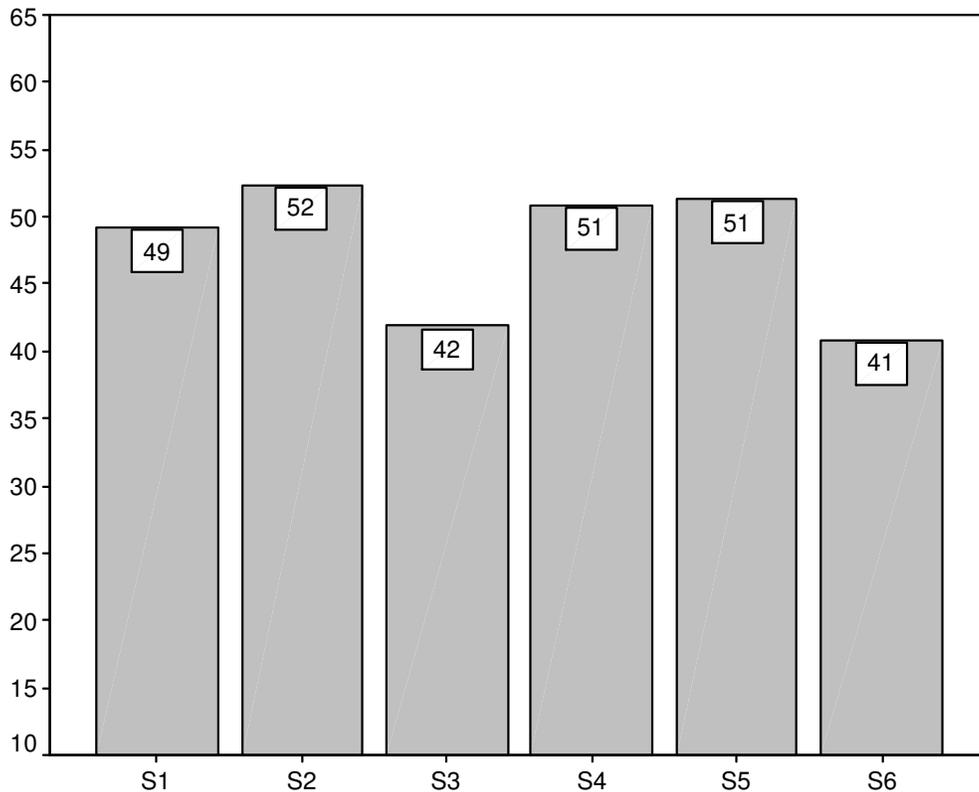


Figure 3: Overall POSC Mean Subscale Scores

Building Level

Norms were established for schools based on building level. Five types of building levels emerged among the schools that participated in the POSC norming study: elementary, middle/junior high, high, K-8, and other.

Overall, the 102 elementary schools served students from pre-kindergarten through the sixth grade. Grade configurations varied across schools, but the most common was kindergarten through fifth grade. Table 15 presents statistics based on the results of the elementary schools.

Table 15: POSC Normative Statistics for 102 Elementary Schools

Subscale Number and Name	Mean	Std. Dev.	Cronbach Alpha Coefficient
(1) Collaborative Working Relationships	49.96	5.45	.98
(2) Student-Centered Vision, Mission, and Policies	53.58	4.05	.98
(3) Student Responsibility for Learning	43.55	4.01	.97
(4) Teacher Responsibility for Learning	52.11	3.57	.97
(5) Inviting Physical Environment	51.86	6.10	.93
(6) Students and Parents as Decision Makers	41.10	4.46	.94

Overall, the 43 middle/junior high schools served students from the fourth through ninth grades. Grade configurations varied across schools, but the most common was Grades 6-8. Table 16 presents statistics based on the results of the middle/junior high schools.

Table 16: POSC Normative Statistics for 43 Middle/Junior High Schools

Subscale Number and Name	Mean	Std. Dev.	Cronbach Alpha Coefficient
(1) Collaborative Working Relationships	49.11	5.52	.98
(2) Student-Centered Vision, Mission, and Policies	51.76	4.48	.98
(3) Student Responsibility for Learning	39.67	5.61	.99
(4) Teacher Responsibility for Learning	49.69	4.42	.98
(5) Inviting Physical Environment	51.09	6.04	.93
(6) Students and Parents as Decision Makers	40.51	4.81	.95

Overall, the 28 high schools served students from the 9th through 12th grades. Grade configurations varied across schools, but the most common was Grades 9-12. Table 17 presents statistics based on the results of the high schools.

Table 17: POSC Normative Statistics for 28 High Schools

Subscale Number and Name	Mean	Std. Dev.	Cronbach Alpha Coefficient
(1) Collaborative Working Relationships	44.94	4.94	.98
(2) Student-Centered Vision, Mission, and Policies	48.06	4.46	.99
(3) Student Responsibility for Learning	38.10	4.58	.99
(4) Teacher Responsibility for Learning	46.83	3.34	.98
(5) Inviting Physical Environment	48.03	6.21	.92
(6) Students and Parents as Decision Makers	38.73	3.91	.92

Overall, the 20 K-8 schools served students from pre-kindergarten through the eighth grade. There were a few variations of grade configuration, but the most common was K-8. Table 18 presents statistics based on the results of the K-8 schools.

Table 18: POSC Normative Statistics for 20 K-8 Schools

Subscale Number and Name	Mean	Std. Dev.	Cronbach Alpha Coefficient
(1) Collaborative Working Relationships	49.95	4.21	.97
(2) Student-Centered Vision, Mission, and Policies	52.90	2.74	.96
(3) Student Responsibility for Learning	42.98	2.92	.96
(4) Teacher Responsibility for Learning	51.78	2.71	.96
(5) Inviting Physical Environment	52.08	3.95	.81
(6) Students and Parents as Decision Makers	41.89	4.21	.93

The 14 other schools served students from several types of schools. There was a variety of grade and school configurations, including Grades 7-12 and alternative schools. The most common was K-12. Table 19 presents statistics based on the results of the other schools. Figure 4 presents the mean scores for the six subscales for each building level.

