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Research Report

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Readiness to Implement Evidence-Based Practices in Public Elementary Schools

Findings from a National Survey of Teachers

Public elementary schools support children's behavioral and social development in addition to providing their education, and they do so for students with a diverse set of needs (Allensworth et al., 2011). The quality of practices used by teachers and school staff is of critical importance in meeting those needs. Elementary schools are also important because students' experiences there predict their subsequent academic performance and adult outcomes, such as employment, criminality, and interpersonal stability (Berkowitz et al., 2017; Hernandez, 2011; Jones, Greenberg, and Crowley, 2015). Given the importance of public elementary schools, there is a long history of initiatives promoting their effectiveness, one of which is the increasing emphasis on the use of evidence-based practices (EBPs) by elementary school teachers (Gross, 2016).

School-based EBPs are practices that have been shown through rigorous research to improve targeted student outcomes when delivered by teachers or other professionals in the education setting (Slavin, 2002; Thomas and Pring, 2004). Numerous education scholars have recognized that research on EBPs should inform educational policies and practices

KEY FINDINGS

- Elementary school teachers generally viewed evidence-based practices (EBPs) favorably and were open to using them.
- Teachers' ratings showed much greater variation for burnout, which could signal teachers' reduced desire or ability to take on the new tasks or roles involved in using a new EBP, and for inner setting variables related to their schools' support for EBP use.
- It is essential to understand teachers' perceptions of working conditions (e.g., inner setting, burnout) at their school because teachers' ratings in those domains appeared most informative for efforts to improve readiness for EBP implementation.

meant to improve school quality and outcomes, while incorporating local evidence and recognizing the limitations of controlled research (Elliott, 2004; Hodkinson and Smith, 2004; Joyce and Cartwright, 2020; Slavin, 2002). The U.S. Institute of Education Sciences has identified more than 100 EBPs recommended for use in elementary schools on its What Works Clearinghouse webpage (Institute of Education Sciences, undated). Teachers are most often the staff who deliver these practices, and the EBPs target a variety of outcomes, such as literacy, mathematics, science, behavior, and teacher excellence (Institute of Education Sciences, undated). EBP examples include peer-assisted learning strategies, in which teachers direct peer-mediated activities to increase student engagement in academic activities (Fuchs, Fuchs, and Abramson, 2020), and the Good Behavior Game, in which teachers teach and reinforce behavioral rules through game play (Flower et al., 2014). Some school-based EBPs focus even more broadly on health outcomes, such as We Inspire Smart Eating, an obesity-prevention nutrition curriculum that teachers can use to promote healthy food attitudes in students (Whiteside-Mansell, Swindle, and Selig, 2019). Another indication of policy support for EBPs is the Every Student Succeeds Act (Pub. L. 114–95, 2015), which expanded the structures and incentives for state education agencies to promote EBP use in schools (Gross, 2016).

Despite the emphasis on EBPs in education research and policy, it remains unclear how ready teachers and other education stakeholders (e.g., administrators, policymakers) are to implement EBPs and how best to prepare and support elementary schools in successful implementation. The growing field of implementation science defines *implementation* as the uptake and high-quality delivery of EBPs in everyday practice (Bauer et al., 2015; Fixsen et al., 2009). The Consolidated Framework for Implementation Research (CFIR; Damschroder et al., 2009), one of the most widely used models of implementation, provides a comprehensive overview of how the success of an implementation effort is influenced by characteristics at multilevel domains of the social ecology. CFIR—and indeed much implementation research—has focused on health care and social services, but scholars have argued that the primary CFIR domains are equally applicable to educational systems (Lyon and Bruns, 2019) and simply manifest as school-specific constructs. The domains include EBP characteristics (e.g., appropriateness, ease of use), characteristics of individuals delivering the EBP (e.g., teacher knowledge, attitudes, and skills), within-organizational contexts (e.g., school and district leadership support for EBPs), and extra-organizational contexts (e.g., local community demographics, state and national education policy priorities). Research has shown that settings with many barriers across these domains are often not ready for successful implementation of EBPs (Kirk et al., 2016).

Building on CFIR, additional study is needed to fully understand the complex, multilevel implementation process in schools (Coburn and Talbert, 2006; Joyce and Cartwright, 2020; Lyon and Bruns, 2019). It is important for school systems to understand the readiness of their public elementary schools and their front-line staff (i.e., teachers) to implement EBPs, so that stakeholders can provide targeted implementation support that leads to maximum benefits of EBPs for students. Therefore, in our study, we sought to help fill the gap in current knowledge about elementary schools' readiness for EBP implementation by surveying a nationally representative panel of teach-

Abbreviations

AEP	American Educator Panels
ANOVA	analysis of variance
CFIR	Consolidated Framework for Implementation Research
EBP	evidence-based practice
EBPAS	Evidence-Based Practice Attitudes Scale
FRPL	free or reduced-price lunch
ICS	Implementation Climate Scale
M	mean
MBI	Maslach Burnout Inventory
NCES	National Center for Education Statistics
ROC	Readiness for Organizational Change scale
SD	standard deviation

ers. Implementation science and related education scholarship (on, e.g., design-based implementation research or use of research evidence) have been shifting efforts to increase EBP adoption in schools beyond identifying and disseminating information about EBPs in concert with policy mandates for their use (i.e., CFIR extra-organizational contexts) toward approaches that provide implementation support for translating EBPs into educational practices (Fishman and Penuel, 2018; Fixsen et al., 2013; Bryk et al., 2015; Nutley and Tseng, 2014). Education scholars have long recognized that the impacts of policies mandating specific practices are strongly influenced by teachers' responses (Allen and Penuel, 2015; Coburn, Hill, and Spillane, 2016; Kincaid et al., 2007). Increasingly, studies describing how education stakeholders' actions and decisions are informed by research evidence have conceptualized teachers as active users of research findings, albeit influenced by their organizational and social contexts (Coburn and Talbert, 2006; Farley-Ripple et al., 2018; Honig, Venkateswaran, and McNeil, 2017; Huguet et al., 2018). Empirical studies have validated this conceptualization with data from principals (Honig, 2008; Penuel et al., 2017), whereas far less information is available regarding teachers' perspectives on EBP implementation, particularly at the national level.

In sum, we designed a survey that measured a variety of multilevel factors (i.e., across CFIR domains) that are important indicators of schools' readiness to implement EBPs. We sought to answer two exploratory, interrelated research questions: (1) How do elementary school teachers perceive the multilevel domains of readiness for EBP implementation at their schools? and (2) For which domain(s) do teachers' ratings appear to have the greatest implications for improving elementary schools' readiness to implement EBPs? Survey findings can inform decisions about how to best support EBP implementation in U.S. elementary schools. Note that these research questions concern readiness to implement a given EBP once selected, but selection of an EBP is itself another important step of the implementation process (Aarons, Hurlburt, and Horwitz, 2011)—one which we address in the Discussion of Findings section.

Method

All survey procedures were reviewed and approved by the RAND Corporation's Human Subjects Protection Committee (RAND IRB). We follow the Checklist for Reporting Results of Internet E-Surveys (Eysenbach, 2004) for reporting the structure and content of our survey in this section.

Sampling

We recruited a sample of 1,065 U.S. elementary school teachers (teaching core subjects in grades K–5) to complete our survey. These teachers were drawn from the American Educator Panels (AEP), which consist of three nationally representative samples of more than 25,000 teachers and 5,000 principals from U.S. public schools (RAND Education and Labor, 2022). Researchers periodically administer voluntary surveys to subsamples of the panelists to gauge the experiences, perceptions, and needs of educators. Teacher panel members are randomly sampled from full-time U.S. public school teachers in all 50 states, with oversampling of English language arts, mathematics, social studies, and science teachers and of novice teachers (Robbins and Grant, 2020). This sampling strategy allows researchers to recruit nationally representative AEP subsamples for a given survey (Robbins and Grant, 2020).

Recruitment

We fielded our survey from January 20, 2020, to February 24, 2020. Our target sample size was 1,000 teachers, a standard benchmark for AEP surveys that was meant to balance precision of estimates with survey costs. A sample of 1,000 offers ample precision for simple descriptive analyses for a single population (as in our survey); in addition, increasing the sample size further results in small and diminishing returns on analytic precision. To obtain the target sample size, AEP staff sent email invitations to 2,000 panelists who had indicated teaching at least one core subject (e.g., mathematics, natural sciences, world languages) in grades K–5 during the 2019–2020 school year. A copy of the invitation email is available in the appendix. The 2,000 invited teachers were selected

using probability sampling so that final probabilities of selection were similar across participants, allowing results to approximate a representative random sample once sample weights were applied (Robbins and Grant, 2020).

Interested panelists logged into the secure AEP online portal to complete the survey. Only registered panelists can complete surveys, and each panelist can take a given survey only once. Invited panelists received up to five weekly email reminders to complete the survey or decline to participate. A teacher had to complete at least 10 percent of survey items to submit their response; no other quality control metrics (e.g., time to completion, response patterns) were used to exclude submitted surveys. The response rate was 53.3 percent (N = 1,065/2,000), which exceeded the recruitment goal of 1,000 participants. Of the surveys received, 96.2 percent (n = 1,024/1,065) were complete (i.e., had no missing data).

