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2019 VIRGINIA WORKING CONDITIONS SURVEY:

DESCRIPTIVE ANALYSIS OF STATEWIDE PATTERNS

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Descriptive Analysis of Statewide Patterns

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Purpose of this Report

This report presents the results of descriptive analyses of the 2019 Virginia Working Conditions Survey that captured how teachers and staff in Virginia's regular public schools perceived their schools' working conditions. Teachers and staff responded to questions that mapped onto a set of measures reflecting their professionalism, the teaching, instruction, and services provided to their students, supports from their school and community, and how safe they felt at school. The analyses presented here explore how teacher perceptions of their schools' climate varied across schools and among different subgroups of teachers within the same school. Understanding these differences will help inform the efforts of schools and divisions to provide and maintain the supportive working conditions teachers and staff need to best meet the needs of students.

Background

Teachers are the single most important school-level factor predicting student performance (Aaronson, Barrow, & Sander, 2007; Rivkin, Hanushek, & Kain, 2005; Rockoff, 2004). Significant local, state, and federal resources have been expended on strategies intended to recruit and retain an effective teacher in each and every classroom. While salaries and benefits feature prominently in these strategies, providing supportive working conditions is also very important.

Individuals choose to become teachers in large part because they value the intrinsic rewards of helping children learn (Lortie, 1975). Working conditions define the school context in which teachers do their work and facilitate teachers realizing the intrinsic rewards they seek (Johnson, Berg, and Donaldson, 2005). The many features of working conditions can be sorted into seven broad classes (Johnson, 1990): (1) *physical features* such as buildings, equipment, and instructional materials, (2) *organizational structures* such as school leadership and teacher autonomy, (3) *sociological features* such as their relationships with their peers and parents, (4) *political features* such as the degree to which teachers' voices influence decision-making, (5) *cultural features* such as a shared commitment to setting high expectations for all students and helping all students meet those expectations, (6) *psychological features* such as meaningful opportunities for professional development and growth, and (7) *educational features* such as policies that influence what and how they teach. Much about the working conditions in schools are unknown until teachers begin teaching, after they have accepted the salary and benefits package offered them. The role of supportive working conditions in teacher career decisions make them an especially promising factor on which schools can focus their efforts to increase

the effectiveness of their teacher workforce. Analyses of responses to working conditions surveys in other states have consistently shown supportive working conditions are positively correlated with teacher job satisfaction, career plans, retention, and student achievement (Allensworth, Ponizciak, & Mazzeo, 2009; Johnson, Kraft, & Papay, 2012; Ladd, 2011; Marinell & Coca, 2013).

Aware of this body of literature, the General Assembly, in 2018, mandated a biennial working conditions survey of all licensed personnel in Virginia's regular public schools in order "to evaluate school-level teaching conditions and the impact such conditions have on teacher retention and student achievement" (Virginia Acts of Assembly, 2018 Special Session 1, §2.1-50.134H). The Virginia Department of Education (VDOE), in response, partnered with the University of Virginia (UVA) to design and administer the inaugural 2019 Virginia School Climate Survey. This report addresses the first part of that directive—evaluating working conditions.

Survey Design, Sample, and Measures

The 2019 Virginia Working Conditions Survey asked questions about professionalism; teaching, instruction, and student services; school and community supports; and safety. We developed separate surveys for teachers and non-teaching staff. The design of the surveys was informed by various other surveys of teachers and school staff including the Teaching, Empowering, Leading, and Learning Survey (TELLS) and the 5 Essentials Survey as well as VDOE's priorities, policies, and programs. The questions were mapped onto measures that captured respondents' perceptions of specific aspects of their working conditions including teacher leadership and autonomy, staff collegiality, rigorous instruction, instructional and workplace environment, school leadership, managing student behavior, professional growth opportunities, engaged students, engaging families, feeling safe, and the prevalence of bullying. All questions used the same six-point response scale: strongly disagree, disagree, somewhat disagree, somewhat agree, agree, and strongly agree. The wording of each question is provided in Tables A2 and A3 in the appendix.

All surveys were completed online over a three-month period between January 7 and March 29, 2019. Teachers and staff completed the surveys anonymously using a school-specific password to access the survey. These passwords enabled us to link each survey to a specific school. We provided each school with an instruction packet detailing how to administer the surveys in their school. Principals (or their designee) selected a three-week window during which their teachers and staff would complete the survey. VDOE staff conducted outreach to schools to encourage the schools' participation and high response rates among teachers and staff. Whereas schools were required to participate, individual teacher and staff participation was voluntary.

School Participation Rates

In the end, 1678 schools (93%) participated in the teacher survey and 1639 schools (91%) participated in staff survey. School participation rates were similar among elementary, high, and combined schools (95, 94, and 95%, respectively), while the rate among middle schools was lower (84%). A likely reason for the relatively low participation rate among middle

schools is that the Virginia Department of Criminal Justice Services was administering a school climate and safety survey to middle school teachers at the same time the Virginia Working Conditions Survey was in the field.

School participation rates varied across the divisions (see Figure 1). All schools in 79 divisions (60%) participated in the teacher survey whereas all schools in 68 divisions (52%) participated in the staff survey. Halifax County and Petersburg City were the only two divisions with less than half of their schools participating in the teacher survey. Halifax County along with Alexandria City were the only two divisions where less than half of their schools participated in the staff survey. On both surveys, school participation was the lowest in Region 8 (84 and 83% on the teacher and staff surveys, respectively). Region 3 had the highest school participation rates (97% on both surveys) (see Table A1 in the appendix).

