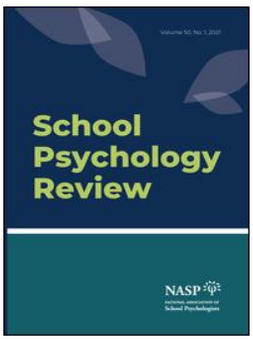

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SPECIAL SERIES

The Experience of COVID-19 and Its Impact on Teachers' Mental Health, Coping, and Teaching

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ABSTRACT

The COVID-19 pandemic has placed significant demands on teachers. The current study uses needs assessment data gathered from 454 New Orleans charter school teachers (81% women; 55% Black; 73% regular education) during the first months of the pandemic. On average, teachers experienced seven stressors (out of 18 surveyed) and four protective factors (out of six surveyed). Teachers who experienced more stressors reported worse mental health and found it harder to cope and teach. Experiencing more protective factors was associated with finding it easier to cope and teach. In comparison to White teachers, Black teachers reported better mental health, more protective factors, less of a negative impact of stressors, and more of a positive impact of protective factors. Lack of connection and online teaching challenges were the most difficult aspects of teaching during the pandemic; support from coworkers and administrators were the most helpful. Recommendations to support teachers are discussed.

IMPACT STATEMENT

Teachers experienced considerable stress as a result of the COVID-19 pandemic, which was related to poorer mental health, coping, and teaching. At the same time, teachers reported resiliencies, which were related to better coping and teaching. Supporting teachers' well-being is critical to prevent significant adverse consequences for teachers, their students, and the education system as a whole.

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COVID-19 pandemic, teachers, stressors, protective factors, mental health

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The COVID-19 pandemic of spring 2020 had an unprecedented impact on society and the economy in the United States, including shuttering schools and transitioning millions of educators and students into remote teaching and learning overnight. A nationally representative study of over 3,500 U.S. school websites in May 2020 showed that schools were generally effective at bringing academic instruction for general education students online (Harris et al., 2020). Unsurprisingly, however, access to remote learning has been inequitable. Students with special learning or mental health needs were less likely to be served in the immediate transition to virtual learning (Harris et al., 2020). In addition, children whose families live in poverty and who identify as racial and ethnic minority group members were less likely to be able to engage in high-quality and inclusive remote learning (Harris et al., 2020).

A May 2020 survey of 1,330 Canadian teachers echoed these findings and linked them directly to teachers' experiences of stress during the pandemic (Sokal & Eblie Trudel, 2020). Specifically, teachers reported high levels of concern about the vulnerable students in their classrooms. The typical ways to check-in with students have been disrupted, and teachers have hesitated to even call families because of the stressors they worry that caregivers are experiencing (Gewertz, 2020). Relatedly, teachers also reported an increased awareness of inequities among their students (Sokal & Eblie Trudel, 2020). This awareness caused distress and, in many cases, prompted creative, "above and beyond" efforts to provide materials and instruction or to meet students' needs.

The survey of Canadian teachers also showed that the increased demands placed on teachers as they learned how to teach virtually were a key stressor (Sokal & Eblie Trudel, 2020). Unsurprisingly, most schools lacked online learning infrastructure, and most teachers were not familiar with the technology or pedagogy of online teaching before the pandemic (Sahu, 2020). This stress of working full-time from home while adopting new technologies was compounded in many cases by teachers needing to care for their own families (Cipriano & Brackett, 2020). Those

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teachers who were able to transition to online instruction by focusing on familiar strategies, establishing expectations with students, and perceiving reduced demands from their administration coped the best (Sokal & Eblie Trudel, 2020). Flooding teachers with resources during the initial transition to online teaching, which was intended to be helpful, was perceived instead by teachers as burdensome (Sokal & Eblie Trudel, 2020). Unsurprisingly, teachers also expressed concerns about engaging students through remote learning (Sokal & Eblie Trudel, 2020).