Survey Procedures

Panelists interested in the survey reviewed and electronically signed a consent form (covering the purpose and approximate length of the survey, where and how data would be stored, and contact information for the study's investigators) and completed screening questions to verify eligibility. Participants who consented and were eligible (i.e., confirmed that they still taught a core subject in grades K–5) completed the survey. Administration time for all procedures was approximately 20 minutes. Participants received a $20 electronic gift card upon survey completion.

Survey Development

We developed the survey instructions and items from established measures and then provided a draft survey to AEP staff for programming and testing within the established online survey portal. The final programmed survey is available in the appendix. As shown in the survey document, teachers were instructed to think broadly about EBPs used in elementary schools rather than focusing on specific EBPs or types of EBPs, except for two questions about behavior management EBPs that were not included in the current analysis. The online survey contained 30 pages of items, with two to four items presented per page to enhance readability. Participants could navigate forward or backward across survey pages to review their responses. The survey items included in this report were presented to every participant (i.e., no skip logic was employed). We did not randomize or alternate the presentation of items. The survey did not require teachers to respond to every item before continuing, but, as already noted, our completion rate was over 96 percent for the survey.

Measures

To understand teachers' perspectives on the multilevel factors influencing public elementary schools' readiness to implement EBPs, we selected measures of key constructs from the following CFIR domains: (1) the *innovation* being implemented, which refers to whether EBPs are seen as useful or necessary (e.g., appropriateness of EBPs); (2) the *individuals* involved in implementing EBPs, in terms of their capacities to use an EBP (e.g., teachers' attitudes, burnout); and (3) the *inner setting*, which refers to the organizational setting and climate in which implementation takes place (e.g., leadership support for EBPs in the school) (Damschroder et al., 2009). These constructs were all highlighted by Lyon and Bruns, 2019, as important determinants for school-based EBP implementation within the respective CFIR domains.

We did not measure all possible constructs within a domain, but instead we focused on measuring constructs that were preexisting influences on readiness and that applied broadly across EBPs; other important constructs were excluded because they were EBP-specific (e.g., ease of use in the innovation domain) or because they were factors directly targeted for change by EBP implementation efforts (e.g., teachers' knowledge and skills in the individual domain). CFIR also has an *outer setting* domain, which refers to the extra-organizational setting in which implementing organizations (in this case, schools) operate, but we did not include outer setting measures because (1) teachers are not always well positioned to report on those factors and (2) efforts to implement school-based EBPs have

focused disproportionately on outer setting factors (Fixsen et al., 2013).

Table 1 provides a summary of the selected measures, including the number and rating scale of survey items, example survey item text, observed internal consistency (α) in our sample, and relevant citations. Unfortunately, few measures of implementation constructs are available for education contexts (Lyon et al., 2018), so we chose the most-relevant available measures and, as needed, made limited modifications to wording to make the items appropriate for schools and teachers. All measures and subscales were scored by taking the average rating of all relevant survey items, producing continuous scores.

Innovation Domain

Appropriateness. We captured teachers' perceptions of whether EBPs in general are needed and beneficial using the appropriateness subscale from the ROC (Holt et al., 2007). The ROC is a broad-based scale of factors related to EBP adoption in various organizational settings.

TABLE 1

Summary of Survey Measures, by Relevant Domains of the Consolidated Framework for Implementation Research

CFIR Domain	Measure	Subscale	Relevant Survey Items[a]	Example Survey Item	Rating Scale[b]	α	Citation
Innovation	ROC	Appropriateness	Q08: 09–16 (8 items)	"Evidence-based practices will make my job easier."	4-point Likert	0.88	Holt et al., 2007
Individuals	EBPAS						Aarons, 2004
		Openness	Q09: 01–04 (4 items)	"I am willing to try new types of strategies/ programs even if I have to follow a teaching/ training manual."	4-point Likert	0.81	
		Divergence	Q09: 05–08 (4 items)	"I believe I know better than academic researchers how to care for my students."	4-point Likert	0.39	
	MBI	Emotional exhaustion	Q10: 01–05 (5 items)	"I feel emotionally drained from work."	4-point Likert	0.93	Maslach, Jackson, and Leiter, 1996
Inner setting	ICS[c]		Q07: 01–09, 13–18 (15 items)[d]	"My school selects teachers who value evidence-based practice."	5-point Likert	0.81	Lyon et al., 2018
	ROC	Management support	Q08: 01–08 (8 items)[e]	"Our school's top decisionmakers have put all their support behind evidence-based practices."	4-point Likert	0.91	Holt et al., 2007

NOTE: Item wording was modified across scales as needed to be appropriate for the school context. Internal consistency (α) is listed as observed in our sample. EBPAS = Evidence-Based Practice Attitudes Scale; ICS = Implementation Climate Scale; MBI = Maslach Burnout Inventory; ROC = Readiness for Organizational Change scale.

[a] Question numbers refer to the items in our survey instrument (see the appendix); this reference is followed by the total number of items for the measure or subscale.

[b] All measures and subscales were scored by taking the average rating on all included items.

[c] We used a version of the ICS that was adapted for schools (Lyon et al., 2018).

[d] We excluded the three-item rewards subscale when scoring the ICS, as recommended by Lyon et al., 2018.

[e] We added two items about principal and district leadership requirements for EBP use to the original six items from the ROC subscale.

Individuals Domain

EBPAS is a brief measure that assesses general attitudes toward the adoption of EBPs (Aarons, 2004). The measure was originally developed to assess mental health providers' attitudes toward EBPs, so we modified the wording of survey items to make them appropriate for an education context. We used the briefest version of the scale, which contains eight items. Internal consistency was adequate only for the openness subscale, so we focused subsequent analyses on that subscale.

MBI is a measure of emotional exhaustion (i.e., burnout), depersonalization, and reduced feelings of accomplishment developed for use with human services professionals (Maslach, Jackson, and Leiter, 1996). Our survey used the *emotional exhaustion* subscale. The response options were modified slightly to reference semesters rather than the past year.

Inner Setting Domain

ICS is a measure of the shared experiences that members of an organization have around strategic policies, practices, and goals related to EBP implementation (Ehrhart, Aarons, and Farahnak, 2014). We used a version of the ICS that was recently adapted for education settings (Lyon et al., 2018). The measure contains 18 items, with six subscales consisting of three items each: selection for openness, recognition for EBP, selection for EBP, focus on EBP, educational support for EBP, and rewards for EBP. Because Lyon et al., 2018, administered the ICS to school mental health staff rather than to teachers, we also included an "I don't know" response option in our survey because of concerns that some teachers might not be able to answer the questions. Indeed, across ICS subscales used in our survey, between 8 percent and 29 percent of respondents indicated "I don't know" on at least one item; these values were treated as missing data in subsequent analyses. Finally, we excluded the rewards subscale from analyses because Lyon and colleagues reported that those items did not perform well in an education setting. We found that teachers rated rewards for EBP use as rare (mean [M] = 1.17; standard deviation [SD] = 0.51), and these responses had poor reliability with the other subscales (item-rest correlation = 0.23). Thus, consistent with Lyon et al.'s recommendations, we calculated the overall ICS score without including the rewards subscale. We focused on the overall ICS score because the included subscales showed high consistency in scores (item-rest correlation = 0.44–0.66, with all but one greater than 0.60).

Management support. We measured teachers' perceptions of whether senior leadership (in their school and district) support use of EBPs, using the management support subscale from the ROC (Holt et al., 2007). We modified the wording of the original six items to make them appropriate for an education context, and we also added two items asking whether the teacher's principal or district leadership requires use of EBPs.

Demographics. We incorporated demographic variables about the participating teachers from several sources. First, the screening questions provided detailed information about grades and subjects taught, as well as basic information about teachers' exposure to EBPs (i.e., use of at least one EBP personally or at their school). Second, at the end of the survey, we asked teachers to report the number of years that they have worked as a teacher (both overall and at their current school), their teaching credentials (type of certificate and highest degree), and their racial/ethnic background. Finally, the AEP provide unique identification numbers for participants' schools that allow researchers to link survey data to variables in the National Center for Education Statistics (NCES) Common Core of Data (NCES, undated).

Specifically, we were able to link NCES variables describing schools' locale (urban, suburban, or rural/town); charter and magnet status; type (elementary, middle, or high); student enrollment (overall and by race); percentage of students eligible for free or reduced-price lunch (FRPL; an indicator of poverty level); Title I status; and district enrollment characteristics. These variables came from the 2017–2018 school- and district-level NCES data, which was the most current version of the data available when we conducted our analyses. We were able to match more than 99 percent of survey respondents with NCES data.