Table 19: POSC Normative Statistics for 14 Other Schools

Subscale Number and Name	Mean	Std. Dev.	Cronbach Alpha Coefficient
(1) Collaborative Working Relationships	51.08	6.88	.99
(2) Student-Centered Vision, Mission, and Policies	52.85	6.56	.99
(3) Student Responsibility for Learning	42.92	7.51	.99
(4) Teacher Responsibility for Learning	52.00	6.40	.99
(5) Inviting Physical Environment	53.35	6.51	.96
(6) Students and Parents as Decision Makers	42.25	7.33	.97

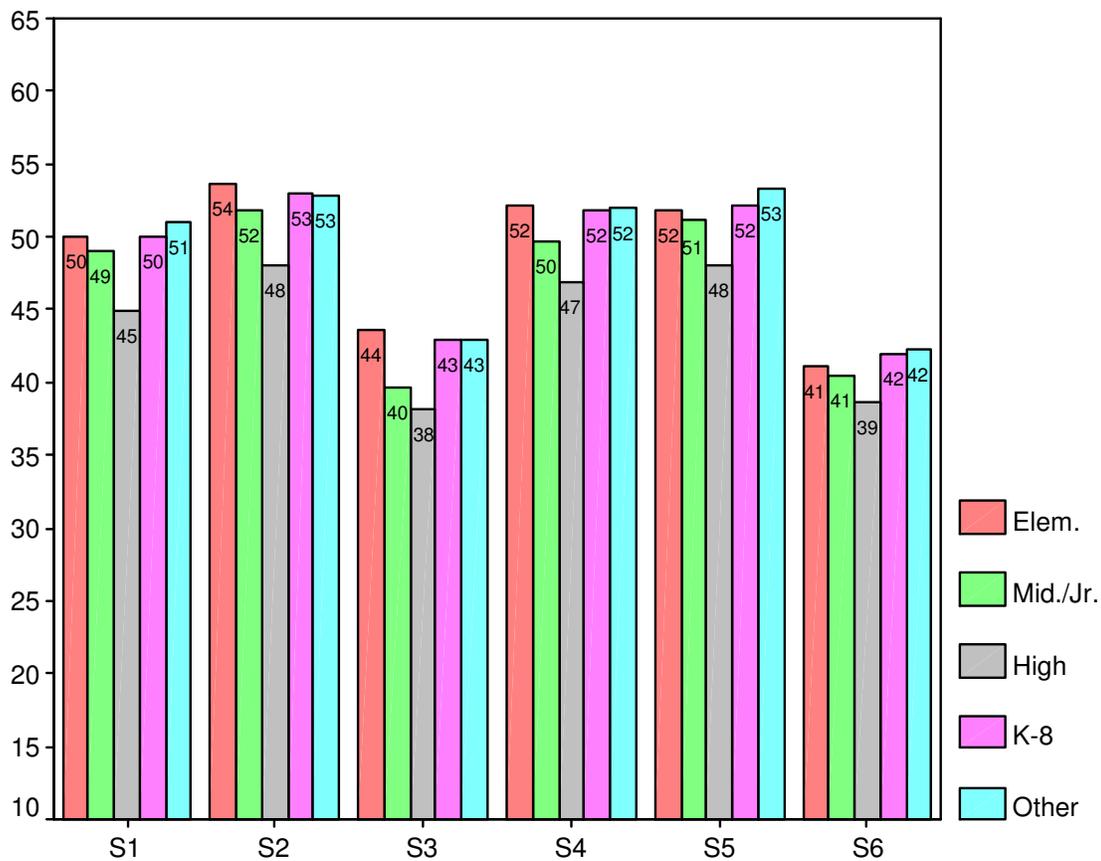


Figure 4: POSC Mean Subscale Scores by Building Level

Locale Type

Norms were established for schools based on locale. Edvantia staff used each participating school's locale (Johnson code) to determine its urbanicity/rurality. Some locale codes were represented by a very small number of schools; therefore, staff collapsed the seven Johnson codes represented by the participating schools (all Johnson codes except 1—"large central city") into four categories of city, suburban, town, and rural. Refer to Table 4 for the original distribution of schools by Johnson codes.

The 10 city schools served students from mid-size central-city locales. Table 20 presents statistics based on the results of the city schools.

Table 20: POSC Normative Statistics for 10 City Schools

Subscale Number and Name	Mean	Std. Dev.	Cronbach Alpha Coefficient
(1) Collaborative Working Relationships	48.41	7.11	.99
(2) Student-Centered Vision, Mission, and Policies	52.00	5.60	.99
(3) Student Responsibility for Learning	43.43	4.60	.98
(4) Teacher Responsibility for Learning	51.74	4.24	.98
(5) Inviting Physical Environment	51.49	5.96	.97
(6) Students and Parents as Decision Makers	41.49	4.84	.95

The 56 suburban schools served students from the fringe areas of large or mid-size city locales. Table 21 presents statistics based on the results of the suburban schools.

Table 21: POSC Normative Statistics for 56 Suburban Schools

Subscale Number and Name	Mean	Std. Dev.	Cronbach Alpha Coefficient
(1) Collaborative Working Relationships	49.08	5.50	.98
(2) Student-Centered Vision, Mission, and Policies	52.11	4.86	.99
(3) Student Responsibility for Learning	41.56	5.47	.99
(4) Teacher Responsibility for Learning	50.34	4.53	.98
(5) Inviting Physical Environment	51.65	6.41	.94
(6) Students and Parents as Decision Makers	40.47	4.64	.93

The 32 town schools served students from large or small town locales. Table 22 presents statistics based on the results of the town schools.

Table 22: POSC Normative Statistics for 32 Town Schools

Subscale Number and Name	Mean	Std. Dev.	Cronbach Alpha Coefficient
(1) Collaborative Working Relationships	49.37	6.76	.99
(2) Student-Centered Vision, Mission, and Policies	52.56	5.47	.99
(3) Student Responsibility for Learning	41.21	5.81	.99
(4) Teacher Responsibility for Learning	50.91	5.11	.99
(5) Inviting Physical Environment	50.69	6.80	.95
(6) Students and Parents as Decision Makers	39.97	4.88	.94

The 109 rural schools served students from rural locales. Table 23 presents statistics based on the results of the rural schools. Figure 5 presents the mean scores for the six subscales for each locale type.