Chronic stress at work, combined with a lack of support and resources, can lead to professional burnout. Burnout is characterized by emotional exhaustion, depersonalization, and feelings of inefficacy (Maslach et al., 2001). Teacher stress and burnout are associated with myriad adverse outcomes, including less effective teaching (Huberman et al., 1993), more disruptive behavior in the classroom (Herman et al., 2018), worse student–teacher relationships (Hoglund et al., 2015), and more teacher turnover (Perrone et al., 2019). When teachers experience more stress and burnout, their students are more stressed (Oberle & Schonert-Reichl, 2016) and have lower academic achievement (Herman et al., 2018).

Teaching under normal conditions is a stressful job (Montgomery & Rupp, 2005). Teachers were already at elevated risk of burnout before the pandemic, especially those who teach in low-resource, high-poverty schools (Hakanen et al., 2006). Early in the pandemic, a survey of over 5,000 U.S. teachers revealed that the five most commonly experienced feelings among teachers were anxiety, fear, worry, sadness, and feeling overwhelmed (Cipriano & Brackett, 2020). Now, several months later and in the context of continuing uncertainty and anxiety about the future (Sahu, 2020), teachers are expected to return to the classroom virtually, in person, or a hybrid of both. However, many aspects of how to return safely to school remain unknown and of great concern to teachers (Goldstein & Shapiro, 2020).

Finally, the survey of Canadian teachers suggested that teachers coped better when they experienced the support of families, administrators, and coworkers (Sokal & Eblie Trudel, 2020). Teacher resilience, defined as successful adaptation in spite of adverse circumstances, can protect against the negative impacts of stressors and risk factors (Achenbach, 2015; Beltman et al., 2011; Cicchetti, 1984). The closest contexts, such as those within the self or immediate social groups like family, close friends, and coworkers, typically have the most impact (Bronfenbrenner, 1992). Researchers have identified several correlates of teacher resilience, such as self-efficacy, a dedication to professional development, a commitment to their students, and being a mentor (Beltman et al., 2011; Patterson et al., 2004). Elements of the proximal environment, such as the supports provided by the school administration, coworkers, and students, are also critical in bolstering resilience (Beltman et al., 2011). Findings ways to maximize protective factors and minimize stressors can help teachers cope effectively, avoid burnout, teach and support their students, and stay engaged in the teaching profession through the pandemic.

COVID-19 IN NEW ORLEANS

New Orleans, Louisiana, a mid-sized city in the U.S. South, was one of the first and hardest-hit metropolitan areas with the fastest growth rate of cases in the world during the 13 days following the first confirmed case (Silverman, 2020). All schools in the city were closed by government mandate as of March 13 (McCrory, 2020). By March 24, news reports of the catastrophic overloading of our hospital systems were common (Karlin, 2020). Though New Orleans experienced the devastating effects of the pandemic early, urban areas and schools across the United States faced similar situations just a few weeks later (Associated Press, 2020). The shutdown brought a second wave of devastation, resulting in a 25% unemployment rate that is well above the national average of 14.7% (Boone, 2020). This level of unemployment in the community, especially once stopgap measures such as extended unemployment benefits and restrictions on evictions expire, is likely to usher in a third wave of stress and traumatic experiences, including homelessness, food insecurity, abuse, and interpersonal violence (Golberstein et al., 2020).

The impact of the COVID-19 pandemic also spotlighted longstanding health disparities. From mid-March to early April, roughly 75% of COVID-19 deaths in New Orleans occurred within the Black community (Villarosa, 2020), which comprises 59% of the city's population (New Orleans Equity Index, 2017). This early finding has been replicated across the United States with rates of Black and Latinx cases nearly three times and deaths three to four times that of White individuals (Oppel et al., 2020). These disproportionately negative outcomes are driven by a host of structural factors, social determinants of health, and sociopolitical contexts including racism and poverty that increase Black and Latinx populations' risk of exposure to the virus and of poorer short- and long-term outcomes from COVID-19 (Thakur et al., 2020). These threats, though manifested differently during the pandemic, are not new. Communities of color, and Black communities, in particular, have leveraged strengths, resilience, and protective factors, such as racial/ethnic identity, racial socialization, hope, faith, and community, for centuries to combat racism-related stress (Caldwell-Colbert et al., 2009; Jones & Neblett, 2017).