Analytic Strategy

Missing data. As with most survey data, we did have some missing responses despite our 96-percent completion rate. In order to use all available data, we used multiple imputation to fill in the missing values for the survey questions prior to scoring measures. Our imputation model included 47 variables, had survey items from the CFIR domain measures that we used for analysis (i.e., innovation, individuals, and inner setting) and other items that we did not analyze because of low reliability (e.g., the EBPAS divergence subscale items). We chose to use the partially parametric method of predictive mean matching (Little, 1988; Schenker and Taylor, 1996), which calculates a regression-predicted value for each participant with a missing value, identifies ten observed data points (from other participants) that are closest in value to the regression-predicted value, and replaces the missing value with a randomly chosen value from those ten data points. This ensures that the imputed value is realistic given the survey response options and does not require a normal underlying distribution for the variable.

Sample weighting. To ensure that our survey results were representative of the national K–5 public school teacher population, we applied sample weights to each variable that was used in subsequent analyses (including survey responses and linked NCES data). The raw data might not be representative because of oversampling and differential response rates by teacher characteristics. The sample weights were assigned to each teacher by AEP analysts to account for the probabilities that the teacher would (1) be invited to take the survey, (2) agree to take the survey, and (3) complete the survey (Robbins and Grant, 2020). Thus, after applying sample weights, survey results can be considered to be nationally representative of public school teachers.

Analysis plan. We began our analyses by calculating summary statistics for the demographic characteristics of the teachers in the sample and of their schools. We then examined responses on measures from the three CFIR domains used in our survey (i.e., innovation, individuals, and inner setting), including the intercorrelations among measures and the distribution of scores for each measure (i.e., M, SD, range, box plots). Finally, we considered the generalizability of our findings by using analysis of variance (ANOVA) tests and *t*-tests to compare scores on each measure among various categories of demographic variables.

Results

Demographic Characteristics

A sample of 1,065 U.S. elementary school teachers from 48 states completed our survey (only South Dakota and Wyoming are not represented). Table 2 reports the demographic characteristics of our sample. Approximately one-quarter to one-third of teachers taught each elementary grade level, and anywhere from 63 percent to 84 percent of teachers taught the primary core subjects of mathematics, English language arts, natural sciences, or social sciences. The percentages sum to more than 100 because some teachers taught multiple grades and/or subjects. Smaller percentages of teachers also taught grade 6 or higher (3–6 percent) and other core or elective subjects (12–28 percent). Most teachers identified as White (81 percent) and non-Hispanic (92 percent), but there was some limited representation of most broadly defined racial/ethnic groups in our sample.

We examined responses on measures from the three CFIR domains used in our survey (i.e., innovation, individuals, and inner setting), including the intercorrelations among measures.

TABLE 2

Demographic Characteristics of Elementary Teachers in the Survey Sample

Demographic Characteristic	*n* (%)	M (SD)
Grade(s) taught[a]		
K	266 (25%)	–
1	279 (26%)	–
2	308 (29%)	–
3	327 (31%)	–
4	335 (32%)	–
5	303 (29%)	–
Any grade 6–12	64 (6%)	–
Ungraded/other	29 (3%)	–
Subject(s) taught[a]		
Mathematics	846 (79%)	–
English language arts	895 (84%)	–
Natural sciences	673 (63%)	–
Social sciences	678 (64%)	–
Other core subjects (e.g., computer science, world languages)	132 (12%)	–
Special education or ESL	304 (28%)	–
Other (e.g., physical education, art/music, gifted/talented program)	201 (19%)	–
Use of EBPs		
At school	889 (83%)	–
Personally	898 (84%)	–
Years working as a teacher[b]		
Total	–	15.6 (8.47)
At current school	–	9.7 (7.41)
Teaching certificate[c]		
Regular or standard	1,006 (99%)	–
Other (e.g., provisional, temporary)	13 (1%)	–
Highest degree earned[c]		
Doctorate/professional	8 (1%)	–
Educational specialist	78 (7%)	–
Master's	553 (50%)	–
Bachelor's	380 (38%)	–
Racial/ethnic identity[d]		
Hispanic ethnicity	84 (8%)	–
White	827 (81%)	–
Black or African American	79 (8%)	–
American Indian or Alaska Native	2 (0%)	–
Asian or Pacific Islander	25 (2%)	–
Multiracial	19 (2%)	–
Other/not reported	69 (7%)	–

NOTE: *N* = 1,065. These results reflect the application of sample weights. ESL = English as a second language.

[a] Sample sizes and percentages sum to more than 1,065 and 100 percent, respectively, because some teachers taught multiple grades or subjects.

[b] Not all teachers responded to these questions (*n* = 1,021).

[c] Not all teachers responded to these questions (*n* = 1,019).

[d] Not all teachers responded to these questions (*n* = 1,021).

In terms of professional experience, teachers reported an average of 15.6 years teaching (SD = 8.47; range = 2–47). On average, the majority of those teaching years occurred at their current school (M = 9.7, SD = 7.41; range = 1–47). Almost all teachers (99 percent) had a standard teaching certificate. Most reported having a bachelor's degree (38 percent) or master's degree (50 percent), but about 8 percent of teachers had more advanced education. Finally, nearly all teachers indicated that they use at least one EBP personally (84 percent) and that other teachers at their school use at least one EBP (83 percent).

Table 3 summarizes the demographic characteristics of the schools employing the teachers in our sample, based on linked NCES data. Most teachers worked at elementary schools (95 percent), but a few worked in schools with other grade configurations (e.g., K–12 or 5–8); we included these teachers in our analyses because we were interested in responses from all teachers who taught elementary-age stu-

TABLE 3

Demographic Characteristics of Schools Represented in the Survey Sample

Demographic Characteristic	*n* (%)	M (SD)
Type of school		
Elementary school	1,011 (95%)	–
Middle school	29 (3%)	–
High school/other	21 (2%)	–
Charter status	25 (2%)	–
Magnet status[a]	26 (3%)	–
Title I status[a]	729 (69%)	–
Locale		
City	329 (31%)	–
Suburb	404 (38%)	–
Rural/town	328 (31%)	–
Poverty level		
% students eligible for FRPL[b]	–	58 (38)
School student enrollment		
Total	–	552 (241.58)
% White	–	45 (36)
% Black	–	18 (24)
% Hispanic	–	27 (35)
% Asian	–	5 (13)
% Other race	–	5 (7)
District student enrollment		
Total	–	38,236 (75,633)
% White	–	26 (37)
% Black	–	23 (47)
% Hispanic	–	41 (127)
% Asian	–	6 (15)
% Other race	–	4 (14)

NOTE: Data were obtained by linking each participant's school to the 2017–2018 Common Core of Data (NCES, 2019). *N* = 1,061 because NCES data could not be matched for four teachers (0.4 percent). These results reflect the application of sample weights.

[a] This NCES variable could not be matched for ten teachers (*n* = 1,055).

[b] This NCES variable could not be matched for 74 teachers (*n* = 991).

dents. More than two-thirds of schools had Title I status, and on average, 58 percent of their students were FRPL-eligible. Few schools were charters (2 percent) or magnets (3 percent). Schools were roughly even in their distribution across urban, suburban, and rural/town settings (31–38 percent). In terms of school and district size, the average enrollment was 552 students per school and 38,236 students per district. The enrolled students were racially and ethnically diverse across schools and across districts.

Findings by CFIR Domain

For our primary analyses, we considered the three CFIR domains measured: innovation (appropriateness of EBPs), individuals (openness to EBPs, burnout), and inner setting (implementation climate, management support). We first examined a correlation matrix of all measures, which is shown in Table 4, to determine whether the measures appeared to be tapping distinct constructs. Following guidelines from Cohen, 1988, most measures had minimal to moderate correlations with each other. However, implementation climate and management support showed a large correlation ($r = 0.65$) and were part of the same CFIR domain, so we decided to create an inner setting summary score. That score was calculated as the composite mean of the original two measures (with implementation climate normalized from a 5-point scale to a 4-point scale like management support); row 6 of Table 4 reports this summary score and shows its correlations with its component scale scores and with the other variables in the matrix.

Figure 1 presents a series of box plots representing the distributions for EBP appropriateness, openness to EBPs, burnout, and the inner setting summary score. The appropriateness and openness measures had somewhat higher means (2.90 and 3.34, respectively) and smaller standard deviations (0.33 and 0.49, respectively) compared with burnout (M = 2.60, SD = 0.78) and the inner setting summary score (M = 2.56, SD = 0.53). This observation suggested to us that different readiness profiles might exist among the schools represented in our sample; by *profiles*, we mean a categorical typology showing different levels or types of readiness, characterized by combinations of implementation barriers (e.g., high burnout, low inner setting score) and facilitators (e.g., low burnout, high inner setting score) among the higher-variance measures. However, we found that both burnout and inner setting had distributions that were symmetrical (skewness = 0.27 and –0.27, respectively) and unimodal (i.e., no clearly identified subgroups); these features, along with their low intercorrelation ($r = -0.09$), prevented us from identifying categorical cutoffs that could produce interpretable

TABLE 4
Correlation Matrix of Key Readiness Variables, by CFIR Domain

		Innovation	Individuals		Inner Setting		
Readiness Variable		1	2	3	4	5	6
1	Appropriateness of EBPs	1.00	–	–	–	–	–
2	Openness to EBPs[a]	0.35*	1.00	–	–	–	–
3	Burnout	–0.05	–0.09**	1.00	–	–	–
4	Implementation climate[b]	0.29*	0.16*	–0.12*	1.00	–	–
5	Management support for EBPs	0.28*	0.07**	–0.04	0.65*	1.00	–
6	Inner setting summary score[c]	0.31*	0.13*	–0.09**	0.91*	0.91*	1.00

NOTE: $N = 1{,}065$. These results reflect the application of sample weights and imputation of missing data. * $p < 0.05$, with a meaningful effect size. ** $p < 0.05$, but with a minimal effect size ($r < 0.10$).