Table 23: POSC Normative Statistics for 109 Rural Schools

Subscale Number and Name	Mean	Std. Dev.	Cronbach Alpha Coefficient
(1) Collaborative Working Relationships	49.24	5.24	.98
(2) Student-Centered Vision, Mission, and Policies	52.42	4.21	.98
(3) Student Responsibility for Learning	42.15	4.72	.98
(4) Teacher Responsibility for Learning	51.02	3.93	.98
(5) Inviting Physical Environment	51.29	5.73	.91
(6) Students and Parents as Decision Makers	41.17	4.75	.93

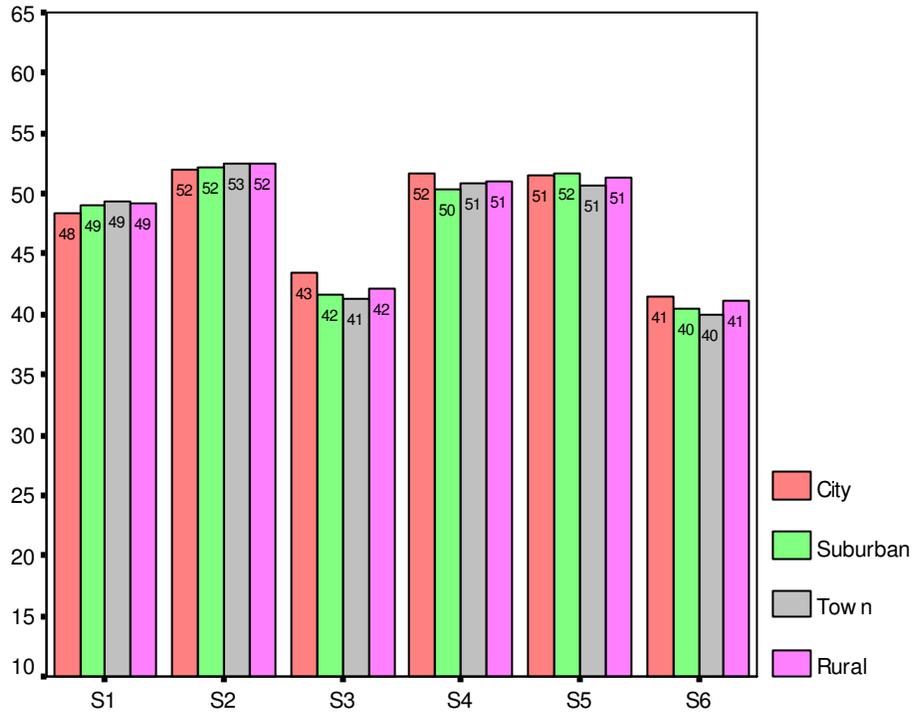


Figure 5: POSC Mean Subscale Scores by Locale Type

School Size

Norms were established for schools based on the student enrollment. The size of each school's student population was assigned to NCES categories: very small, small, medium, large, or very large. Some school sizes were represented by a very small number of schools; therefore, the five size categories were collapsed into three new categories of small, medium, and large. Refer to Table 4 for the original distribution of schools by NCES size categories.

The 53 small schools served 1 to 299 students. Table 24 presents statistics based on the results of the small schools.

Table 24: POSC Normative Statistics for 53 Small Schools

Subscale Number and Name	Mean	Std. Dev.	Cronbach Alpha Coefficient
(1) Collaborative Working Relationships	51.16	4.86	.97
(2) Student-Centered Vision, Mission, and Policies	53.79	3.24	.96
(3) Student Responsibility for Learning	43.34	4.21	.97
(4) Teacher Responsibility for Learning	52.10	3.55	.96
(5) Inviting Physical Environment	51.62	5.92	.90
(6) Students and Parents as Decision Makers	41.81	4.36	.90

The 130 medium schools served 300 to 749 students. Table 25 presents statistics based on the results of the medium schools.

Table 25: POSC Normative Statistics for 130 Medium Schools

Subscale Number and Name	Mean	Std. Dev.	Cronbach Alpha Coefficient
(1) Collaborative Working Relationships	49.16	5.74	.98
(2) Student-Centered Vision, Mission, and Policies	52.48	4.84	.99
(3) Student Responsibility for Learning	42.12	5.17	.99
(4) Teacher Responsibility for Learning	51.07	4.38	.98
(5) Inviting Physical Environment	51.46	6.12	.93
(6) Students and Parents as Decision Makers	40.98	4.91	.95

The 24 large schools served 750 to 2,200 students. Table 26 presents statistics based on the results of the large schools. Figure 6 presents the mean scores for the six subscales for each school size.

Table 26: POSC Normative Statistics for 24 Large Schools

Subscale Number and Name	Mean	Std. Dev.	Cronbach Alpha Coefficient
(1) Collaborative Working Relationships	44.87	4.06	.97
(2) Student-Centered Vision, Mission, and Policies	48.37	4.02	.99
(3) Student Responsibility for Learning	37.59	4.21	.98
(4) Teacher Responsibility for Learning	46.93	3.00	.97
(5) Inviting Physical Environment	49.74	6.14	.94
(6) Students and Parents as Decision Makers	37.70	3.11	.87