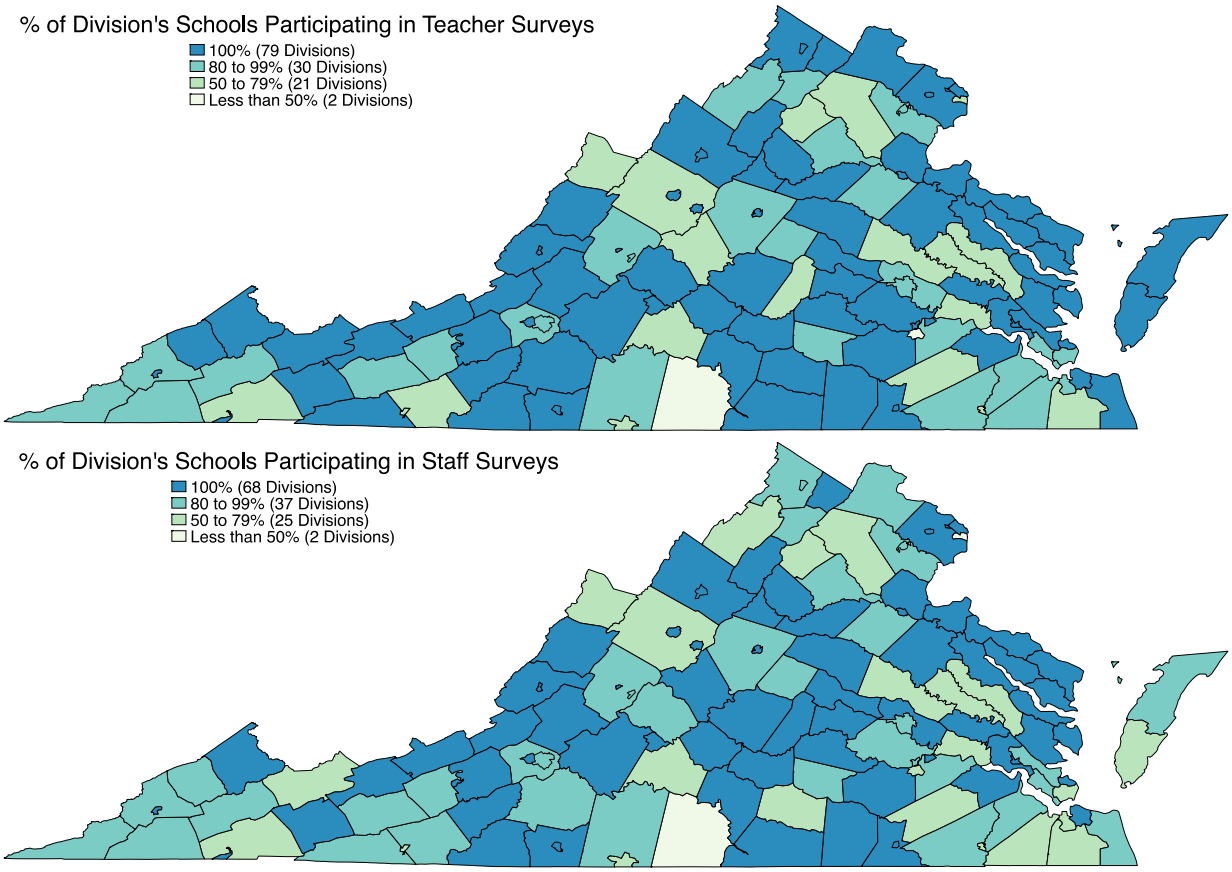

Figure 1. School Participation Rates by Survey and Division

Teacher and Staff Response Rates

Sixty-two percent of all teachers in regular Virginia public schools responded to the survey (54,207; 67% response rate among participating schools). The response rate was higher among elementary school teachers (72%) than among middle, high, and combined school teachers (62, 62, and 64%, respectively). Schools were asked to have at least 80 percent of their teachers complete the survey. Over a third of schools (37%) reached this goal (44% of

elementary schools, 26% of middle schools, 22% of high schools, and 29% of combined schools).

Teacher response rates varied across divisions (Figure 2). Fifteen divisions had at least 80% of their teachers complete a survey. Less than half the teachers in 31 divisions responded. The response rate was below 25% in five divisions: Rappahannock County, Manassas Park City, Halifax County, Alexandria City, and Petersburg City.

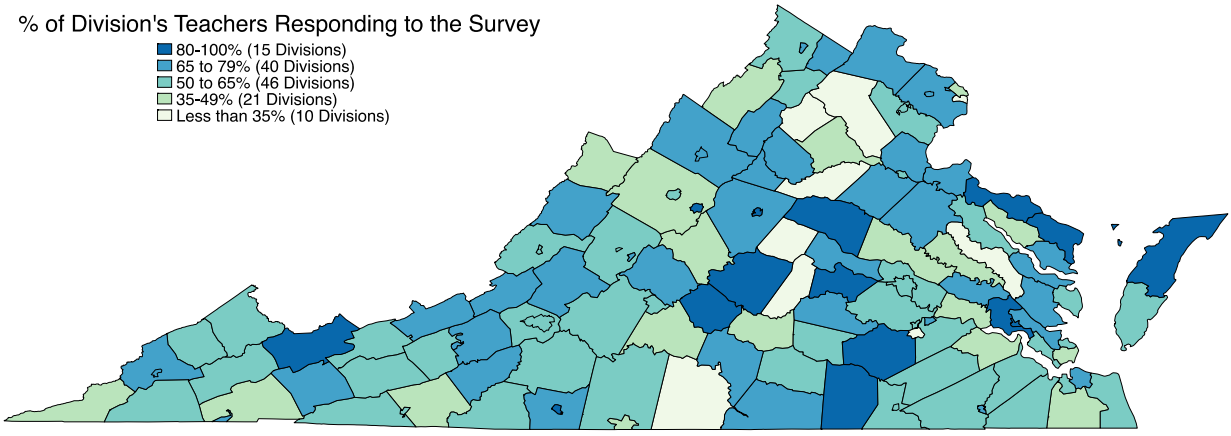

Figure 2. Teacher Response Rates by Division

We received 19,588 responses to the staff survey but are unable to calculate a response rate. This is because VDOE does not maintain a count of all the staff employed at each school. Another complication is that, whereas schools were told to invite all their teachers to complete the survey, schools were given latitude in which staff members to invite. All schools were asked to invite principals, assistant principals, instructional aides, library media specialists, school counselors, school nurses, school psychologists, school resource officers/security officers, school social workers, and subject specialists. Many schools, though, chose to also invite other groups including administrative assistants, secretaries, and other clerical staff, cafeteria staff, and custodial staff. Given these features of the staff survey sample, we focus most of our analyses on the teacher survey.

The surveys each included a set of demographic questions that asked the teachers and staff about their gender, race/ethnicity, experience at their current school, and, for teachers, subject taught, and, for staff, position held (Table 1). Responses to these questions were not required, and a small share of teachers and staff chose not to answer them. Most respondents were female (81% among teachers and 87% among staff) and white (80% among teachers and 73% among staff). A plurality of both teachers and staff had 1-3 years of experience at their current school (36 and 39%, respectively). We also show in Table 1 several characteristics of the schools at which the responding teachers and staff work.

Table 1. Characteristics of the Student Sample by Elementary and Secondary Schools

	Teachers (%)	Staff (%)
Teacher Characteristics		
Gender		
Female	81.2	87.0
Male	18.0	12.3
No response	0.8	0.7
Race / Ethnicity		
White	80.3	72.7
Black	7.8	13.4
Hispanic	3.5	4.8
Other race	3.6	4.4
No response	4.7	4.6
Years of Experience at Current School		
1-3 Years	35.4	39.3
4-10 Years	32.2	31.4
11-20 Years	22.4	21.3
More than 20 Years	8.5	7.4
No response	1.5	0.7
Subject Taught		
CTE	3.6	
Elementary/Early Childhood	44.5	
English Language Arts	8.0	
Fine Arts	4.0	
Foreign Language	2.5	
Health/Physical Education	3.1	
Mathematics	7.6	
Science	5.5	
Social Studies/History	5.7	
Special Education	2.5	
Other Subject	2.6	
Unassignable	7.5	
No response	2.3	
Student subgroups taught		
Bilingual/English Learners	10.5	
Students with Disabilities	20.6	
Position Held		
Administrator		9.9
Teacher's Aide/Para-educator		36.3
Position Held (continued)		
Library Media Specialist		2.8
School Counselor		9.2
School Nurse		3.7
School Psychologist		1.4
School Resource Officer/ Security Officer		1.5
School Social Worker		1.3
Subject Specialist		6.4
Other Non-Instructional Role		27.4
No response		0.2
School Characteristics		
School Level		
Elementary School	51.5	60.6
Middle School	17.7	15.9
High School	27.6	20.9
Combined School	3.2	2.6
School Enrollment		
Quartile 1	13.5	15.4
Quartile 2 (>=427 students)	19.5	22.8
Quartile 3 (>=592 students)	24.8	26.9
Quartile 4 (>=822 students)	41.2	35.0
% Students Economically Disadvantaged		
Quartile 1	29.8	29.7
Quartile 2 (>29.1%)	26.2	25.4
Quartile 3 (>45.8%)	21.4	21.4
Quartile 4 (>58.4%)	22.6	23.6
% Students Minority		
Quartile 1	19.3	19.8
Quartile 2 (>24.7%)	25.8	34.0
Quartile 3 (>52.6%)	28.1	21.1
Quartile 4 (>69.5%)	26.8	25.0
Community Type		
Rural	25.6	26.3
Town	6.9	7.1
Suburb	45.9	45.8
City	21.7	20.8

Notes: N Teachers = 54,207, N Staff = 19,588; School characteristics quartiles were defined at the school-level.

Measures

We conducted exploratory and confirmatory factor analyses to determine how the survey items loaded onto separate measures of working conditions. The resulting measures mostly aligned with the measures as theorized during the survey design. We identified nine measures for teachers and eight for staff (Table 2). The Cronbach Reliability Alphas for all measures exceeded the 0.7 threshold for sufficient reliability, and the factor loadings for all items well-exceeded the 0.3 threshold for sufficient construct validity. We created each of these identified measures by simply averaging the loaded items together where we assigned a value of 1 to 'strongly disagree' responses up to a value of 6 for 'strongly agree' responses. The Prevalence of Bullying measure was reverse-coded so that, like all the other measures, higher values indicate more supportive working conditions.