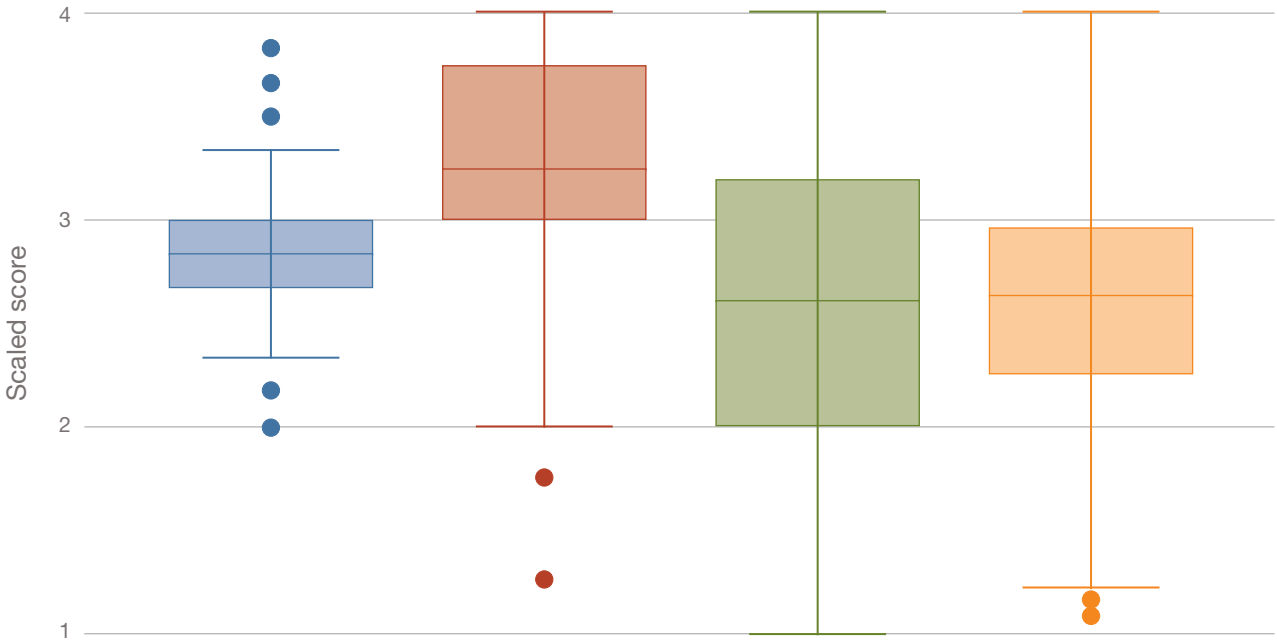
[a] We excluded the EBPAS divergence subscale because of unsatisfactory internal consistency (α).

[b] We calculated ICS scores by excluding the rewards subscale because of its poor reliability with other subscales, which is consistent with the recommendations of Lyon et al., 2018.

[c] Calculated as the mean of implementation climate (row 4) and management support (row 5), with implementation climate normalized from a 5-point scale to a 4-point scale.

FIGURE 1

Distributions of Key Readiness Variables



	Appropriateness of EBPs	Openness to EBPs	Burnout	Inner setting summary score
M	2.90	3.34	2.60	2.56
SD	0.33	0.49	0.78	0.53
Minimum	1.67	1.25	1.00	1.08
Maximum	3.83	4.00	4.00	4.00

NOTE: *N* = 1,065. These results reflect the application of sample weights and imputation of missing data. Dots in the box plots represent outlier observations (the absolute difference from the mean is more than 1.5 times the interquartile range).

readiness profiles. Instead, we found it most useful to consider each measure independently, as shown in Figure 1. Ultimately, we found that teachers reported relatively high and consistent ratings for innovation and one individual construct (openness to EBPs) and somewhat lower and more-variable ratings for inner setting and the other individual construct (burnout).

Association with School Demographics

Finally, we explored associations between the four constructs presented in Figure 1 and key teacher or school characteristics that have important influences on teacher and school performance. In terms of teacher characteristics, we sought to understand whether teachers' responses differed by experience and training (i.e., years of experience, highest degree attained) because these are key individual-level influences on EBP implementation in schools (Lyon and Bruns, 2019). For school characteristics, we examined Title I status because it captures student poverty and because there are federal funds available for EBP implementation in Title I schools. We also examined locale and school enrollment, which represent key contextual factors (Darling-Hammond, Ross, and Milliken, 2006–2007). To allow for simple and consistent difference-of-means testing across all variables during our initial analyses, we created categories from the variables that had been measured continuously: Years of experience was divided into categories based on the recommendations of Chingos and Peterson, 2011, and school enrollment was divided into categories of

high (> 1 SD above the mean), *medium* (within 1 SD of the mean), and *low* (> 1 SD below the mean). The distributions of these new categorical versions of variables are shown in Table 5.

Table 6 shows the results of ANOVA and *t*-tests comparing scores on each variable among the specified categories for each demographic variable. Only four of the 20 tests conducted were statistically significant using $\alpha = 0.05$, and two of those showed between-group differences with a marginal effect size (i.e., standardized mean difference, $d < 0.20$; Cohen, 1988). The remaining two significant results both related to years of experience. First, teachers with 21 or more years of experience gave lower ratings of EBP appropriateness with a small effect size of $d = 0.22$ (Ms = 2.84 versus 2.92). Second, on the inner setting summary score, teachers with one to two years of experience rated inner setting more positively than other teachers (Ms = 2.97 versus 2.60; $d = 0.69$, a large effect), and teachers with 21 or more years of experience rated inner setting less positively (Ms = 2.46 versus 2.65; $d = 0.35$, a medium effect).

TABLE 5

Categorical Breakdowns of Elementary Teacher and School Characteristics Derived for ANOVA Tests

Demographic Characteristic	*n* (%)
Years working as a teacher [a]	
1–2 years	2 (< 1%)
3–5 years	87 (8%)
6–12 years	364 (34%)
13–20 years	320 (33%)
21+ years	248 (25%)
School student enrollment (total)[b]	
High	145 (15%)
Medium	747 (72%)
Low	163 (13%)

NOTE: $n = 1{,}021$ for years working as a teacher and $n = 1{,}055$ for school student enrollment. These results reflect the application of sample weights.

[a] Categories were derived from the original continuous variable (see Table 2) based on the recommendations of Chingos and Peterson, 2011.

[b] Categories were derived from the original continuous variable (see Table 3) indicating high (> 1 SD above the mean), medium (within 1 SD of the mean), or low (> 1 SD below the mean) student enrollment.

Figure 2 depicts the breakdown of responses for each readiness variable by the categories of teachers' years of experience, and it indicates which categories differed significantly on each variable. These results should be interpreted with caution, however, because one out of 20 tests would be expected to be positive by chance (assuming $\alpha = 0.05$). We did not correct for multiple comparisons to avoid missing a potentially useful finding in this exploratory analysis, but that means these findings certainly must be validated through independent replication.

Discussion of Findings

There is a growing national emphasis on public elementary school teachers using EBPs with their students (Elliott, 2004; Gross, 2016; Hodkinson and Smith, 2004; Joyce and Cartwright, 2020). We sought to understand teachers' perspectives on their schools' readiness for EBP implementation, using survey data from a nationally representative panel of teachers by examining (1) how elementary school teachers rated their schools on multilevel domains related to implementation readiness and (2) which domains appeared to have the greatest priority for efforts to increase elementary schools' readiness for EBP implementation.