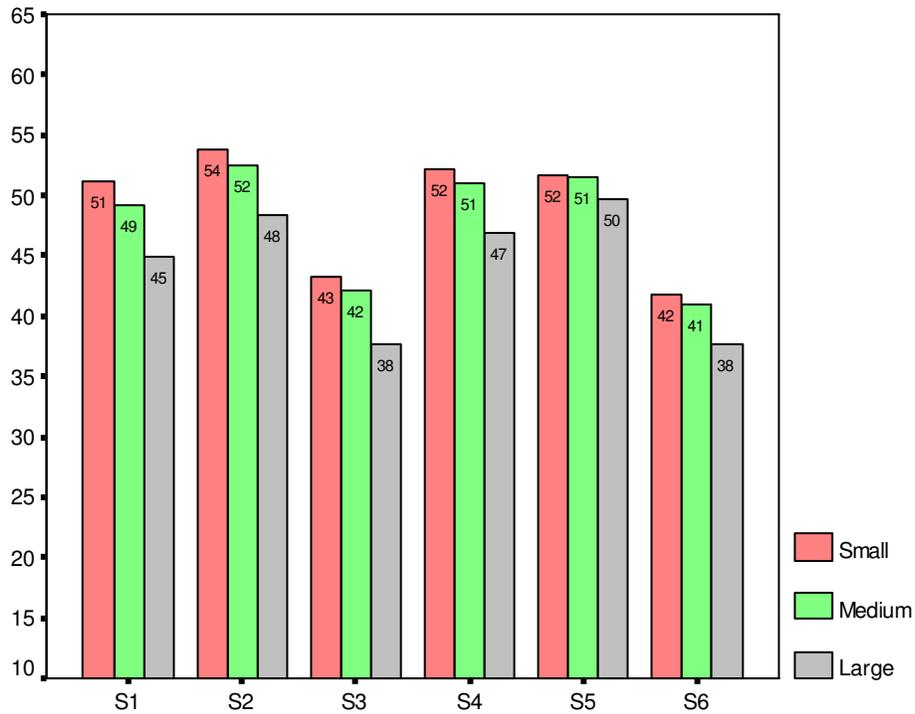


Figure 6: POSC Mean Subscale Scores by School Size

Section 6

POSC Percentile Conversion Tables

SECTION 6: POSC PERCENTILE CONVERSION TABLES

For these normative data, the POSC subscale mean scores are converted to percentiles for the appropriate norm groups.* These means are important because they place the school staff on the scale of measurement and are useful for comparison purposes. This section presents the tables for converting the POSC subscale means to percentiles for the full group and by building level, locale type, and school size. These percentile conversion tables are based on the aggregated school-level data.

Table 27 provides subscale means and percentiles for the full group; Tables 28 through 32 provide subscale means and percentiles by building level (elementary, middle/junior, high school, K-8, and other); Tables 33 through 36 provide subscale means and percentiles by locale type (city, suburban, town, and rural); and Tables 37 through 39 provide subscale means and percentiles by school size (small, medium, and large). Exhibit 2 illustrates how to use the percentile conversion tables.

Exhibit 2: Example for Elementary School ABC

Subscale Number	Subscale Name	Mean Score	Percentile
1	Collaborative Working Relationships	52	67
2	Student-Centered Vision, Mission, Policies	52	37
3	Student Responsibility for Learning	52	99
4	Teacher Responsibility for Learning	43	1
5	Inviting Physical Environment	43	10
6	Students and Parents as Decision Makers	43	70

The first step would be to find Table 28, which presents mean subscale scores and percentiles for the 102 elementary schools in the POSC norming study. This table lists the mean subscale score in the first column, then provides the appropriate percentile score for each of the six subscales. This example illustrates how a mean score varies across subscales. The same mean score of 52 for the first three subscales converts to three different percentile scores: 67, 37, and 99. In other words, a school with a mean score of 52 for both the first and second subscales would be scoring higher than 67% of the other elementary schools on the first subscale, yet scoring higher than only 37% of the other elementary schools on the second subscale.

**Percentiles* and *percentile ranks* are commonly used for interpreting test scores, and the terms are often interchanged. Suppose a student has a score of 80 on a test, and compared to a norm group, this score has a percentile rank of 55. This means that in the norm group, 55% of those taking the test scored at or below 80. The score of 80 is the 55th percentile, and 55 is the percentile rank of a score of 80. Often the percentile rank is called the percentile or percentile score. In this discussion and in the tables that follow, percentile is used for percentile rank. Percentiles or percentile ranks can take on values from 1 to 99 when given in whole numbers.

Table 27: POSC Subscale Percentile Conversion Table for All Schools ($N = 207$)

Subscale Raw Score	S1	S2	S3	S4	S5	S6
13 - 30	1	1	1	1	1	1
31	1	1	2	1	1	1
32	1	1	5	1	1	2
33	1	1	6	1	1	5
34	1	1	7	1	1	9
35	1	1	10	1	1	13
36	2	1	14	1	2	20
37	2	1	18	1	3	26
38	4	1	26	1	3	31
39	6	1	30	1	4	42
40	8	1	38	1	5	48
41	10	2	43	2	7	58
42	12	3	51	3	9	64
43	15	4	61	4	11	72
44	16	5	71	7	14	77
45	24	7	76	9	17	81
46	32	11	81	16	20	86
47	37	16	86	24	24	90
48	42	21	90	30	29	94
49	51	26	92	38	33	96
50	58	30	95	47	40	97
51	63	37	96	56	45	98
52	70	50	98	63	53	98
53	76	59	99	72	60	99
54	79	64	99	79	66	99
55	85	72	99	84	73	99
56	89	78	99	89	80	99
57	92	85	99	93	83	99
58	95	90	99	95	89	99
59	98	96	99	98	94	99
60	99	98	99	99	95	99
61	99	99	99	99	97	99
62-65	99	99	99	99	99	99

S1 = Collaborative Working Relationships

S2 = Student-Centered Vision, Mission, and Policies

S3 = Student Responsibility for Learning

S4 = Teacher Responsibility for Learning

S5 = Inviting Physical Environment

S6 = Students and Parents as Decision Makers

Table 28: POSC Subscale Percentile Conversion Table for Elementary Schools ($n = 102$)

Subscale Raw Score	S1	S2	S3	S4	S5	S6
13 - 30	1	1	1	1	1	1
31	1	1	1	1	1	2
32	1	1	1	1	1	2
33	1	1	1	1	1	5
34	1	1	1	1	1	8
35	2	1	2	1	2	10
36	3	1	3	1	3	17
37	3	1	6	1	4	20
38	5	1	11	1	4	23
39	6	1	14	1	4	37
40	7	1	22	1	5	44
41	8	1	29	1	8	56
42	8	1	37	1	9	62
43	10	3	52	1	10	70
44	11	3	63	1	11	75
45	18	4	69	3	13	80
46	22	6	76	8	16	85
47	26	6	83	11	20	90
48	34	8	88	16	25	96
49	43	15	90	25	29	97
50	50	18	93	34	35	98
51	55	25	95	43	42	99
52	67	37	99	54	51	99
53	74	49	99	61	57	99
54	78	55	99	73	60	99
55	84	64	99	81	66	99
56	89	71	99	89	76	99
57	92	82	99	92	80	99
58	95	88	99	94	87	99
59	98	97	99	99	93	99
60	99	98	99	99	95	99
61	99	98	99	99	97	99
62-65	99	99	99	99	99	99