Additional factor analysis on these measures determined that all but the Prevalence of Bullying measure loaded onto a single measure. To create this overall working conditions measure, we standardized each of the component measures and then averaged them together.

Table 2. Psychometric Properties of School Climate Measures

	Teachers			**Staff**		
	# Items	*Reli-ability*	*Factor Loadings*	*# Items*	*Reli-ability*	*Factor Loadings*
Teacher Leadership & Autonomy	10	0.913	0.618-0.851			
Staff Collegiality				5	0.906	0.757-0.895
Rigorous Instruction	6	0.903	0.725-0.860			
Instructional / Workspace Environment	3	0.734	0.686-0.873	4	0.843	0.774-0.867
School Leadership	11	0.961	0.880-0.966	12	0.966	0.791-0.910
Managing Student Behavior	6	0.931	0.816-0.910			
Professional Growth Opportunities	6	0.904	0.704-0.883	5	0.938	0.885-0.917
Engaged Students & Engaging Families	8	0.890	0.667-0.824			
Engaged Students				5	0.885	0.718-0.894
Engaging Families				4	0.901	0.851-0.892
Feel Safe	2	0.847	n/a	2	0.843	n/a
Prevalence of Bullying *	5	0.911	0.831-0.888	5	0.920	0.851-0.896

* Reserve-coded

Analytic Strategy

To explore how teacher perceptions of their working conditions vary both across schools and among teachers within the same school, we estimated a series of models that predicted a given measure of teacher working conditions. Equation 1 is an example of the type of model we estimated to assess how perceptions varied across groups of schools.

(1) $$TchrLeadAuto_{is} = \beta_1 Elementary_s + \beta_2 Middle_s + \beta_3 High_s + \beta_4 Combined_s + \varepsilon_{is}$$

This model predicted the perceptions of teacher leadership and autonomy of teacher *i* working at school *s* as a function of the level of the teacher's school. We suppressed the constant term so that β_1 is the average perception among elementary teachers, β_2 among middle school teachers, β_3 among high school teachers, and β_4 among combined school teachers. We then conducted a post-estimation test on the equivalence among all pairs of β_1, β_2, β_3, and β_4 to test whether teacher perceptions differed significantly across school level. Standard errors are adjusted to reflect the clustering of teachers within schools. In addition to school level, we tested for differences across community type and quartiles of school enrollment and concentrations of economically disadvantaged and minority background students.

Given that most all the variation in the teacher working conditions measures was among teachers within the same school, we tested for differences along four teacher characteristics: gender, race/ethnicity, years of experience at the school, and subject taught. To calculate teacher subgroup means that relied solely on comparisons within (not across) schools, we added school fixed effects to the model in equation 1. An example is given in equation 2 which assesses within-school differences in perceptions of teacher leadership and autonomy between male and female teachers.

$$(2) \qquad TchrLeadAuto_{is} = \beta_1 Male_{is} + \beta_2 Female_{is} + \alpha_s + \varepsilon_{is}$$

This model predicted the perceptions of teacher leadership and autonomy of teacher *i* working at school *s* as a function of the teacher's gender and the school at which she or he teaches (α_s). Again, we suppressed the constant term and then conducted post-estimation tests on the equivalence of the coefficients capturing the within-school group means to assess whether the two groups' perceptions differed significantly from each other.

To aide in interpretation, we standardized all working conditions measures. This allowed us to talk about subgroup differences in terms of effect sizes (i.e., standard deviation units). Following well-established rules of thumb, we interpreted differences 0.8 or greater as large, differences greater than 0.5 as moderate, and differences greater than 0.2 as small. We interpreted differences less than 0.2 as trivial.

For the analysis of differences in teacher perceptions of their working conditions across and within schools, we restricted the sample to schools in which at least 10 teachers responded for at least a 40 percent response rate. This reduced the sample to 50,800 teachers in 1,416 schools. Three divisions – Halifax County, Orange County, and Petersburg City – had no schools meeting these inclusion requirements.

Results

Teachers and staff, on average, felt positively about their working conditions (i.e., responses greater than 3.5), although staff were more positive than teachers (Table 3). Teachers, on average, were most positive about the rigorous instruction they and their colleagues provide students with 23% providing the highest rating (strongly agree, responses greater than 5.5). They were least positive about the way in which student behavior was managed at their school with 27% having a negative perception. Staff, on average, felt most positive about their workplace environment and their school's leadership with 36% giving the

highest rating. They felt least positively about the extent to which students were engaged in school. There was substantial variation among teachers and staff in their perceptions of their working conditions with standard deviations ranging from 0.75 to 1.20.

Table 3. School Climate Measures, Statewide Results

	Teachers				Staff			
	Mean	*SD*	*% Negative*	*% Strongly Agree*	*Mean*	*SD*	*% Negative*	*% Strongly Agree*
Teacher Leadership & Autonomy	4.31	0.99	18.6	10.6				
Staff Collegiality					4.92	0.91	7.4	28.5
Rigorous Instruction	4.88	0.75	3.6	23.1				
Instructional / Workspace Environment	4.75	0.98	10.8	23.2	4.99	0.89	6.0	36.4
School Leadership	4.67	1.07	13.9	23.8	4.98	0.95	7.7	35.7
Managing Student Behavior	4.10	1.20	26.5	11.9				
Professional Growth Opportunities	4.16	1.06	22.3	10.0	4.69	0.98	11.1	20.3
Engaged Students & Engaging Families	4.29	0.86	15.7	7.6				
Engaged Students					4.51	0.86	11.1	10.0
Engaging Families					4.88	0.85	5.0	27.8
Feel Safe	4.68	1.15	12.0	29.9	4.94	1.06	7.7	39.8
Prevalence of Bullying *	4.31	1.05	22.7	12.6	4.57	1.03	15.9	19.6

Notes. SD = Standard deviation; * Reserve-coded; N Teachers = 54,207, N Staff = 19,588

It is common for responses to working conditions surveys to be aggregated to the school level in order to explore how working conditions varies across schools. Variance decomposition, however, revealed that there is considerable variation in perceptions of working conditions within schools (Table 4). Across the teacher measures, between 74 and 89% of the total variation was among teachers within the same school with between 9 and 23% between schools within a division. The remainder of the variation was across divisions (between 2 and 7%). Variation in staff perceptions of their working conditions was even more concentrated among staff within the same school (79 to 91%).

Table 4. Variance Decomposition of Working Conditions Measures

	Teachers			Staff		
	Teacher	*School*	*Division*	*Staff*	*School*	*Division*
Teacher Leadership & Autonomy	79.6	13.5	6.9			
Staff Collegiality				85.9	10.8	3.3
Rigorous Instruction	88.6	9.8	1.6			
Instructional / Workspace Environment	87.3	9.4	3.2	90.8	7.1	2.1
School Leadership	79.5	17.9	2.5	83.8	14.3	1.9
Managing Student Behavior	75.9	20.7	3.4			
Professional Growth Opportunities	85.6	9.6	4.8	90.4	6.3	3.3
Engaged Students & Engaging Families	74.1	20.6	5.3			
Engaged Students				79.2	15.0	5.8
Engaging Families				85.5	11.4	3.1
Feel Safe	80.0	13.7	6.3	82.9	9.9	7.2
Prevalence of Bullying *	74.4	22.8	2.8	80.1	17.0	2.9

Notes. * Reserve-coded; N Teachers = 54,207, N Staff = 19,588

Differences in Perceptions of Overall Working Conditions

Teachers' perceptions of their overall working conditions differed meaningfully across different types of schools. For example, elementary and combined school teachers felt meaningfully more positively than did high school teachers (effect size 0.264 and 0.251, respectively; Figure 3, panel A). Relatedly, teachers at the smallest schools felt more positively than teachers at the largest schools (effect size 0.186; Figure 3 panel B). Perceptions also varied with the characteristics of the students the schools served with teachers in schools with the lowest concentration of students from minority backgrounds reporting more satisfaction with their working conditions than teachers in schools with the highest concentration (effect size 0.229; Figure 3, panel C). The difference is more pronounced with respect to the schools' concentration of economically disadvantaged students (Figure 3, panel D). Teachers in the half of schools with the greatest share of economically disadvantaged students (about 46% or more) were meaningfully less positive than teachers at schools with the smallest share (effect size 0.209 and 0.211 for quartiles 3 and 4). Of the school characteristics examined, differences across community type were the smallest. The largest difference was between suburb and city schools (effect size 0.181) (Figure 4).