Regarding the first research question, teachers generally viewed EBPs favorably (i.e., high appropriateness) and highly rated their openness to using them. These ratings were consistent with our finding that 84 percent of teachers reported currently using at least one EBP. We did not assess teachers' use of EBPs in depth, however, and that 84 percent figure might be an overestimate. For example, another survey of 534 U.S. elementary school teachers found that more than 75 percent of teachers reported weekly use of one or more EBPs in their reading curricula, but most of the practices that they named were not actually evidence-based (Kretlow and Helf, 2013). Self-reported use could reflect a more general positive attitude toward EBPs or even just the knowledge that EBP use is expected. Teachers' ratings showed much greater variation for burnout, which could signal teachers' reduced desire or ability to take on

TABLE 6

Associations of Key Readiness Variables with Teacher and School Demographics

Demographic Variable	Categories Compared	Test of Differences, by Readiness Variable			
		Appropriateness of EBPs	Openness to EBPs	Burnout	Inner Setting Summary Score
Teacher					
Years working[a]	• 1–2 years • 3–5 years • 6–12 years • 13–20 years • 21+ years	$F_{4, 1017} = 3.18$*	$F_{4, 1017} = 1.43$	$F_{4, 1017} = 2.24$	$F_{4, 1017} = 116.10$*
Highest degree	• Bachelor's • Master's • Education specialist • Doctorate • No degree/ missing	$F_{4, 1061} = 0.57$	$F_{4, 1061} = 2.29$	$F_{4, 1061} = 1.18$	$F_{4, 1061} = 2.71$**
School					
Title I status	• Yes • No	$t_{1048} = -1.16$	$t_{1048} = 1.1$	$t_{1048} = -0.22$	$t_{1048} = 2.15$**
Locale	• City • Suburb • Rural/town	$F_{2, 1059} = 0.45$	$F_{2, 1059} = 1.40$	$F_{2, 1059} = 1.81$	$F_{2, 1059} = 1.86$
Enrollment[b]	• High • Medium • Low	$F_{2, 1053} = 0.74$	$F_{2, 1053} = 2.15$	$F_{2, 1053} = 0.25$	$F_{2, 1053} = 1.32$

NOTE: *N*s differ by variable, as reflected in the degrees of freedom for each test. These results reflect the application of sample weights and imputation of missing data. * $p < 0.05$, with a meaningful effect size for the difference between at least two groups. ** $p < 0.05$, but with a minimal effect size ($d < 0.20$) for all between-group differences, where d is the standardized mean difference (Cohen, 1988).

[a] Categories were created from teacher-reported years of experience based on the categories used in Chingos and Peterson, 2011.

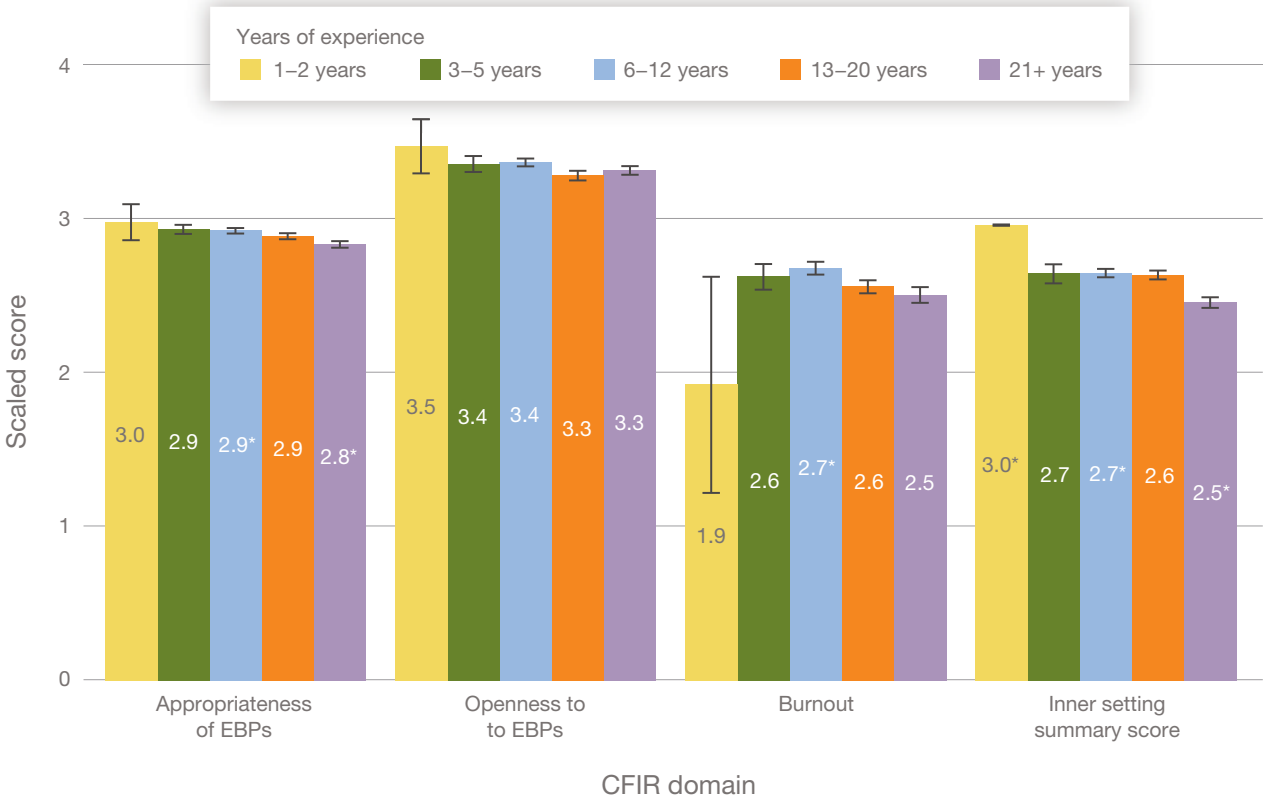
[b] Categories were created from enrollment numbers in the 2017–2018 Common Core of Data (NCES, 2019), with *high* defined as > 1 SD above the mean, *medium* as within 1 SD of the mean, and *low* as > 1 SD below the mean.

the new tasks or roles involved in using a new EBP, and for inner setting variables related to institutional support for EBP use. None of the three readiness domains were strongly intercorrelated, consistent with the CFIR conceptualization of distinct domains (e.g., innovation, individuals, and inner setting) that each influence EBP implementation (Damschroder et al., 2009). Overall, CFIR appears to be appropriate for education-based implementation research (despite its origins in health care), which is consistent with expert recommendations (Lyon and Bruns, 2019). Indeed, the application of CFIR in our empirical study produced useful results that can inform future implementation efforts in elementary schools, as we describe more fully next.

Regarding the second research question, our survey findings have important implications for education administrators, teachers, and other stakeholders (e.g., policymakers, EBP trainers) who seek to create conditions in which elementary school teachers can successfully implement EBPs. All of these stakeholder groups play an important role in the active process of moving EBPs from research and development into everyday education settings, often through research-practice partnerships and strategic implementation processes (Coburn and Talbert, 2006; Joyce and Cartwright, 2020; Penuel and Hill, 2019; Penuel et al., 2017), which have been recommended to improve the use of research evidence in education (Farley-Ripple et al., 2018; Honig, Venkateswaran, and McNeil, 2017; Huguet et al., 2018;

FIGURE 2

Means of Key Readiness Variables, by Years of Experience Categories



NOTE: *N* = 1,021. These results reflect the application of sample weights and imputation of missing data. Because of rounding, some bars with the same value differ in size.
*Mean score for the indicated category was significantly different ($p < 0.05$) from the other categories.

Nutley and Tseng, 2014). Dedicated implementation efforts might be especially important for increasing EBP delivery among the one in six elementary school teachers in our sample who reported not using any EBPs. Given the wide variety of factors influencing EBP implementation in schools (Damschroder et al., 2009; Lyon and Bruns, 2019), stakeholders can use the results of this study to prioritize when and how teachers participate in the implementation process (i.e., the domains in which teachers' time may be best spent giving input).

Implications

Our findings suggest that it is essential to understand teachers' perceptions of working conditions (e.g., inner setting, burnout) at their schools, because those measures showed the most variability in our survey (i.e., other measures showed high mean scores with little variability). Given the exploratory nature of our study, we consider this conclusion a testable hypothesis for future work. However, our prediction that working conditions will be vital to EBP implementation efforts is consistent with decades of research indicating the importance of school climate for student and staff success (Johnson and Stevens, 2006; Thapa et al., 2013) and the influence of school- and district-level factors on the implementation of innovations (e.g., Geijsel et al., 2009; Honig, 2008). Teachers who do not experience adequate support from their school leadership will likely not make the changes necessary to implement new EBPs (Fixsen et al., 2013; Kincaid et al., 2007). Although it is therefore not surprising that we conclude teachers'

perceptions of working conditions are important, in many cases, these constructs may not be fully addressed with teachers because other topics are seen as equally important. Indeed, our survey would have benefited from more in-depth measurement of working conditions rather than the broad approach that we took. It is helpful to know that efforts to create EBP-conducive conditions in schools can place more-nuanced emphasis on other topics, as described next.

We found that teachers' ratings of EBP appropriateness and their attitudes toward EBPs likely provide much more limited information about implementation readiness, as scores tended to be high and show low variation. Such measures might still be useful for identifying major implementation barriers, if done in a quick and low-burden way that focuses on identifying scores that clearly fall outside the norm, given the current climate around EBPs and the high rates of reported exposure to at least one EBP in our elementary school teacher sample (83–84 percent). Teachers' input is likely to be more useful when they provide feedback on specific candidate EBPs (which our study did not assess), addressing such questions as "Is the school ready for this EBP?" and "Is this EBP right for the school's needs?" Scholars have noted the critical importance of the *exploration phase* of implementation, in which stakeholders select an EBP to meet the needs of their population (Aarons, Hurlbert, and Horwitz, 2011), yet school or district administrators often select EBPs for large-scale implementation with little teacher input because of a variety of competing factors (Honig and Hatch, 2004; Lawson et al., 2017; Mintrop and Zumpe, 2019). In future work, we recommend researchers and stakeholders in elementary school implementation explore teachers' perceptions of more fine-grained innovation constructs, such as specific EBPs' acceptability, appropriateness, and feasibility (Weiner et al., 2017), as part of the EBP exploration and selection process.