S1 = Collaborative Working Relationships

S2 = Student-Centered Vision, Mission, and Policies

S3 = Student Responsibility for Learning

S4 = Teacher Responsibility for Learning

S5 = Inviting Physical Environment

S6 = Students and Parents as Decision Makers

Table 29: POSC Subscale Percentile Conversion Table for Middle/Junior High Schools ($n = 43$)

Subscale Raw Score	S1	S2	S3	S4	S5	S6
13 - 30	1	1	1	1	1	1
31	1	1	6	1	1	1
32	1	1	14	1	1	1
33	1	1	16	1	1	7
34	1	1	17	1	1	12
35	1	1	24	1	1	17
36	1	1	33	1	1	25
37	1	1	37	1	3	34
38	4	1	47	1	4	37
39	5	1	50	1	7	43
40	6	1	58	1	8	50
41	10	2	61	2	11	57
42	14	3	68	7	12	62
43	15	3	74	10	14	72
44	17	4	84	12	16	81
45	25	6	86	13	18	83
46	34	10	87	23	20	90
47	42	18	88	31	22	92
48	46	27	91	41	29	94
49	54	29	92	52	33	95
50	62	38	93	62	38	96
51	69	44	95	70	44	96
52	74	63	96	73	53	97
53	79	65	99	80	61	97
54	80	70	99	86	71	99
55	83	81	99	87	76	99
56	86	85	99	88	82	99
57	87	86	99	93	84	99
58	91	88	99	94	89	99
59	99	91	99	97	93	99
60	99	97	99	99	95	99
61 - 65	99	99	99	99	99	99

S1 = Collaborative Working Relationships
 S2 = Student-Centered Vision, Mission, and Policies
 S3 = Student Responsibility for Learning

S4 = Teacher Responsibility for Learning
 S5 = Inviting Physical Environment
 S6 = Students and Parents as Decision Makers

Table 30: POSC Subscale Percentile Conversion Table for High Schools ($n = 28$)

Subscale Raw Score	S1	S2	S3	S4	S5	S6
13 - 26	1	1	1	1	1	1
27	1	1	4	1	1	1
28	1	1	5	1	1	1
29	1	1	5	1	1	1
30	1	1	6	1	1	1
31	1	1	8	1	1	1
32	1	1	11	1	1	3
33	1	1	13	1	3	10
34	1	1	18	1	4	12
35	1	1	22	1	5	22
36	1	1	31	1	5	29
37	4	1	37	1	6	41
38	6	1	56	1	7	59
39	14	4	70	1	8	66
40	20	7	78	1	9	68
41	26	10	80	7	10	72
42	34	11	82	9	15	77
43	43	12	87	13	22	82
44	47	17	88	23	35	88
45	59	23	93	36	41	93
46	72	38	94	50	48	95
47	73	49	95	66	49	99
48	74	62	95	71	50	99
49	78	69	99	77	51	99
50	85	71	99	83	60	99
51	87	75	99	91	68	99
52	89	83	99	93	75	99
53	92	89	99	94	83	99
54	93	92	99	95	84	99
55	94	93	99	95	86	99
56	95	94	99	99	89	99
57	99	94	99	99	92	99
58	99	95	99	99	93	99
59	99	96	99	99	95	99
60	99	99	99	99	96	99
61 - 65	99	99	99	99	99	99

S1 = Collaborative Working Relationships

S2 = Student-Centered Vision, Mission, and Policies

S3 = Student Responsibility for Learning

S4 = Teacher Responsibility for Learning

S5 = Inviting Physical Environment

S6 = Students and Parents as Decision Makers

Table 31: POSC Subscale Percentile Conversion Table for K-8 Schools ($n = 20$)

Subscale Raw Score	S1	S2	S3	S4	S5	S6
13 - 34	1	1	1	1	1	1
35	1	1	1	1	1	6
36	1	1	1	1	1	8
37	1	1	1	1	1	16
38	1	1	8	1	1	22
39	1	1	12	1	1	33
40	1	1	18	1	1	41
41	5	1	31	1	1	55
42	6	1	51	1	1	66
43	7	1	59	1	1	68
44	8	1	65	1	1	70
45	9	1	74	1	1	73
46	19	1	84	1	5	82
47	32	6	89	10	14	84
48	37	8	99	15	23	88
49	52	14	99	22	35	93
50	61	18	99	31	43	99
51	68	30	99	42	46	99
52	74	40	99	57	49	99
53	77	57	99	76	54	99
54	80	74	99	80	73	99
55	87	79	99	87	84	99
56	88	89	99	93	87	99
57	91	94	99	99	89	99
58	99	99	99	99	91	99
59	99	99	99	99	92	99
60	99	99	99	99	94	99
61 - 65	99	99	99	99	99	99

S1 = Collaborative Working Relationships
 S2 = Student-Centered Vision, Mission, and Policies
 S3 = Student Responsibility for Learning

S4 = Teacher Responsibility for Learning
 S5 = Inviting Physical Environment
 S6 = Students and Parents as Decision Makers

Table 32: POSC Subscale Percentile Conversion Table for Other Participating Schools ($n = 14$)