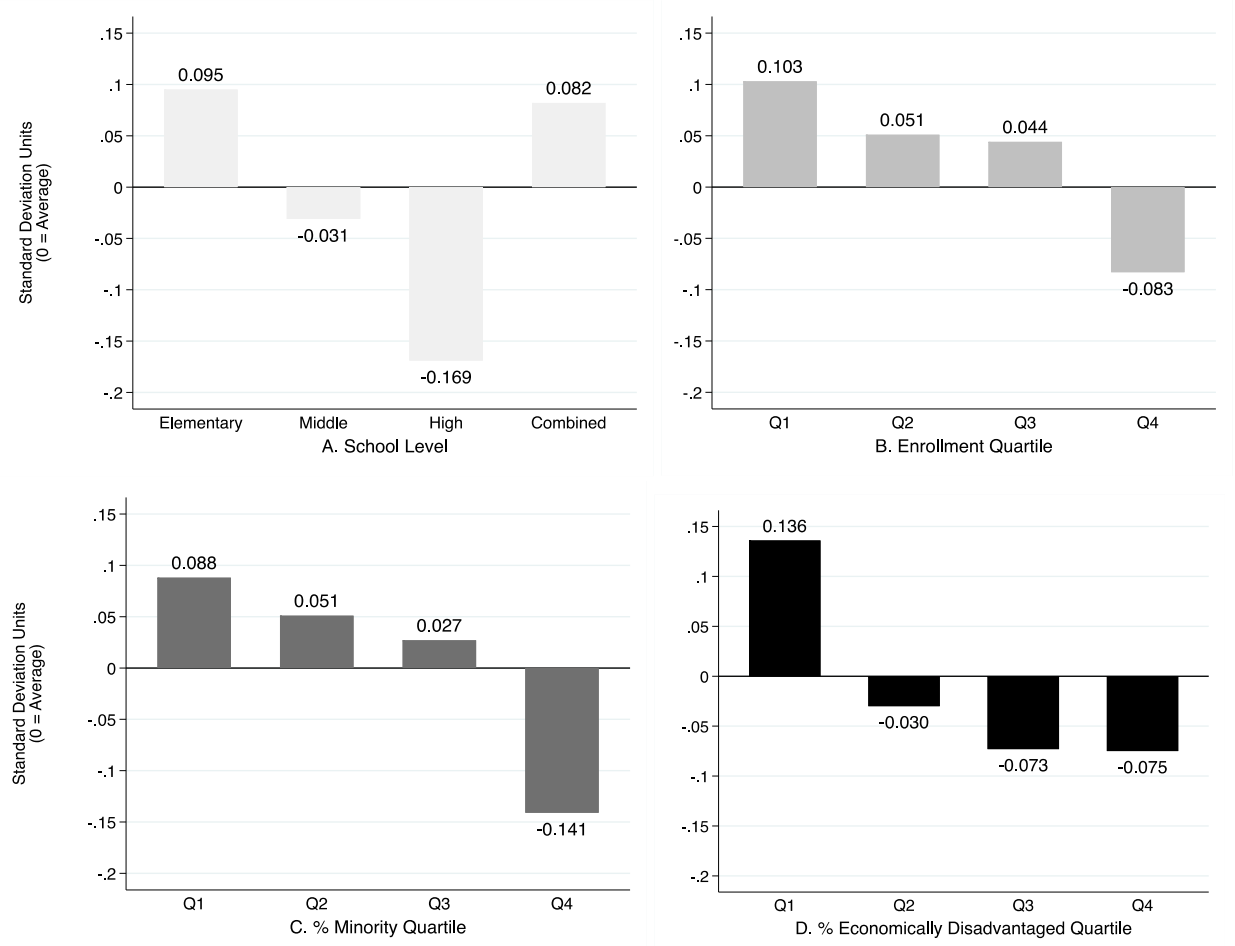

Figure 3. Average Standardized Perceptions of Overall Working Conditions by School Level, Enrollment, and Concentration of Minority and Economically Disadvantaged Students

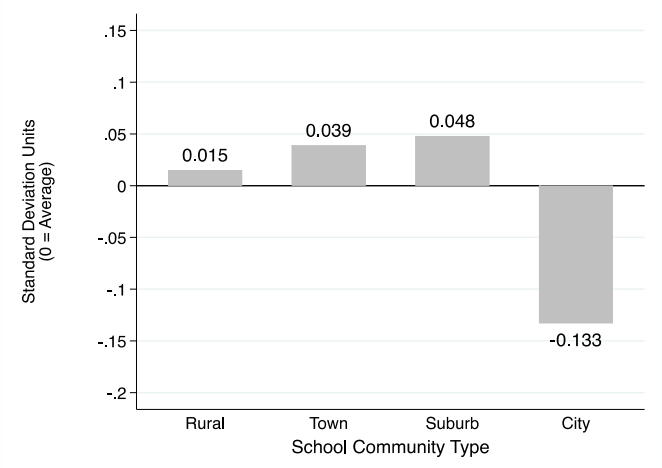

Figure 4. Average Standardized Perceptions of Overall Working Conditions by School Community Type

Most differences in teachers' perceptions of their overall working conditions across teacher groups within the same school were trivial in size (effect sizes <0.2) including all differences across gender and years of experience at the current school (Figure 5, panels A and B). Male teachers were more positive than female teachers in their same school (effect size 0.087). Teachers newest to the school—those with 1-3 years of experience at the school—were more positive about their working conditions than were their peers with 4-10 years at the school who had the least positive perceptions (effect size 0.179).