Taken together, our findings underscore the importance of a formal readiness assessment that includes teacher input; *readiness assessment* refers to a process of incorporating a variety of data sources and perspectives to evaluate factors needed for EBP implementation and, ultimately, inform plans to address any readiness deficits and promote implementation success. Most of our measures were not consistently predicted by teacher or school characteristics, so it is possible that assumptions or "implicit theories" about which teachers or schools are most likely to successfully implement EBPs—e.g., that highly experienced teachers will reject EBPs—are not necessarily accurate (although confirmatory research is needed here). This implication is consistent with a recently developed compilation of strategies to support implementation of EBPs in schools, in which expert panelists identified "assess for readiness" as an important and feasible strategy (Lyon et al., 2019). Indeed, a school's ability to assess readiness for EBPs is an important first step toward cultivating the conditions for successful EBP implementation, and too often teachers are not able to give input into assessing readiness. Our findings provide more-specific guidance to schools, districts, and EBP trainers about how to include teacher input in readiness assessment, beyond general suggestions that the assessment should cover multiple domains and address both barriers and facilitators to implementation (Cook et al., 2019). Specifically, we recommend that initial readiness assessments include teachers' feedback on specific EBP options and a brief check for any anti-EBP attitudes; once the EBP is selected, the next stage of readiness assessment should include teachers' perspectives on their working conditions to identify key barriers that might impede implementation of the chosen EBP.

Finally, any application of the current findings to improve conditions for EBP implementation (and ultimately to lead to improved student outcomes) must emphasize the link between readiness assessment and selection of actionable supports for implementation. There is preliminary evidence that assessing readiness to implement an EBP could help school or district administrators work with key stakeholders, including teachers, to develop an "implementation blueprint" that leverages facilitators and takes action to address barriers (Lewis, Scott, and Marriott, 2018). In an elementary school, this might involve school administrators expressing commitment to successful EBP implementation (i.e., supportive climate) and taking steps to lighten teacher-identified administrative burdens (i.e., reduce burnout; Iancu et al., 2018) prior to beginning implementation. If the barriers are moreso in the inner setting, the school might

instead consider leadership interventions to improve implementation climate (e.g., the Leadership and Organizational Change for Implementation program; Aarons et al., 2017). Issues related to the characteristics of the EBP itself could be addressed through adaptation or redesign of the practice in partnership with teachers and/or students, which is already a common occurrence in schools (Forman et al., 2009; Harn, Parisi, and Stoolmiller, 2013; Troyer, 2019). Of course, in all these cases, it will be important to prospectively test whether the process of readiness assessment plus targeted strategies helps elementary schools achieve better implementation outcomes than the usual approaches taken during EBP implementation. Partnerships with state and local educational institutions will be important not only for testing these approaches to EBP implementation but also for obtaining large-scale data on student behavioral (e.g., disciplinary referrals) and academic (e.g., grades, standardized test scores) outcomes to help determine the ultimate impacts of EBP implementation.

Limitations

Several limitations of our research need to be noted. First, the survey focused on the perspectives of elementary school teachers on readiness to implement EBPs. School system administrators (e.g., principals, superintendents) might have different perspectives that will be important to understand through future research, especially considering that they are key stakeholders from the inner setting. Moreover, administrators could also report on the CFIR *outer setting* (i.e., extra-organizational factors, such as state and federal policies affecting EBP use) that we did not measure in our teacher sample. Students and parents may also contribute to a school's readiness to implement certain EBPs, and indeed, CFIR includes population and community characteristics in the outer setting. Thus, future research could explore such factors as student willingness to participate in different EBPs or community and cultural perspectives on the appropriate role of teachers. Second, we included select constructs of the CFIR innovation, individuals, and inner setting domains, so it will be important to determine whether our results replicate across various constructs within each domain (see Damschroder et al., 2009, and Lyon and Bruns, 2019, for comprehensive lists of constructs to consider in each domain). Third, we asked teachers to rate only EBP appropriateness and their attitudes in general, but teachers likely also hold views on specific EBPs; it would be useful to explore features of EBPs that drive variation in teachers' ratings. Fourth, our measures required small modifications (e.g., changes in wording) to make them appropriate for the sample, so additional research is needed to verify the modified measures' reliability and validity. For example, it would be useful to conduct confirmatory factor analyses of our measures to verify whether the subscale structure remains valid (per Lyon et al., 2018). Finally, our survey focused on public elementary school teachers of core subjects, and these survey results might not generalize to other grade levels, educational settings (e.g., private schools), or elective subjects.

Conclusion

In sum, the results from our survey of U.S. public elementary school teachers suggest that there are several paths forward to improve readiness assessment and to support successful implementation of EBPs in schools. Refining the best ways to measure readiness across the innovation, individuals, inner setting, and outer setting domains—and then tying the results to responsive implementation strategies—will be key next steps to advancing readiness assessment in this area. In turn, achieving widespread availability of EBPs in public elementary schools can contribute to positive academic, behavioral, and social student outcomes across the country.

Appendix. Final Programmed Survey

On the following pages, we reproduce the unedited invitation letter and survey that we fielded from January 20, 2020, to February 24, 2020.

Subject: Welcome to the January 2020 Scaling Effective School Practices Survey (SAF0120T)!

Dear [NAME],

We are pleased to invite you to participate in the 2020 Scaling Effective School Practices Survey (SAF0120T)! Your responses will help us learn about the use of evidence-based practices across the country. Evidence-based practices are interventions in educational contexts that are strongly supported by evidence from well-conducted research studies. Examples of common evidence-based practices in elementary schools include the Good Behavior Game, Success for All, and Peer Assisted Learning Strategies (PALS).

RAND will use the information we obtain to inform policymakers, education organizations and agencies, other educators, and the public about the attitudes and experiences of America's teachers on the implementation of evidence-based practices. Your input is critical, and we appreciate your careful, honest responses.

You can access this survey directly by clicking on the link below.

Scaling Effective School Practices Survey (SAF0120T)

The survey should take you about 20 minutes to complete. As a thank you for your time, you will receive an electronic $20 gift code for your contributions to the study.

As a reminder, your participation in any ATP survey is voluntary, and RAND will keep all of your responses confidential. If you have any questions, please don't hesitate to contact the ATP helpdesk at ATPhelpdesk@rand.org or 1-800-419-9566. Thank you again for your participation!

Sincerely,
The RAND American Teacher Panel team

Scaling Effective School Practices
2020 American Teacher Panel Survey
January 2020

Thank you for participating in this survey. The following questions ask about the use of evidence-based practices in your school. Evidence-based practices are interventions in educational contexts that are strongly supported by evidence from well-conducted research studies. The implementation of these practices has also been standardized to allow for use across different schools. Examples of common evidence-based practices in elementary schools include the Good Behavior Game, Success for All, and Peer Assisted Learning Strategies (PALS).

RAND will use your responses to inform policymakers, education organizations and agencies, other educators, and the public about the attitudes and experiences of America's teachers on the implementation of evidence-based practices. Your input is critical, and we appreciate your careful, honest responses.

- If you have responded to previous surveys, some items may look familiar. We are trying to understand whether your perceptions have changed over time, so please answer the items again.
- If you are unsure about a question, please respond in a manner that most closely reflects your experiences. As a teacher, your careful and honest responses are critical to helping us better understand the state of educational reform in the United States.
- This survey takes about 20 minutes to complete and you will receive a $20 gift code of your choice for your participation, upon completion.
- **Please note that you must click the link titled "Click Here to Receive Your Gift Code" on the final page for your survey to be considered complete and to receive the gift code.**

Tips for taking this survey:

- For best viewing questions and response options, we recommend completing this survey on a desktop or laptop and not on a mobile device.
- Please use only the on screen "Next >" and "< Back" buttons to navigate the survey rather than using your browser's back button or hitting Enter.
- You may find that the system slows down at times. We appreciate your patience in waiting for questions to load.
- If you run into problems or have questions when completing the survey, please contact the American Teacher Panel helpdesk at ATPhelpdesk@rand.org or 1-800-419-9566.

GRADE

This school year (2019-20), what grade(s) do you teach?

SELECT ALL THAT APPLY

- **00** Kindergarten
- **01** Grade 1
- **02** Grade 2
- **03** Grade 3
- **04** Grade 4
- **05** Grade 5
- **06** Grade 6
- **07** Grade 7
- **08** Grade 8
- **09** Grade 9
- **10** Grade 10
- **11** Grade 11
- **12** Grade 12
- **13** Ungraded (including special education students aged 18-22)
- **91** Other (please specify): _____

RESPONDENTS WHO INDICATED THAT THEY DID NOT TEACH DO NOT SELECT AT LEAST ONE GRADE IN K-5 WERE TERMINATED FROM THE SURVEY AND RECEIVED THE FOLLOWING MESSAGE:

"Sorry, this survey is only for K-5 teachers of core subjects. If you teach a core subject, please click the "Back" button and select one or more core subjects that you teach.