Subscale Raw Score	S1	S2	S3	S4	S5	S6
13 - 30	1	1	1	1	1	1
31	1	1	7	1	1	1
32	1	1	9	1	1	8
33	1	1	11	1	1	11
34	1	1	12	1	1	21
35	1	1	19	1	1	26
36	1	1	31	1	1	29
37	1	1	34	1	1	33
38	1	1	36	1	1	37
39	9	1	38	1	1	41
40	13	1	40	1	1	43
41	15	7	42	9	7	46
42	16	9	44	12	9	50
43	18	10	46	14	11	54
44	19	12	53	15	13	60
45	27	17	57	17	20	62
46	34	23	62	19	23	65
47	36	30	69	28	26	71
48	38	35	74	37	27	78
49	40	37	79	41	29	83
50	41	40	86	43	30	86
51	42	41	87	45	32	87
52	44	43	88	48	34	88
53	45	44	89	53	39	89
54	53	46	90	57	48	90
55	64	51	91	64	61	91
56	77	58	92	72	67	93
57	86	68	93	75	70	99
58	88	74	99	78	73	99
59	90	87	99	82	81	99
60	92	89	99	88	83	99
61	99	91	99	99	85	99
62 - 65	99	99	99	99	99	99

S1 = Collaborative Working Relationships

S2 = Student-Centered Vision, Mission, and Policies

S3 = Student Responsibility for Learning

S4 = Teacher Responsibility for Learning

S5 = Inviting Physical Environment

S6 = Students and Parents as Decision Makers

Table 33: POSC Subscale Percentile Conversion Table for City Schools ($n = 10$)

Subscale Raw Score	S1	S2	S3	S4	S5	S6
13 - 32	1	1	1	1	1	1
33	9	1	1	1	1	11
34	10	1	1	1	1	15
35	11	1	1	1	1	18
36	12	1	1	1	1	20
37	13	1	1	1	1	22
38	14	1	21	1	1	24
39	15	1	25	1	1	26
40	16	9	31	1	1	34
41	17	10	36	1	1	46
42	17	11	46	1	10	56
43	21	13	54	1	13	66
44	25	14	59	1	15	74
45	29	15	65	10	22	76
46	33	16	74	14	29	79
47	39	17	78	17	33	83
48	45	22	81	25	36	99
49	51	28	84	36	38	99
50	57	32	87	47	40	99
51	63	39	89	51	43	99
52	66	51	99	56	45	99
53	70	64	99	60	62	99
54	81	69	99	64	67	99
55	84	73	99	73	70	99
56	87	75	99	79	74	99
57	90	78	99	89	78	99
58	99	80	99	99	82	99
59	99	99	99	99	88	99
60 - 65	99	99	99	99	99	99

S1 = Collaborative Working Relationships
 S2 = Student-Centered Vision, Mission, and Policies
 S3 = Student Responsibility for Learning

S4 = Teacher Responsibility for Learning
 S5 = Inviting Physical Environment
 S6 = Students and Parents as Decision Makers

Table 34: POSC Subscale Percentile Conversion Table for Suburban Schools (*n* = 56)

Subscale Raw Score	S1	S2	S3	S4	S5	S6
13 - 30	1	1	1	1	1	1
31	1	1	3	1	1	1
32	1	1	9	1	1	1
33	1	1	10	1	1	5
34	1	1	11	1	2	9
35	1	1	12	1	2	11
36	1	1	18	1	3	19
37	1	1	23	1	4	26
38	3	1	31	1	4	34
39	4	2	36	1	5	48
40	5	2	41	1	6	54
41	8	3	43	3	7	67
42	13	4	51	5	8	71
43	16	4	64	7	11	80
44	19	5	73	8	13	82
45	30	8	79	10	17	84
46	38	14	81	19	20	87
47	41	21	84	28	25	90
48	44	24	88	34	29	92
49	48	28	90	50	33	93
50	58	34	93	56	39	94
51	62	39	94	63	44	96
52	74	52	97	69	50	97
53	79	60	99	74	59	98
54	84	64	99	80	61	99
55	85	73	99	83	70	99
56	87	77	99	89	79	99
57	90	87	99	90	82	99
58	92	90	99	91	84	99
59	97	92	99	99	87	99
60	99	96	99	99	89	99
61	99	97	99	99	94	99
62 - 65	99	99	99	99	99	99

S1 = Collaborative Working Relationships

S2 = Student-Centered Vision, Mission, and Policies

S3 = Student Responsibility for Learning

S4 = Teacher Responsibility for Learning

S5 = Inviting Physical Environment

S6 = Students and Parents as Decision Makers

Table 35: POSC Subscale Percentile Conversion Table for Town Schools ($n = 32$)

Subscale Raw Score	S1	S2	S3	S4	S5	S6
13 - 26	1	1	1	1	1	1
27	1	1	3	1	1	1
28	1	1	4	1	1	1
29	1	1	5	1	1	1
30	1	1	5	1	1	1
31	1	1	7	1	1	3
32	1	1	9	1	1	6
33	1	1	10	1	1	10
34	1	1	11	1	4	16
35	1	1	19	1	6	25
36	1	1	24	1	7	29
37	1	1	28	1	8	37
38	6	1	34	1	9	38
39	10	1	38	1	9	44
40	18	3	40	1	10	54
41	20	4	41	3	11	63
42	22	5	50	7	12	65
43	23	7	58	11	14	69
44	25	9	67	15	19	81
45	35	12	69	20	21	83
46	37	19	77	27	22	86
47	38	25	87	29	23	93
48	42	28	91	33	29	99
49	46	29	93	35	33	99
50	47	31	99	40	48	99
51	55	33	99	45	50	99
52	62	43	99	55	55	99
53	67	50	99	64	61	99
54	69	56	99	70	65	99
55	71	66	99	83	72	99
56	83	69	99	86	78	99
57	87	76	99	91	81	99
58	92	83	99	92	90	99
59	99	94	99	96	94	99
60	99	96	99	99	96	99
61 - 65	99	99	99	99	99	99

S1 = Collaborative Working Relationships
 S2 = Student-Centered Vision, Mission, and Policies
 S3 = Student Responsibility for Learning

S4 = Teacher Responsibility for Learning
 S5 = Inviting Physical Environment
 S6 = Students and Parents as Decision Makers

Table 36: POSC Subscale Percentile Conversion Table for Rural Schools ($n = 109$)