New Orleans, which is coterminous with Orleans Parish, adopted charter schools in the educational reforms that

followed the catastrophic levee failures after Hurricane Katrina. Ninety-five percent of New Orleans' 86 public schools are charter schools (Babineau et al., 2020). New Orleans public schools serve a low-resource, high-poverty population. Eighty-four percent of New Orleans' schoolchildren live in poverty, in comparison with the citywide childhood poverty rate of 37% (New Orleans Equity Index, 2017). Given the charter school context in New Orleans, different schools made different decisions about how to teach students remotely. Anecdotally, we learned that some schools facilitated day-long, highly structured sessions with remote learning software like Google Classroom; others adopted daily teacher–child check-ins by phone; and still others sent work packets to students via the bus route.

CURRENT STUDY

The current study aimed to describe the impact of the COVID-19 pandemic on teachers' mental health, coping, and ability to teach within a sample of 454 urban, public charter school teachers in New Orleans. Survey data were gathered at a single time point in April–May 2020 as part of a needs assessment intended to reveal the impact of COVID-19 on teachers, document their needs, and inform the development of resources and policy to address those needs. Utilizing a secondary analysis of these needs assessment data, we first sought to identify the number and type of stressors and protective factors experienced both by the full sample of teachers and also, given disparities of COVID-19 by race, for Black and White teachers separately. Next, we evaluated three hypotheses. We hypothesized that teachers who reported experiencing more stressors would demonstrate worse mental health, coping, and ability to teach. Second, we hypothesized that teachers who reported experiencing more protective factors would demonstrate the opposite: better mental health, coping, and ability to teach. Third, we hypothesized an interaction between protective factors and stressors with regard to mental health, coping, teaching, specifically by protective factors attenuating the inverse relationship between stressors and teacher wellness. Given the disparities in the experience and impact of COVID-19 by race, we also explored whether these relationships varied by race. Finally, we analyzed the content of two open-ended survey items to contextualize and provide a deeper understanding of the quantitative findings.

METHOD

Procedure

The current study used data gathered as part of a local needs assessment. A single, anonymous, online survey using Qualtrics was open to all New Orleans area teachers from April 30 to May 15, 2020. The survey included quantitative items, which aimed to characterize the typical experience of teachers during the early months of the COVID-19 pandemic, as well as qualitative items, which were intended to confirm, provide a deeper understanding of, and contextualize the quantitative findings (Palinkas et al., 2011). Teachers were recruited to complete the survey through direct invitations via their school leaders, local Listservs and organizational newsletters, social media, and word of mouth. A report stemming from this needs assessment was disseminated from the New Orleans Trauma-Informed Schools Collaborative to the survey respondents, participating Orleans Parish schools, and other relevant education stakeholders on June 4, 2020 (The New Orleans Trauma-Informed Schools Learning Collaborativ, 2020). The University Institutional Review Board determined that our use of the deidentified needs assessment data was not human subjects research (#2020-1416).

Participants

Four hundred and fifty-four teachers from 41 public charter schools in Orleans Parish completed the survey and were included in the final sample. Respondents (81% female, 55% Black, 32% White) represented about 14.5% of the total population of teachers and 48% of New Orleans public schools (Babineau et al., 2020; Teach New Orleans, n.d.). See Table 1 for participant demographics. Teachers from five schools comprised about half of the sample, teachers from another eight schools comprised 30% of the sample, and teachers from the remaining 28 schools comprised the remaining 20% of the sample. Our sample is reflective of the citywide teacher workforce, with one exception: male teachers are somewhat underrepresented (Babineau et al., 2020; New Orleans Education Equity Index, 2017; New Schools for New Orleans, 2020).