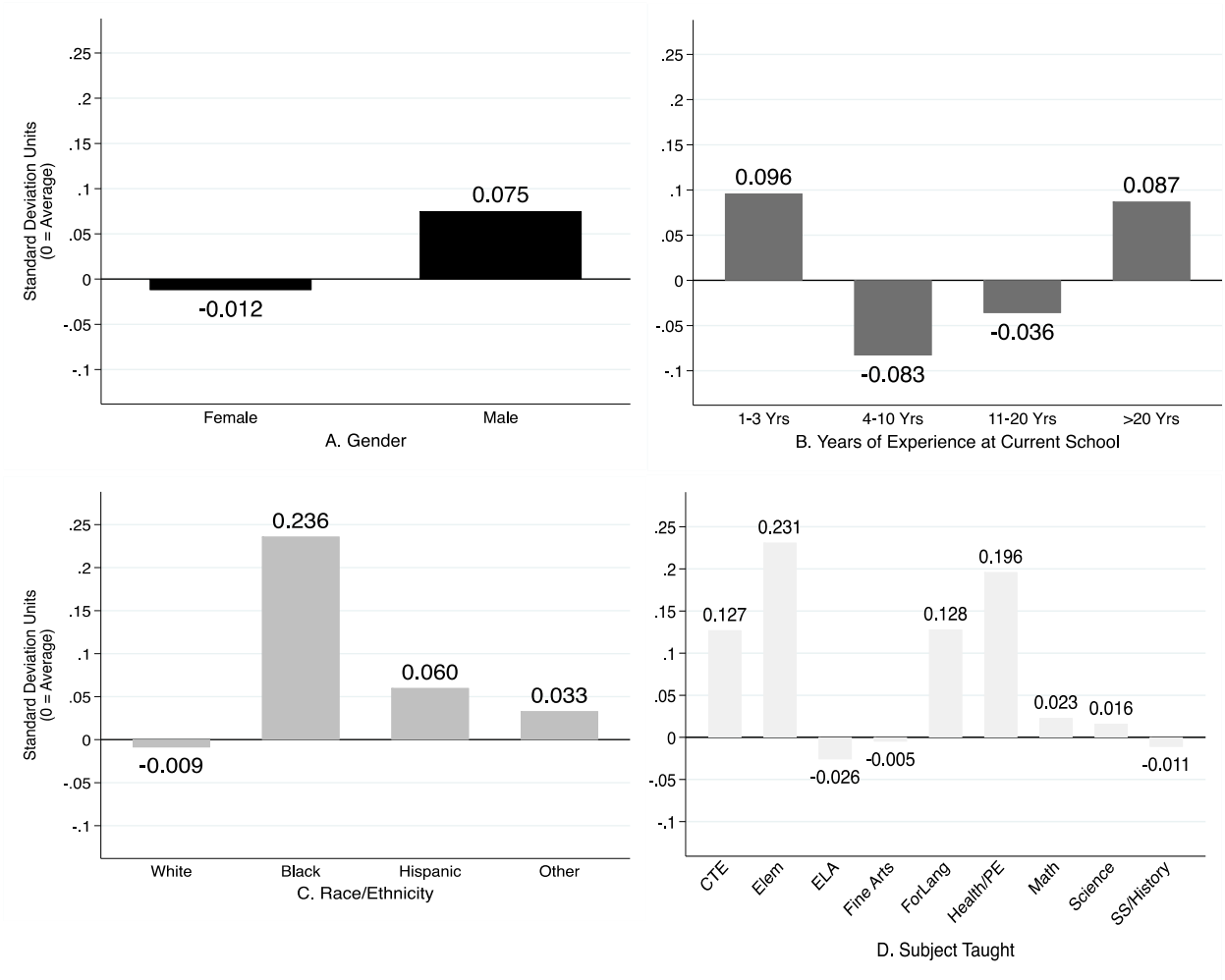

Figure 5. Within-school Average Standardized Perceptions of Overall Working Conditions by Teacher Gender, Years of Experience at Current School, Race/Ethnicity, and Selected Subjects Taught

There were more sizeable differences between teachers of different races and subjects taught (Figure 5, panels C and D). Black teachers viewed their overall working conditions more favorably than White, other race, and Hispanic teachers in their same school (effect sizes 0.245, 0.203, and 0.176, respectively). As for subjects taught, teachers divided into two groups with elementary/early childhood education, social studies/history, English Language Arts (ELA), science, and mathematics in one group with less favorable perceptions and teachers of career

and technical education (CTE), health/physical education, foreign language, and fine arts in the other with more favorable perceptions. A number of these differences crossed into the small effect size range including CTE teachers versus all teachers of the first group (effect sizes between 0.208 and 0.257) and health/physical education teachers versus elementary/early childhood, social studies/history and ELA (effect sizes between 0.201 and 0.222).[1]

Differences in Perceptions by School Level

Across the dimensions of working conditions, elementary school or combined school teachers typically felt the most positively and high school teachers the least positively (Table 6).[2] There were two notable exceptions to this. First, elementary teachers perceived their leadership and autonomy opportunities less positively than all other teachers (effect size differences of 0.311, 0.173, and 0.148 relative to combined, middle, and high school teachers, respectively). Second, middle school teachers reported more problems with bullying than teachers at other types of schools (effect size differences of 0.804, 0.347, and 0.137 relative to elementary, combined, and high school teachers, respectively). Comparing elementary and high school teachers, all effect size differences were greater than 0.2 except for Teacher Leadership and Autonomy and Instructional Environment. Comparing elementary and middle school teachers, effect size differences exceeded the 0.2 threshold for four of the nine measures (Rigorous Instruction, Managing Student Behavior, Engaged Students and Engaging Families, and Prevalence of Bullying). None of the differences between middle and high school teachers were greater than 0.2.

[1] We also tested for differences between teachers with and without students with disabilities (SWD) and with and without English Learners (EL) in their classes. Both differences were trivial in size: teachers with SWD feel 0.021 less positively and teachers with EL feel 0.055 less positively.

[2] Perceptions among elementary school teachers were statistically different ($p<.05$) from those among high school teachers on all dimensions and from those of middle school teachers on all dimensions except Instructional Environment and Professional Growth Opportunities. The only significant differences between elementary and combined school teachers were for Teacher Leadership & Autonomy and Prevalence of Bullying. Perceptions among high school teachers were different from those among combined school teachers on all dimensions and from middle school teacher on all but Teacher Leadership & Autonomy and Engaged Students & Engaging Families. The only significant differences between combined and middle school teachers were on Engaged Students & Engaging Families and Prevalence of Bullying.

Table 6. Average Standardized Perceptions of Teacher Working Conditions by Measure and School Level

	School Level			
	Elementary	*Middle*	*High*	*Combined*
Overall Working Conditions	0.095	-0.031	-0.169	0.082
Teacher Leadership & Autonomy	-0.081	0.092	0.067	0.230
Rigorous Instruction	0.144	-0.071	-0.231	0.029
Instructional Environment	0.050	0.013	-0.116	0.110
School Leadership	0.122	-0.032	-0.209	-0.008
Managing Student Behavior	0.141	-0.072	-0.222	0.010
Professional Growth Opportunities	0.075	0.021	-0.175	0.155
Engaged Students & Engaging Families	0.215	-0.206	-0.286	0.092
Feeling Safe	0.091	0.002	-0.180	0.035
Prevalence of Bullying *	0.338	-0.466	-0.329	-0.119

* Reverse-coded

Differences in Perceptions by School Size

In line with the patterns discussed above for the overall working conditions measure, teachers in the smallest schools viewed the individual dimensions the most positively while teachers in the largest schools viewed them the least favorably (Table 7).[3] There were three exceptions to this pattern. Teachers at schools in the third quartile had the highest perceptions of the degree to which students were engaged and their schools were engaging families and how safe they felt at school, and teachers at schools in the second quartile had the lowest perceptions of their leadership and autonomy opportunities.

Only a handful of the differences across school size were meaningful (effect size of 0.2 or higher). For example, the difference between the smallest and the largest schools were meaningful on four dimensions—Rigorous Instruction, School Leadership, Managing Student Behavior, and Prevalence of Bullying (effect sizes 0.211, 0.309, 0.393, and 0.473). In fact, teachers at the largest schools reported meaningfully more concerns with bullying than teachers in all other schools (effect sizes 0.390 and 0.375 relative to quartiles 2 and 3, respectively). Similarly, teachers at the largest schools felt meaningfully less positively about their school leadership and how student behavior was managed than teachers at schools in quartile 2 (effect sizes 0.240 and 0.295, respectively).

[3] Teacher perceptions in the largest schools were statistically significant (at least at $p<.05$) from perceptions at the three other groups of schools on all dimensions except from quintile 1 on Teacher Leadership & Autonomy. Perceptions in quintile 3 were different from those in quintile 2 only on Managing Student Behavior and different from quintile 1 only on Teacher Leadership & Autonomy, School Leadership, Managing Student Behavior, and Prevalence of Bullying. Perceptions in quintile 2 were different from those in quintile 1 only on School Leadership, Managing Student Behavior, and Prevalence of Bullying.

Table 7. Average Standardized Perceptions of Teacher Working Conditions by Measure and School Size

	School Size			
	Quartile 1 (<=426 Students)	*Quartile 2 (427-591 Students)*	*Quartile 3 (592-821 Students)*	*Quartile 4 (>=822 Students)*
Overall Working Conditions	0.103	0.051	0.044	-0.083
Teacher Leadership & Autonomy	0.072	-0.069	-0.045	0.036
Rigorous Instruction	0.109	0.073	0.057	-0.102
Instructional Environment	0.076	0.047	0.035	-0.067
School Leadership	0.173	0.104	0.055	-0.136
Managing Student Behavior	0.233	0.135	0.038	-0.160
Professional Growth Opportunities	0.058	0.029	0.035	-0.052
Engaged Students & Engaging Families	0.060	0.057	0.107	-0.108
Feeling Safe	0.050	0.030	0.072	-0.072
Prevalence of Bullying *	0.240	0.157	0.142	-0.233

* Reverse-coded

Differences in Perceptions by Concentration of Economically Disadvantaged Students

While the views of all dimensions of working conditions expressed by teachers in schools with the lowest concentration of economically disadvantaged students were more favorably than teachers in other the schools, it was not always the case that the views expressed by teachers in the schools with the highest concentration were the least positive (Table 8).[4] For example, teachers at schools in quartile 2 had the lowest perceptions of their school leadership and how student behavior was managed while teachers at schools in quartile 3 reported the lowest perceptions of their professional growth opportunities and the degree to which students were engaged and their school was engaging families.