Subscale Raw Score	S1	S2	S3	S4	S5	S6
13 - 30	1	1	1	1	1	1
31	1	1	2	1	1	1
32	1	1	3	1	1	2
33	1	1	3	1	1	4
34	1	1	5	1	1	7
35	1	1	7	1	1	10
36	2	1	11	1	2	18
37	3	1	14	1	2	24
38	4	1	21	1	3	29
39	6	1	27	1	3	40
40	7	1	36	1	4	45
41	10	1	45	1	8	52
42	10	2	52	1	9	60
43	12	3	61	2	11	67
44	13	3	71	5	13	72
45	18	6	77	7	15	78
46	28	8	82	13	20	86
47	35	12	86	21	23	89
48	41	18	91	28	29	94
49	54	24	93	35	32	96
50	61	29	94	43	38	98
51	67	38	96	55	45	98
52	71	50	98	63	55	98
53	77	60	98	73	60	98
54	80	67	98	81	69	98
55	88	74	98	85	75	98
56	92	82	98	91	81	99
57	94	87	99	95	84	99
58	97	92	99	96	90	99
59	98	97	99	97	96	99
60	98	98	99	98	97	99
61	99	98	99	99	97	99
62 - 65	99	99	99	99	99	99

S1 = Collaborative Working Relationships

S2 = Student-Centered Vision, Mission, and Policies

S3 = Student Responsibility for Learning

S4 = Teacher Responsibility for Learning

S5 = Inviting Physical Environment

S6 = Students and Parents as Decision Makers

Table 37: POSC Subscale Percentile Conversion Table for Small Schools ($n = 53$)

Subscale Raw Score	S1	S2	S3	S4	S5	S6
13 - 29	1	1	1	1	1	1
30	1	1	1	1	1	2
31	1	1	1	1	1	2
32	1	1	2	1	1	3
33	1	1	2	1	1	6
34	1	1	3	1	1	7
35	1	1	5	1	1	8
36	2	1	7	1	1	13
37	2	1	11	1	3	16
38	2	1	13	1	4	18
39	3	1	15	1	5	28
40	3	1	20	1	6	34
41	5	1	27	1	8	40
42	6	1	36	1	11	50
43	6	1	49	2	11	61
44	7	1	61	3	12	66
45	10	2	69	3	12	75
46	13	3	79	7	16	85
47	18	5	82	11	18	87
48	24	8	87	13	23	99
49	36	12	89	23	25	99
50	45	14	92	31	32	99
51	50	19	94	40	39	99
52	55	29	99	53	51	99
53	65	45	99	64	57	99
54	74	55	99	75	64	99
55	77	62	99	81	70	99
56	84	79	99	88	80	99
57	89	86	99	93	85	99
58	93	88	99	94	89	99
59	99	96	99	97	94	99
60	99	99	99	99	95	99
61	99	99	99	99	96	99
62 - 65	99	99	99	99	99	99

S1 = Collaborative Working Relationships

S2 = Student-Centered Vision, Mission, and Policies

S3 = Student Responsibility for Learning

S4 = Teacher Responsibility for Learning

S5 = Inviting Physical Environment

S6 = Students and Parents as Decision Makers

Table 38: POSC Subscale Percentile Conversion Table for Medium Schools ($n = 130$)

Subscale Raw Score	S1	S2	S3	S4	S5	S6
13 - 30	1	1	1	1	1	1
31	1	1	3	1	1	1
32	1	1	4	1	1	2
33	1	1	5	1	1	5
34	1	1	6	1	1	9
35	1	1	7	1	1	12
36	2	1	13	1	1	20
37	3	1	16	1	2	26
38	5	1	24	1	3	30
39	7	1	29	1	3	40
40	10	1	38	1	3	47
41	11	3	43	1	6	61
42	12	3	52	2	8	66
43	14	4	62	4	10	71
44	16	5	72	7	13	77
45	26	7	74	10	18	80
46	33	11	79	16	21	84
47	38	15	85	21	26	89
48	44	21	89	30	32	93
49	52	26	92	39	36	94
50	57	32	95	46	43	96
51	63	38	96	55	48	97
52	72	52	98	61	53	98
53	76	58	98	69	58	98
54	78	62	98	76	64	98
55	85	72	98	82	70	98
56	89	74	99	88	78	99
57	92	82	99	92	80	99
58	95	88	99	94	87	99
59	98	94	99	98	91	99
60	99	97	99	98	93	99
61	99	98	99	99	97	99
62 - 65	99	99	99	99	99	99

S1 = Collaborative Working Relationships

S2 = Student-Centered Vision, Mission, and Policies

S3 = Student Responsibility for Learning

S4 = Teacher Responsibility for Learning

S5 = Inviting Physical Environment

S6 = Students and Parents as Decision Makers

Table 39: POSC Subscale Percentile Conversion Table for Large Schools ($n = 24$)

Subscale Raw Score	S1	S2	S3	S4	S5	S6
13 - 30	1	1	1	1	1	1
31	1	1	6	1	1	1
32	1	1	17	1	1	1
33	1	1	20	1	4	8
34	1	1	23	1	5	14
35	1	1	33	1	6	28
36	1	1	40	1	7	38
37	1	1	47	1	8	51
38	6	1	62	1	9	64
39	12	4	74	1	9	80
40	14	6	77	1	10	81
41	23	8	79	8	11	82
42	35	9	81	12	11	83
43	42	10	83	14	17	93
44	46	15	88	19	24	95
45	51	19	99	27	25	99
46	68	36	99	42	26	99
47	72	45	99	63	27	99
48	75	52	99	67	28	99
49	83	57	99	73	32	99
50	91	61	99	85	41	99
51	93	69	99	91	46	99
52	94	84	99	99	59	99
53	95	91	99	99	76	99
54	99	94	99	99	81	99
55	99	99	99	99	88	99
56	99	99	99	99	91	99
57	99	99	99	99	93	99
58	99	99	99	99	95	99
59 - 65	99	99	99	99	99	99

S1 = Collaborative Working Relationships
 S2 = Student-Centered Vision, Mission, and Policies
 S3 = Student Responsibility for Learning

S4 = Teacher Responsibility for Learning
 S5 = Inviting Physical Environment
 S6 = Students and Parents as Decision Makers

Section 7

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Section 8

**APPENDIX:
POSC INSTRUMENT**

Perceptions Of School Culture (POSC)

Edvantia, Inc.