If you are not a K-5 teacher of core subjects, please click "Next" or close the web browser. Thank you for your time!"

SUB

Please indicate the subject(s) you teach this school year (2019-20). Check all that apply if you teach more than one subject (e.g., you are an elementary teacher of multiple subjects.)

SELECT ALL THAT APPLY

- **01** Mathematics (including general mathematics, algebra, geometry, calculus, etc.)
- **02** English language arts (including English, language arts, reading, literature, writing, speech, etc.)
- **03** Natural science (including general science, biology, chemistry, physics, etc.)
- **04** Social science (including social studies, geography, history, etc.)
- **05** Arts and/or music
- **06** Health or physical education
- **07** Computer science
- **08** World languages
- **09** Career or technical education
- **10** Special education
- **12** English as a Second Language (ESL)
- **91** Other (please specify): _____

RESPONDENTS WHO DID NOT SELECT AT LEAST ONE SUBJECT THAT IS NOT 05, 06, 09 WERE TERMINATED FROM THE SURVEY AND RECEIVED THE FOLLOWING MESSAGE:

"Sorry, this survey is only for K-5 teachers of core subjects. If you teach a core subject, please click the "Back" button and select one or more core subjects that you teach.

If you are not a K-5 teacher of core subjects, please click "Next" or close the web browser. Thank you for your time!"

UNIVERSE: ALL RESPONDENTS

Q01

Do teachers at your school currently implement any evidence-based practices[1] at your school?

1 Yes
2 No
98 I don't know

UNIVERSE: ALL RESPONDENTS

Q02

Do you personally use any evidence-based practices in your classroom?

1 Yes
2 No
98 I don't know

UNIVERSE: RESPONDENTS WHO INDICATED THAT THEY USE EVIDENCE-BASED PRACTICES (Q02 = 1)

Q03

Do you use any evidence-based practices related to behavior management?

1 Yes
2 No
98 I don't know

UNIVERSE: RESPONDENTS WHO INDICATED THAT THEY USE EVIDENCE-BASED PRACTICES RELATED TO BEHAVIOR MANAGEMENT (Q03 =1)

Q04

Please provide the name(s) of the evidence-based practices you use for behavior management in your classroom. When possible, please spell out the full name rather than providing an acronym.

PLEASE USE COMMAS TO SEPARATE MULTIPLE EVIDENCE-BASED PRACTICES

[1] PN: HOVER OVER: Evidence-based practices are interventions in educational contexts that are strongly supported by evidence from well-conducted research studies.

The following questions ask about your use of evidence-based behavior management practices in your school, such as the Good Behavior Game, Success for All, and Peer Assisted Learning Strategies (PALS). Evidence-based practices are supported by research evidence and standardized to allow for use in different schools.

UNIVERSE: RESPONDENTS WHO INDICATED THAT THEY USE EVIDENCE-BASED PRACTICES RELATED TO BEHAVIOR MANAGEMENT (Q03 = 1)

Q05

Thinking about the <u>evidence-based practice you have most frequently used</u> in your school, *please indicate your agreement with the following statements* about what factors are important in determining your use of the practice in your classroom.

	Strongly disagree	Disagree	Agree	Strongly agree
01 The practice is easy to implement.	1 ☐	2 ☐	3 ☐	4 ☐
02 The practice is easy to fit into my day given other demands on my schedule.	1 ☐	2 ☐	3 ☐	4 ☐
03 The practice takes time away from instruction.	1 ☐	2 ☐	3 ☐	4 ☐
04 The practice fits my personal teaching style.	1 ☐	2 ☐	3 ☐	4 ☐

	Strongly disagree	Disagree	Agree	Strongly agree
05 The practice is useful in managing my students' classroom behavior.	1 ☐	2 ☐	3 ☐	4 ☐
06 The practice aligns with my school's behavior management system.	1 ☐	2 ☐	3 ☐	4 ☐
07 The practice is developmentally appropriate for my students.	1 ☐	2 ☐	3 ☐	4 ☐

	Strongly disagree	Disagree	Agree	Strongly agree
08 The practice is culturally appropriate for my students.	1 ☐	2 ☐	3 ☐	4 ☐
09 My students need a practice like this.	1 ☐	2 ☐	3 ☐	4 ☐
10 The amount of time, resources, and effort needed to implement the practice is reasonable.	1 ☐	2 ☐	3 ☐	4 ☐

The following questions ask about your views on the school where you teach.

UNIVERSE: ALL RESPONDENTS

Q06

Thinking about your school, how much do you agree or disagree with the statements below?

	Strongly disagree	Disagree	Agree	Strongly agree
01 Teachers and other staff work well with one another at this school.	1 ☐	2 ☐	3 ☐	4 ☐
02 There is a strong sense of mutual support among the teachers and other staff at this school.	1 ☐	2 ☐	3 ☐	4 ☐
03 This school is a collegial environment for teachers and other staff members.	1 ☐	2 ☐	3 ☐	4 ☐
04 The punishment for breaking school rules is the same for all students.	1 ☐	2 ☐	3 ☐	4 ☐

	Strongly disagree	Disagree	Agree	Strongly agree
05 Students at this school only get punished when they deserve it.	1 ☐	2 ☐	3 ☐	4 ☐
06 Students here know the school rules for student conduct.	1 ☐	2 ☐	3 ☐	4 ☐
07 If a student does something wrong, he or she will definitely get punished.	1 ☐	2 ☐	3 ☐	4 ☐
08 Students can get away with breaking the rules at this school pretty easily.	1 ☐	2 ☐	3 ☐	4 ☐

	Strongly disagree	Disagree	Agree	Strongly agree
09 Students get suspended *without good reason.*	1 ☐	2 ☐	3 ☐	4 ☐
10 Students get suspended *for minor things.*	1 ☐	2 ☐	3 ☐	4 ☐
11 When students are accused of doing something wrong, they get a chance to explain.	1 ☐	2 ☐	3 ☐	4 ☐
12 The adults at this school are too strict.	1 ☐	2 ☐	3 ☐	4 ☐

	Strongly disagree	Disagree	Agree	Strongly agree
13 Zero tolerance[2] makes a significant contribution to maintaining order at this school.	1 ☐	2 ☐	3 ☐	4 ☐
14 Zero tolerance sends a clear message to disruptive students about inappropriate behaviors in school.	1 ☐	2 ☐	3 ☐	4 ☐
15 Suspension makes students less likely to misbehave in the future.	1 ☐	2 ☐	3 ☐	4 ☐
16 Out-of-school suspension is unnecessary if we provide a positive school climate and challenging instruction.	1 ☐	2 ☐	3 ☐	4 ☐

[2] Zero tolerance is defined as the practice of imposing an automatic and severe punishment for any violation of a certain rule.

UNIVERSE: ALL RESPONDENTS

Q07

Please indicate the extent to which you agree with each statement.

	Not at all	Slight extent	Moderate extent	Great extent	Very great extent	I don't know
01 One of my school's main goals is to use evidence-based practices effectively.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐
02 People in my school think that the implementation of evidence-based practices is important.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐
03 Using evidence-based practices is a top priority in my school.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐

	Not at all	Slight extent	Moderate extent	Great extent	Very great extent	I don't know
04 My school provides conferences, workshops, or seminars focusing on evidence-based practices.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐
05 My school provides evidence-based practice *trainings or in-services.*	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐
06 My school provides evidence-based practice *training materials, journals, etc.*	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐

	Not at all	Slight extent	Moderate extent	Great extent	Very great extent	I don't know
07 Teachers in my school who use evidence-based practices *are seen as instructional experts.*	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐
08 Teachers who use evidence-based practices are held in high esteem in my school.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐
09 Teachers in my school who use evidence-based practices *are more likely to be rewarded and/or promoted.*	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐

	Not at all	Slight extent	Moderate extent	Great extent	Very great extent	I don't know
10 My school provides financial incentives for the use of evidence-based practices.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐
11 The better you are at evidence-based practices, the more likely you are to get a bonus or a raise.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐
12 My school provides the ability to accumulate compensated time for the use of evidence-based practices.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐

	Not at all	Slight extent	Moderate extent	Great extent	Very great extent	I don't know
13 My school selects teachers who *have previously used* evidence-based practice.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐
14 My school selects teachers who *have had formal education supporting* evidence-based practice.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐
15 My school selects teachers who *value* evidence-based practice.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐

	Not at all	Slight extent	Moderate extent	Great extent	Very great extent	I don't know
16 My school selects teachers who are *adaptable.*	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐
17 My school selects teachers who are *flexible.*	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐
18 My school selects staff open to new types of interventions.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	98 ☐

UNIVERSE: ALL RESPONDENTS

Q08

We would like to understand the extent to which you and your school leadership supported the adoption of evidence-based practices this school year (2019-20). *Please indicate the extent to which you agree or disagree with the statements below*:

	Strongly disagree	Disagree	Agree	Strongly Agree
01 Our school leaders have encouraged all of us to embrace evidence-based practices.	0 ☐	1 ☐	2 ☐	3 ☐
02 My school principal required me to use evidence-based practices.	0 ☐	1 ☐	2 ☐	3 ☐
03 Leadership of my district required me to use evidence-based practices.	0 ☐	1 ☐	2 ☐	3 ☐

	Strongly disagree	Disagree	Agree	Strongly Agree
04 Our school's top decisionmakers have put all their support behind evidence-based practices.	0 ☐	1 ☐	2 ☐	3 ☐
05 Every school leader has stressed the importance of evidence-based practices.	0 ☐	1 ☐	2 ☐	3 ☐
06 My school's principal is committed to evidence-based practices.	0 ☐	1 ☐	2 ☐	3 ☐

	Strongly disagree	Disagree	Agree	Strongly Agree
07 I think we are spending a lot of time on evidence-based practices when the school leaders don't even want them implemented.	0 ☐	1 ☐	2 ☐	3 ☐
08 School leaders have sent a clear signal that this organization is going to implement evidence-based practices.	0 ☐	1 ☐	2 ☐	3 ☐
09 I think the school will benefit from using evidence-based practices.	0 ☐	1 ☐	2 ☐	3 ☐

	Strongly disagree	Disagree	Agree	Strongly Agree
10 It doesn't make much sense for us to implement evidence-based practices.	0 ☐	1 ☐	2 ☐	3 ☐
11 There are legitimate reasons for us to implement evidence-based practices.	0 ☐	1 ☐	2 ☐	3 ☐

12 Evidence-based practices will improve our school's overall efficiency.	0 ☐	1 ☐	2 ☐	3 ☐

	Strongly disagree	**Disagree**	**Agree**	**Strongly Agree**
13 In the long run, I feel it will be worthwhile for me if the school implements evidence-based practices.	0 ☐	1 ☐	2 ☐	3 ☐
14 Evidence-based practices will make my job easier.	0 ☐	1 ☐	2 ☐	3 ☐
15 The time we are spending on evidence-based practices should be spent on something else.	0 ☐	1 ☐	2 ☐	3 ☐
16 Evidence-based practices match the priorities of our school.	0 ☐	1 ☐	2 ☐	3 ☐

UNIVERSE: ALL RESPONDENTS

Q09

Please rate the extent to which you agree with each of the following statements.

	Not at all	To a minimum extent	To a moderate extent	To a very great extent
01 I like to use new types of strategies/programs to help my students.	0 ☐	1 ☐	2 ☐	3 ☐
02 I am willing to try new types of strategies/programs even if I have to follow a teaching/training manual.	0 ☐	1 ☐	2 ☐	3 ☐
03 I believe I know better than academic researchers how to care for my students.	0 ☐	1 ☐	2 ☐	3 ☐
04 I am willing to use new and different types of strategies/curricula developed by researchers.	0 ☐	1 ☐	2 ☐	3 ☐

	Not at all	To a minimum extent	To a moderate extent	To a very great extent
05 Research-based teaching strategies/programs are useful in practice.	0 ☐	1 ☐	2 ☐	3 ☐
06 Teaching/classroom experience is more important than using manualized methods/treatments.	0 ☐	1 ☐	2 ☐	3 ☐
07 I would use manualized strategies/programs.	0 ☐	1 ☐	2 ☐	3 ☐
08 I would try a new strategy/curriculum even if it were very different than what I am used to doing.	0 ☐	1 ☐	2 ☐	3 ☐

The following questions ask about you and your experiences/training as a teacher

UNIVERSE: ALL RESPONDENTS

Q10

Thinking of this school year (2019-20), how often do you feel the following:

	Never	A few times a semester	Often throughout the semester	Every day
01 I feel emotionally drained from work.	1 ☐	2 ☐	3 ☐	4 ☐
02 I feel used up at the end of the workday.	1 ☐	2 ☐	3 ☐	4 ☐
03 I feel fatigued when I get up in the morning and have to face another day on the job.	1 ☐	2 ☐	3 ☐	4 ☐
04 I feel burned out from my work.	1 ☐	2 ☐	3 ☐	4 ☐
05 I feel frustrated by my job.	1 ☐	2 ☐	3 ☐	4 ☐

UNIVERSE: ALL RESPONDENTS

Q11

Thinking of your experiences managing the behavior of your students so far this school year (2019-20), *please indicate the extent to which you agree or disagree with the statements below*:

	Strongly disagree	Disagree	Agree	Strongly Agree
01 I am able to use a variety of behavior management models and techniques.	0 ☐	1 ☐	2 ☐	3 ☐
02 If a student disrupts the lesson, I am able to redirect him/her quickly.	0 ☐	1 ☐	2 ☐	3 ☐
03 I can communicate to students that I am serious about getting appropriate behavior.	0 ☐	1 ☐	2 ☐	3 ☐
04 There are very few students that I cannot handle.	0 ☐	1 ☐	2 ☐	3 ☐

	Strongly disagree	Disagree	Agree	Strongly Agree
05 I manage my class very well.	0 ☐	1 ☐	2 ☐	3 ☐
06 I keep defiant students involved in my lessons.	0 ☐	1 ☐	2 ☐	3 ☐
07 I am able to make my expectations clear to my students.	0 ☐	1 ☐	2 ☐	3 ☐
08 I keep a few problem students from ruining an entire class.	0 ☐	1 ☐	2 ☐	3 ☐

	Strongly disagree	Disagree	Agree	Strongly Agree
09 If students stop working, I put them back on track.	0 ☐	1 ☐	2 ☐	3 ☐
10 I know what rules are appropriate for my students.	0 ☐	1 ☐	2 ☐	3 ☐
11 I am able to use a variety of non-aversive techniques (e.g., voice modulation, facial expressions, planned ignoring, proximity control).	0 ☐	1 ☐	2 ☐	3 ☐
12 I am able to implement a consistent classroom routine.	0 ☐	1 ☐	2 ☐	3 ☐

	Strongly disagree	Disagree	Agree	Strongly Agree
13 I am able to self-evaluate my own teaching and classroom management skills and use the results constructively.	0 ☐	1 ☐	2 ☐	3 ☐
14 I am able to explain the rationale, program components, operation, and evaluation of the behavior techniques I use.	0 ☐	1 ☐	2 ☐	3 ☐
15 I am usually comfortable discussing issues of right and wrong with my students.	0 ☐	1 ☐	2 ☐	3 ☐
16 I am confident in my ability to be a good role model.	0 ☐	1 ☐	2 ☐	3 ☐

	Strongly disagree	Disagree	Agree	Strongly Agree
17 I am not sure I can teach my students to be honest.	0 ☐	1 ☐	2 ☐	3 ☐
18 I know how to use strategies that might lead to positive changes in students' character.	0 ☐	1 ☐	2 ☐	3 ☐
19 When students demonstrate diligence, it is often because teachers have encouraged the students to persist with tasks.	0 ☐	1 ☐	2 ☐	3 ☐
20 Some students will not become more respectful even if they have had teachers who promote respect.	0 ☐	1 ☐	2 ☐	3 ☐

UNIVERSE: ALL RESPONDENTS

Q12

<u>Including the current school year (2019-20)</u>, how long have you worked as a teacher? Please round to the nearest whole number, and do not include student teaching.

01 Total amount of time as a teacher: ____ Years
02 Total amount of time as a teacher in your current school: ____ Years

UNIVERSE: ALL RESPONDENTS

Q13

Which of the following best describes the teaching certificate you currently hold in the state in which you currently teach?

1 Regular or standard state certificate or advanced professional certificate
2 Other type of certificate (e.g., probationary, provisional, temporary, emergency/waiver)
3 I do not hold any of the above certifications

UNIVERSE: ALL RESPONDENTS

Q14

What is the highest degree you have earned?

1 Associate's degree
2 Bachelor's degree (B.A., B.S., etc.)
3 Master's degree (M.A., M.A.T., M.B.A., M.Ed., M.S., etc.)
4 Educational specialist or professional diploma (at least one year beyond master's level)
5 Doctorate or first professional degree (Ed.D., Ph.D., M.D., L.L.B., J.D., D.D.S.)
6 Do not have a degree

UNIVERSE: ALL RESPONDENTS

Q15

With which of the following do you identify?

SELECT ALL THAT APPLY

01 Hispanic, Latinx, or Spanish origin
02 White
03 Black or African American
04 American Indian or Alaska Native
05 Asian
06 Native Hawaiian or other Pacific Islander
07 Other (please specify):

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About This Report

There is an increasing emphasis on the use of evidence-based practices (EBPs) by public elementary school teachers, yet little is known about how teachers and other education stakeholders (e.g., administrators, policymakers) can best support the successful implementation of such practices. We sought to understand teachers' perspectives on their readiness to implement EBPs by surveying 1,065 U.S. public elementary school teachers drawn from the American Educator Panels (AEP). The AEP are nationally representative samples of teachers, school leaders, and district leaders across the country. We discuss implications of our findings for EBP implementation in elementary school settings, with a focus on how school administrators, policymakers, teachers, and other stakeholders might best understand what is needed to successfully implement EBPs, both prior to and during the implementation process.

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