The between-group differences were driven by the schools with the lowest concentration of economically disadvantaged students. Among the meaningful group differences, all but one involved quartile 1. For example, teachers at schools with the lowest concentration viewed two dimensions more favorably than each of the three other groups—Engaged Students & Engaging Families (effect sizes 0.410, 0.585, and 0.581 relative to quartiles 2, 3, and 4 respectively) and Feeling Safe (effect sizes 0.234, 0.350, and 0.367). These teachers viewed the Teacher Leadership & Autonomy and Prevalence of Bullying dimensions more favorably than teachers at schools with the highest concentration (effect sizes 0.234 and 0.208, respectively). Finally, they perceived the instruction in their schools to be more rigorous than teachers at schools in quartile 3 (effect size 0.200).

[4] Teacher perceptions in schools with the lowest concentration of economically disadvantaged schools were statistically different ($p<.05$) from the other three groups of schools except on Managing Student Behavior (all groups), on School Leadership from quintile 3, and on Professional Growth Opportunities from quintile 4. Differences among quintiles 2-4 were all insignificant except on Teacher Leadership & Autonomy between quintiles 2 and 4, on Professional Growth Opportunities between quintiles 3 and 4, and on both Engaged Students & Engaging Families and Feeling Safe between quintiles 2 and 3 and between quintiles 2 and 4.

Table 8. Average Standardized Perceptions of Teacher Working Conditions by Measure and School Concentration of Economically Disadvantaged Students

	% Economically Disadvantaged Students			
	Quartile 1 (0%-29.1%)	*Quartile 2 (>29.1%-45.8%)*	*Quartile 3 (>45.8%-58.4%)*	*Quartile 4 (>58.4%-100%)*
Overall Working Conditions	0.136	-0.030	-0.073	-0.075
Teacher Leadership & Autonomy	0.118	0.004	-0.045	-0.116
Rigorous Instruction	0.123	-0.037	-0.077	-0.044
Instructional Environment	0.086	-0.027	-0.032	-0.049
School Leadership	0.057	-0.041	0.007	-0.035
Managing Student Behavior	0.050	-0.028	-0.026	-0.008
Professional Growth Opportunities	0.071	-0.049	-0.058	0.019
Engaged Students & Engaging Families	0.364	-0.046	-0.221	-0.217
Feel Safe	0.219	-0.015	-0.131	-0.148
Prevalence of Bullying *	0.125	-0.017	-0.067	-0.083

* Reverse-coded

Differences in Perceptions by Concentration of Students from Minority Backgrounds

Teachers at schools with the highest concentration of minority students reported the least favorable perceptions of each working conditions dimension, save for one (Professional Growth Opportunities) where they were a mere 0.001 points higher than the lowest group (Table 9).[5] Perceptions were the highest among teachers at schools with the lowest concentration on four dimensions, among teachers in quartile 2 on four dimensions, and among teachers in quartile 3 on one dimension.

Here, the between-group differences were driven by teachers at schools with the highest concentration of minority students. All but one of the meaningful differences between the school groups involved the quartile 4 schools. (This was the opposite pattern found above with respect to economically disadvantaged students where it was the schools with the lowest concentration that drove the group differences). On three dimensions, teachers in quartile 4, relative to teachers in each of the three other quartiles, had meaningfully lower perceptions of three dimensions—Engaged Students & Engaging Families (effect sizes 0.321, 0.397, and 0.324 for quartiles 1-3 relative to quartile, respectively), Feeling Safe (effect sizes 0.352, 0.362, and 0.276), and Teacher Leadership & Autonomy (effect sizes 0.229, 0.226, and 0.219). Additionally, there were also meaningful differences between schools with the highest and

[5] All differences between the schools with the highest concentration of minority students and the other three groups of schools were statistically significant ($p<.05$) except for Professional Growth Opportunities where none of the differences are significant. Perceptions among teachers in quintile 1 were different from those in quintiles 2 and 3 on Teacher Leadership & Autonomy, School Leadership, and Managing Student Behavior, and from those in quintile 3 on Feeling Safe. The only significant differences between quintiles 2 and 3 were on Professional Growth Opportunities and Feeling Safe.

lowest concentrations on School Leadership (effect size 0.231) and Managing Student Behavior (effect size 0.286).

Table 9. Average Standardized Perceptions of Teacher Working Conditions by Measure and School Concentration of Students from Minority Backgrounds

	% Minority Students			
	Quartile 1 (0%-24.7%)	*Quartile 2 (>24.7%-52.6%)*	*Quartile 3 (>52.6%-69.5%)*	*Quartile 4 (>69.5%-100%)*
Overall Working Conditions	0.088	0.051	0.027	-0.141
Teacher Leadership & Autonomy	0.154	0.040	0.033	-0.186
Rigorous Instruction	0.029	0.042	0.039	-0.104
Instructional Environment	0.064	0.030	0.025	-0.103
School Leadership	0.118	0.037	-0.008	-0.113
Managing Student Behavior	0.169	0.031	-0.032	-0.117
Professional Growth Opportunities	-0.010	-0.037	0.049	-0.009
Engaged Students & Engaging Families	0.066	0.142	0.069	-0.255
Feeling Safe	0.113	0.123	0.037	-0.239
Prevalence of Bullying *	0.025	0.066	0.046	-0.131

* Reverse-coded

Differences in Perceptions by Community Type

Across the dimensions, city teachers viewed their working conditions the least favorably (Table 10).[6] The exception was their professional growth opportunities where rural teachers had the lowest perceptions. At the other end, suburb teachers gave the highest ratings on five dimensions, town teachers on three, and rural teachers on one.

The group differences were driven by city teachers with all by one of the meaningful group differences involving teachers at city schools. City teachers felt less safe than suburb, town, and rural teachers (effect sizes 0.394, 0.311, and 0.333, respectively). They were also more critical of how their school managed student behavior and their degree of leadership and autonomy than town and rural teachers (effect sizes 0.293, 0.205, 0.310, and 0.254, respectively). Other meaningful differences were relative to suburban teachers on the Engaged Students & Engaging Families dimension (effect size 0.320) and relative to town teachers on the School Leadership dimension (effect size 0.248).

[6] All differences between city and suburb schools were statistically significant ($p<.05$). Differences between city and rural were also significant except on Instructional Environment and Professional Growth Opportunities. Four of the nine differences between city and town schools were significant (Teacher Leadership & Autonomy, School Leadership, Managing Student Behavior, and Feeling Safe). Perceptions at suburb schools were different from those in town schools except on Instructional Environment, Professional Growth Opportunities, and Feeling Safe and different from those in rural schools except on Teacher Leadership & Autonomy, Instructional Environment, School Leadership, and Managing Student Behavior. The only significant difference between rural and town were on Professional Growth Opportunities.

Table 10. Average Standardized Perceptions of Teacher Working Conditions by Measure and School Community Type

	School Community Type			
	Rural	*Town*	*Suburb*	*City*
Overall Working Conditions	0.015	0.039	0.048	-0.133
Teacher Leadership & Autonomy	0.077	0.133	0.020	-0.177
Rigorous Instruction	-0.025	-0.045	0.045	-0.053
Instructional Environment	0.032	0.011	0.010	-0.066
School Leadership	0.040	0.126	0.015	-0.122
Managing Student Behavior	0.068	0.156	0.003	-0.137
Professional Growth Opportunities	-0.075	0.029	0.052	-0.036
Engaged Students & Engaging Families	-0.048	-0.126	0.131	-0.189
Feeling Safe	0.043	0.021	0.104	-0.290
Prevalence of Bullying *	-0.029	-0.089	0.096	-0.150

* Reverse-coded

Differences in Perceptions by Gender

Male and female teachers within the same school did not differ meaningfully in their perceptions of the various dimensions of their working conditions (Table 11). Across the dimensions, male teachers were more positive than their female peers on all measures except Rigorous Instruction on which the perceptions of male teachers only 0.002 less than female teachers.[7] The gender difference was greatest for Teacher Leadership and Autonomy, Feeling Safe, and Prevalence of Bullying (effect sizes 0.149, 0.141, and 0.139).