Instructions: Please read each item and then rate the extent to which it occurs at your school. Completely fill in the bubble for each selected response.

Scale of: **1 = Not at all** **2 = Little** **3 = Some** **4 = Much** **5 = Very much**

	Not at all	Little	Some	Much	Very much
1. Faculty consistently consider how teaching/learning can be improved.	<input type="checkbox"/>				
2. Students are persistent in completing difficult tasks.	<input type="checkbox"/>				
3. Students are provided opportunities to engage in self-assessment.	<input type="checkbox"/>				
4. Data are used to determine the level of individual student achievement.	<input type="checkbox"/>				
5. Teachers are sensitive to different student learning styles.	<input type="checkbox"/>				
6. Faculty are encouraged to exercise initiative for change to improve their performance.	<input type="checkbox"/>				
7. Parents' behaviors indicate a belief that success in school is dependent on student effort.	<input type="checkbox"/>				
8. Students are engaged in planning that impacts the school program.	<input type="checkbox"/>				
9. School policies are consistent with state policies.	<input type="checkbox"/>				
10. The goals are connected to the mission statement.	<input type="checkbox"/>				
11. Students respect different kinds of intelligences.	<input type="checkbox"/>				
12. Students are taught to build on their strongest learning modes.	<input type="checkbox"/>				
13. Collaboration among faculty is motivated by attempts to improve student learning.	<input type="checkbox"/>				
14. Teachers vary their instruction to accommodate different learning styles.	<input type="checkbox"/>				
15. Students are intrinsically motivated to learn.	<input type="checkbox"/>				
16. Rigorous standards provide the backdrop for our mission statement.	<input type="checkbox"/>				
17. There is collaboration among faculty.	<input type="checkbox"/>				
18. The principal uses professional feedback from the teachers.	<input type="checkbox"/>				
19. Students are encouraged to identify their individual learning styles.	<input type="checkbox"/>				
20. Professional trust is evident among the faculty.	<input type="checkbox"/>				
21. When outcomes are less than desired, faculty increase their efforts to attain unmet goals.	<input type="checkbox"/>				
22. Students exercise control over their own learning.	<input type="checkbox"/>				
23. Students look for ways to improve their own performance.	<input type="checkbox"/>				
24. The mission statement communicates clearly.	<input type="checkbox"/>				
25. The vision indicates that students are to be engaged in learning at high levels.	<input type="checkbox"/>				
26. Faculty view accountability as a positive concept.	<input type="checkbox"/>				
27. Goals for school improvement are measurable.	<input type="checkbox"/>				
28. Parents' behaviors indicate that they feel their efforts at home do affect their children's success in school.	<input type="checkbox"/>				
29. The entrance to the school is welcoming to visitors.	<input type="checkbox"/>				
30. The mission statement communicates the work that must be done to fulfill the school's purpose.	<input type="checkbox"/>				
31. Teachers look for ways to improve their own performance.	<input type="checkbox"/>				
32. Students take pride in the physical appearance of their school.	<input type="checkbox"/>				
33. Teachers encourage student questioning.	<input type="checkbox"/>				
34. The vision is communicated to parents.	<input type="checkbox"/>				
35. There are channels for open communication among the school staff.	<input type="checkbox"/>				
36. Students are engaged in decision-making that impacts the school program.	<input type="checkbox"/>				
37. Those affected by a decision play a significant role in the decision-making process.	<input type="checkbox"/>				

	Not at all	Little	Some	Much	Very much
38. Professional staff value input from students.	<input type="checkbox"/>				
39. Students are encouraged to learn with one another.	<input type="checkbox"/>				
40. Leadership within the school is open to anyone willing to assume responsibility.	<input type="checkbox"/>				
41. Parents are engaged in planning that impacts the school program.	<input type="checkbox"/>				
42. Teachers use instructional practices that stimulate curiosity.	<input type="checkbox"/>				
43. Administrators include teachers in the decision-making process.	<input type="checkbox"/>				
44. The school gives an appearance of being safe.	<input type="checkbox"/>				
45. School policies are consistent with district policies.	<input type="checkbox"/>				
46. Decisions that affect the school in general are based on school goals.	<input type="checkbox"/>				
47. The school provides an inviting appearance.	<input type="checkbox"/>				
48. The intrinsic motivation of students increases as they move through this school.	<input type="checkbox"/>				
49. Faculty have the power to act on their decisions.	<input type="checkbox"/>				
50. Students view assessment as a means to give them feedback on their learning—not only as an end in and of itself.	<input type="checkbox"/>				
51. Faculty perceive the vision as including a shared responsibility for high levels of student learning.	<input type="checkbox"/>				
52. Faculty respect each other professionally.	<input type="checkbox"/>				
53. Students accept responsibility for their own performance.	<input type="checkbox"/>				
54. The physical environment of this school is maintained so that the building appears clean.	<input type="checkbox"/>				
55. Faculty work together to seek solutions to problems.	<input type="checkbox"/>				
56. The vision is communicated to the professional staff.	<input type="checkbox"/>				
57. Administrators are team players.	<input type="checkbox"/>				
58. The principal is receptive to various points of view.	<input type="checkbox"/>				
59. High expectations are incorporated into the mission statement for this school.	<input type="checkbox"/>				
60. Students are aware of their own learning strengths.	<input type="checkbox"/>				
61. There are signs that help visitors find the locations they are looking for in our building.	<input type="checkbox"/>				
62. Students believe that hard work pays off.	<input type="checkbox"/>				

Demographics

63. What is your role in the school? (Select only one.)

- Counselor
- Librarian/Media Specialist
- Principal/Assistant Principal
- Regular Classroom Teacher
- Special Education Teacher
- Other

64. How many years have you taught/worked at any school?

- Less than one year
- One year to five years
- More than five years to 10 years
- More than 10 years to 15 years
- More than 15 years to 20 years
- More than 20 years

65. Select one:

- American Indian or Alaska Native
- Asian
- Black or African American
- Hispanic or Latino/a
- Native Hawaiian or other Pacific Islander
- White
- Other

66. Select one:

- Female
- Male