Table 11. Within-school Average Standardized Perceptions of Teacher Working Conditions by Measure and Gender

	Teacher Gender	
	Female	*Male*
Overall Working Conditions	-0.012	0.075
Teacher Leadership & Autonomy	-0.023	0.126
Rigorous Instruction	0.003	0.001
Instructional Environment	-0.008	0.053
School Leadership	-0.008	0.064
Managing Student Behavior	-0.012	0.077
Professional Growth Opportunities	-0.015	0.085
Engaged Students & Engaging Families	-0.012	0.070
Feeling Safe	-0.023	0.119
Prevalence of Bullying *	-0.023	0.117

* Reverse-coded

[7] This difference was not statistically significant whereas all other differences were significant ($p<.05$).

Differences in Perceptions by Race/Ethnicity

On every dimension, Black teachers perceived their working conditions the most positively (Table 12).[8] Many of these differences are meaningful. Black teachers felt more positive about their professional development opportunities than White, Hispanic, and other race teachers in their same school (effect size 0.351, 0.249, and 0.300, respectively). The same is true for Engaged Students and Engaging Families (effect size 0.357, 0.238, and 0.266, respectively). Compared to White teachers, Black teachers were meaningfully more positive with regards to Managing Student Behavior (0.298), Teacher Leadership and Autonomy (0.258), Instructional Environment (0.226), and School Leadership (0.219). Compared to other race teachers, Black teachers were meaningfully more positive with respect to their opportunities for leadership and autonomy (0.223) and how student behavior was managed (0.210).

None of the differences among White, Hispanic, and other race teachers were greater than 0.2.[9]

Table 12. Within-school Average Standardized Perceptions of Teacher Working Conditions by Measure and Race/Ethnicity

	Teacher Race / Ethnicity			
	White	*Black*	*Hispanic*	*Other Race*
Overall Working Conditions	-0.009	0.236	0.060	0.033
Teacher Leadership & Autonomy	-0.006	0.252	0.061	0.029
Rigorous Instruction	0.001	0.137	0.050	-0.011
Instructional Environment	-0.009	0.217	0.022	0.050
School Leadership	-0.001	0.218	0.083	0.032
Managing Student Behavior	-0.017	0.281	0.109	0.071
Professional Growth Opportunities	-0.021	0.330	0.081	0.030
Engaged Students & Engaging Families	-0.026	0.331	0.093	0.065
Feeling Safe	0.008	0.126	-0.016	-0.004
Prevalence of Bullying *	-0.007	0.105	0.058	0.023

* Reverse-coded

[8] Black teachers were statistically significantly ($p<.05$) more positive than White teachers on all dimensions, more positive than Hispanic teachers on all dimensions except the Prevalence of Bullying (not significant), and more positive than other race teachers on all dimensions than the Prevalence of Bullying.

[9] All the differences between Hispanic and White teachers were statistically significant ($p<.05$) except for Instructional Environment and Feeling Safe. None of the differences between Hispanic and other race teachers were statistically significant. Four of the differences between White and other race teachers were significant (Instructional Environment, Managing Student Behavior, Professional Growth Opportunities, and Engaged Students and Engaging Families).

Differences in Perceptions by Years at Current School

A number of differences between teachers of varying years of experience at their current school were greater than 0.2 (Table 13).[10] Teachers with 1-3 years were meaningfully more positive than teachers with 4-10 years at the same school with respect to Teacher Leadership and Autonomy (0.264), School Leadership (0.249), Professional Growth Opportunities (0.236), and Managing Student Behavior (0.234). The newest teachers also were more positive about their opportunities for leadership and autonomy than teachers with 11-20 years of experience at the school (0.269). Finally, teachers with more than 20 years of experience at their school perceived the degree to which students were engaged and their school engaged families more positively than teachers with 4-10 years of experience (0.202).

Table 13. Within-school Average Standardized Perceptions of Teacher Working Conditions by Measure and Years of Experience at Current School

	Teacher Years of Experience at Current School			
	1-3 Years	*4-10 Years*	*11-20 Years*	*More than 20 Years*
Overall Working Conditions	0.096	-0.083	-0.036	0.087
Teacher Leadership & Autonomy	0.169	-0.095	-0.100	0.017
Rigorous Instruction	0.047	-0.065	0.000	0.107
Instructional Environment	-0.017	-0.032	0.037	0.143
School Leadership	0.144	-0.105	-0.062	0.080
Managing Student Behavior	0.131	-0.101	-0.057	0.073
Professional Growth Opportunities	0.133	-0.103	-0.061	0.068
Engaged Students & Engaging Families	0.071	-0.082	-0.014	0.120
Feeling Safe	0.091	-0.084	-0.032	0.092
Prevalence of Bullying *	0.027	-0.029	-0.006	0.043

* Reverse-coded

Differences in Perceptions by Subjects Taught

Teachers perceptions of each working conditions dimension differed meaningfully across the subjects they taught (Table 14). The within-school differences between the subjects in which teachers provided the highest and lowest subjects were all greater than 0.2. The greatest difference was with respect to Teacher Leadership & Autonomy (effect size 0.542) and the smallest difference was the Feeling Safe dimension (effect size 0.289).

[10] All differences between any two groups were statistically significant ($p<.05$) except 4-10 years versus 11-20 years on Teacher Leadership and Autonomy and 1-3 years vs. more than 20 years on Prevalence of Bullying.

Table 14. Within-school Average Standardized Perceptions of Teacher Working Conditions by Measure and Subjects Taught

	Teacher Subject Taught					
	CTE	*Elem/ ECE*	*ELA*	*Fine Arts*	*Foreign Lang.*	*Health/ PE*
Overall Working Conditions	0.231	-0.026	-0.005	0.127	0.128	0.196
Teacher Leadership & Autonomy	0.385	-0.114	-0.005	0.395	0.209	0.428
Rigorous Instruction	0.152	0.012	0.065	0.139	0.107	0.125
Instructional Environment	0.258	0.016	0.017	-0.020	0.060	-0.013
School Leadership	0.251	-0.042	-0.020	0.186	0.223	0.227
Managing Student Behavior	0.193	-0.034	-0.015	0.149	0.211	0.156
Professional Growth Opportunities	0.281	-0.027	-0.012	-0.039	0.038	0.302
Engaged Students & Engaging Families	0.194	0.014	-0.071	0.130	0.087	0.240
Feeling Safe	0.132	-0.034	-0.003	0.072	0.087	0.106
Prevalence of Bullying *	0.135	0.051	-0.154	-0.128	-0.015	0.110
	Teacher Subject Taught					
	Math	*Science*	*SS/ History*	*Special Ed.***	*Other*	*Unas-signed*
Overall Working Conditions	0.023	0.016	-0.011	0.147	-0.065	0.075
Teacher Leadership & Autonomy	0.072	0.063	0.025	0.217	0.003	0.114
Rigorous Instruction	-0.081	-0.046	-0.044	0.060	-0.127	0.034
Instructional Environment	0.070	0.030	0.026	0.007	-0.014	0.030
School Leadership	0.035	0.033	-0.055	0.171	-0.137	0.090
Managing Student Behavior	-0.007	0.018	-0.047	0.218	-0.088	0.108
Professional Growth Opportunities	0.081	0.008	-0.028	0.169	-0.008	0.104
Engaged Students & Engaging Families	-0.074	-0.067	-0.025	0.222	-0.032	0.050
Feeling Safe	0.090	0.091	0.061	0.110	-0.119	0.069
Prevalence of Bullying *	0.043	-0.042	0.001	0.031	-0.073	0.018

Notes: CTE = Career and Technical Education, Elem/ECE = Elementary and Early Childhood Education, ELA = English Language Arts, PE = Physical Education, SS = Social Studies; * Reverse-coded; ** Teachers who indicated they only taught special education were classified as special education teachers. Any teacher that indicated they taught special education plus another subject was coded as having students with disabilities in their classroom.

Conclusion

This report presented the results of a descriptive analysis of responses to the 2019 Virginia Working Conditions Survey which VDOE and UVA administered between January and March 2019. On average, teachers and staff felt positively about their working conditions. Teachers were the most positive about the rigorous instruction provided at their schools and expressed the most concern with the manner in which student behavior was managed. Staff felt most positively about their workplace environment and their school's leadership and least positively about the extent to which students were engaged in school.

Diving deeper into teacher perceptions, we highlighted important variation across schools and across teachers within schools. Teachers perceived their working conditions more favorably in elementary schools versus high schools, small versus large schools, schools with lower versus higher concentrations of minority and economically disadvantaged students, and in city versus suburban schools. Within schools, Black teachers held more favorable perceptions than White teachers as did the newest teachers relative to teachers in their 4th-10th years at the school.

Working conditions play a key role in the recruitment and retention of an effective workforce for our schools. This report was intended to initiate conversations at the school, division, and state levels on how supportive working conditions can be provided to everyone that works in Virginia's public schools.

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APPENDIX

Table A1. School participation and teacher response rates by region and statewide

Region	School Participation Rates		Teacher Response Rates	
	Teacher	*Staff*	*Participating Schools*	All Schools
1	94	92	63	59
2	93	88	65	60
3	97	97	70	68
4	94	92	68	63
5	90	90	69	63
6	95	94	67	63
7	90	88	73	63
8	84	83	67	57
State	93	91	67	62

Table A2. Mapping of survey items onto working conditions measures for teachers

Survey Item (# Items)
Teacher Leadership & Autonomy (10)
Teachers are trusted to make sound professional decisions about instruction.
Teachers are relied upon to make decisions about educational issues.
I am free to be creative in my teaching approach.
I control how I use my scheduled class time.
I set the grading and student assessment practices in my classroom.
Current policies convey confidence in my ability to do well at my job.
My role as an educator is respected under current policies.
I feel that policy directives are improving our education system.
The non-instructional time provided for teachers in my school is sufficient.
Teachers have sufficient instructional time to meet the needs of all students.
Rigorous Instruction (6)
Teachers and other adults at this school expect students to use facts and evidence to support their ideas.
Teachers and other adults at this school want students to think about different ways to solve problems.
Teachers and other adults at this school encourage students to provide constructive feedback to others.
Teachers and other adults at this school encourage students to share their ideas about what they are studying in class.
Teachers and other adults at this school often connect what students are learning to life outside the classroom.
Teachers and other adults at this school feel responsible to help all students achieve their full potential.
Instructional Environment (3)
The physical environment of my classroom supports my teaching and my students' learning.
I have adequate space to work productively.
I have the support I need to incorporate technology into my instruction.

Table A2. Mapping of survey items onto working conditions measures for teachers

Survey Item (# Items)
School Leadership (11)
I feel respected by this school's administrators.
I feel comfortable raising issues and concerns that are important to me with school administrators.
I trust this school's administrators to do what they say they will do.
This school's administrators support the professional development of staff.
This school's administrators communicate a clear vision for this school.
Teachers and other staff have a shared vision for this school.
This school's administrators understand how children learn.
This school's administrators set high expectations for all students.
Teacher performance is assessed objectively.
Teachers receive feedback that can help them improve their teaching.
The procedures for teacher evaluation are consistent.
Managing Student Behavior (6)
Students know how this school defines inappropriate behavior.
Students know there are consequences for breaking school rules.
Teachers and other adults at this school consistently enforce rules for student behavior.
There are supports to help a student who consistently misbehaves develop positive behavior.
We use data to evaluate and, if needed, adjust this school's student conduct policies.
This school's rules for student behavior are effective.
Professional Growth Opportunities (6)
Sufficient resources are available for professional development in my school.
Professional development is differentiated to meet the individual needs of teachers.
Follow-up is provided after professional development activities to give teachers additional support.
Professional development provides ongoing opportunities for teachers to work with colleagues to refine teaching practices.
Professional development enhances teachers' abilities to improve student learning.
Teachers have time available to collaborate with colleagues.
Engaged Students & Engaging Families (8)
Students come to school ready to learn.
Students willingly participate in classroom lessons.
Students put forth the effort required to learn the material.
I am treated with respect by students at this school.
Teachers and other adults provide useful information to parents and guardians to support their children's learning at home.
Teachers and other adults help parents and guardians teach healthy social and emotional skills.
This school does a good job of encouraging parent/guardian involvement.
Parents and guardians help their children achieve the educational goals of the school, both academic and behavioral.
Feeling Safe (2)
I feel safe at this school.
I feel there is adequate security in this school.

Table A2. Mapping of survey items onto working conditions measures for teachers

Survey Item (# Items)
Prevalence of Bullying (5)
Bullying is a problem at this school.
Students at this school are bullied about their race or ethnicity.
Students at this school are bullied about their clothing or physical appearance.
Students at this school are bullied about their sexual orientation.
Students at this school are bullied about their disability.

Note. All questions used the same six-category response scale: strongly disagree, disagree, somewhat disagree, somewhat agree, agree, and strongly agree.

Table A3. Mapping of survey items onto working conditions measures for staff

Survey Item (# Items)
Staff Collegiality (5)
I feel respected by teachers and other adults at this school.
Teachers and other adults at this school support one another to meet the needs of all students.
Teachers and other adults at this school trust one another at this school.
Teachers and other adults at this school collaborate to make this school run effectively.
Teachers and other adults at this school have taught me things that have helped me do my job better.
Workplace Environment (4)
The physical environment of my workspace supports my work responsibilities.
I have adequate space to work productively.
My school provides me with sufficient access to appropriate supplies and materials.
I have the support I need to incorporate technology into my work responsibilities.
School Leadership (12)
I feel respected by this school's administrators.
I feel comfortable raising issues and concerns that are important to me with school administrators.
I trust this school's administrators to do what they say they will do.
This school's administrators support the professional development of staff.
This school's administrators support teachers' efforts to maintain discipline in the classrooms.
This school's administrators communicate a clear vision for this school.
Teachers and other staff have a shared vision for this school.
This school's administrators understand how children learn.
This school's administrators set high expectations for all students.
Staff performance is assessed objectively.
Staff receive feedback that can help them improve their performance.
The procedures for staff evaluation are consistent.
Professional Growth Opportunities (5)
Sufficient resources are available for professional development in my school.
Professional development is differentiated to meet the individual needs of staff.
Follow-up is provided after professional development activities to give staff additional support.

Table A3. Mapping of survey items onto working conditions measures for staff

Survey Item (# Items)
Professional development provides ongoing opportunities for staff to work with colleagues to refine work practices.
Professional development enhances staff members' abilities to better meet student needs.
Engaged Students (5)
Students come to school ready to learn.
Students willingly participate in classroom lessons.
Students put forth the effort required to learn the material.
I am treated with respect by students at this school.
Parents and guardians help their children achieve the educational goals of the school, both academic and behavioral.
Engaging Families (4)
Teachers and other adults provide useful information to parents and guardians to support their children's learning at home.
Teachers and other adults help parents and guardians teach healthy social and emotional skills.
This school maintains clear, two-way communication with parents and guardians.
This school does a good job of encouraging parent/guardian involvement.
Feeling Safe (2)
I feel safe at this school.
I feel there is adequate security in this school.
Prevalence of Bullying (5)
Bullying is a problem at this school.
Students at this school are bullied about their race or ethnicity.
Students at this school are bullied about their clothing or physical appearance.
Students at this school are bullied about their sexual orientation.
Students at this school are bullied about their disability.

Note. All questions used the same six-category response scale: strongly disagree, disagree, somewhat disagree, somewhat agree, agree, and strongly agree.