Measures

Demographic Questionnaire

We gathered information about participants' gender, race/ethnicity, age, grade level, primary role, years in role, years at current school, and school name. Given information about disparities in the experience and outcomes of COVID-19 specifically for Black individuals in New Orleans (Villarosa, 2020), we excluded the 14% of teachers in our sample who did not identify as either Black or White from analyses relevant to race.

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Table 1. Participant Demographics

Demographic Characteristic	*n*	%
Gender		
Female	366	80.6
Male	74	16.3
Nonbinary, prefer not to say, or self-described	14	3.1
Race/Ethnicity		
Black or African American	246	54.5
Hispanic or Latino	14	3.1
Asian American	5	1.1
White or Caucasian	144	31.9
Biracial/multiracial	21	4.7
Prefer not to say or self-described	21	4.7
Age		
18–24	38	8.4
25–34	168	37.3
35–44	119	26.4
45–54	72	16.0
55–64	53	11.8
Grade Level		
Elementary	227	50.0
Middle	110	24.2
High	66	14.5
Role crosses grade levels	51	11.2
Primary Role		
Regular education	328	72.6
Special education	124	27.4
Years in Role		
< 1	60	13.2
1–5	172	38.0
6–10	99	21.9
11–15	50	11.0
16–20	72	15.9
Years at Current School		
< 1	121	26.7
1–5	236	52.0
6–10	70	15.4
11–15	24	5.3
16–20	3	.7

Note. $N = 454$; however, responses were missing for race ($n = 3$), age ($n = 4$), primary role ($n = 2$), and years in role ($n = 1$).

Stressors and Protective Factors

We reviewed the existing literature relevant to measuring stressors and protective factors during a pandemic and opted to borrow seventeen constructs from the Epidemic–Pandemic Impacts Inventory (EPII; Grasso et al., 2020) and add seven additional constructs relevant to the COVID-19 pandemic in New Orleans and being a teacher. Participants first responded to whether they had experienced a change in each of 18 stressors and six protective factors since the pandemic began (no = 0, yes = 1). Example stressors included "an increase in workload or work responsibilities" and "medical treatment due to severe symptoms of this disease." Example protective factors included "more quality time with family or friends in person or from a distance" and "finding greater meaning in your work." In order to characterize participants' experiences of cumulative stress and protective factors, items within each construct were summed to create the two scores used in analyses. Stressors had a possible range of 0 to 18 and an actual range of 0 to 15. Missing data on stressors ranged from .9% to 3.3%. Protective factors had a possible and actual range of 0 to 6. Missing data on protective factors ranged from 2.6% to 3.1%. Missing data were treated as if the individual did not experience the stressor or protective factor when computing the summary score. See Figure 1 for the full set of stressors and Figure 2 for the full set of protective factors, including notation of which items also appear on the EPII.

For those participants who endorsed an item, they then rated how much it affected their ability to cope and teach their students. We created these items for the current study. For stressors, participants rated on a 1 (not at all) to 4 (very much) scale how much each stressor made it "harder to cope" and "harder to teach." Items were averaged, and higher scores for stressor ratings were worse. Comparable data were collected for protective factors, though participants responded to the prompts "easier to cope" and "easier to teach." Items were averaged, and higher scores for protective factor ratings were better. In the current study, Cronbach's alphas were .87 for the "harder to cope," .84 for the "harder to teach," .84 for the "easier to cope," and .85 for the "easier to teach" subscales.

Mental Health

Teachers responded to a single-item indicator of their mental health, "How would you rate your overall mental health since the coronavirus disease pandemic?," on a 1 (poor) to 5 (excellent) scale. Higher scores were more favorable. Single-item indicators of self-rated mental health not only correlate with longer measures of mental health but also meaningfully predict a host of indicators of stress, health, and well-being (Ahmad et al., 2014). Thus, single-item measures provide valuable information while maintaining brevity and enhancing participant retention (Donnellan et al., 2006).

Qualitative Items

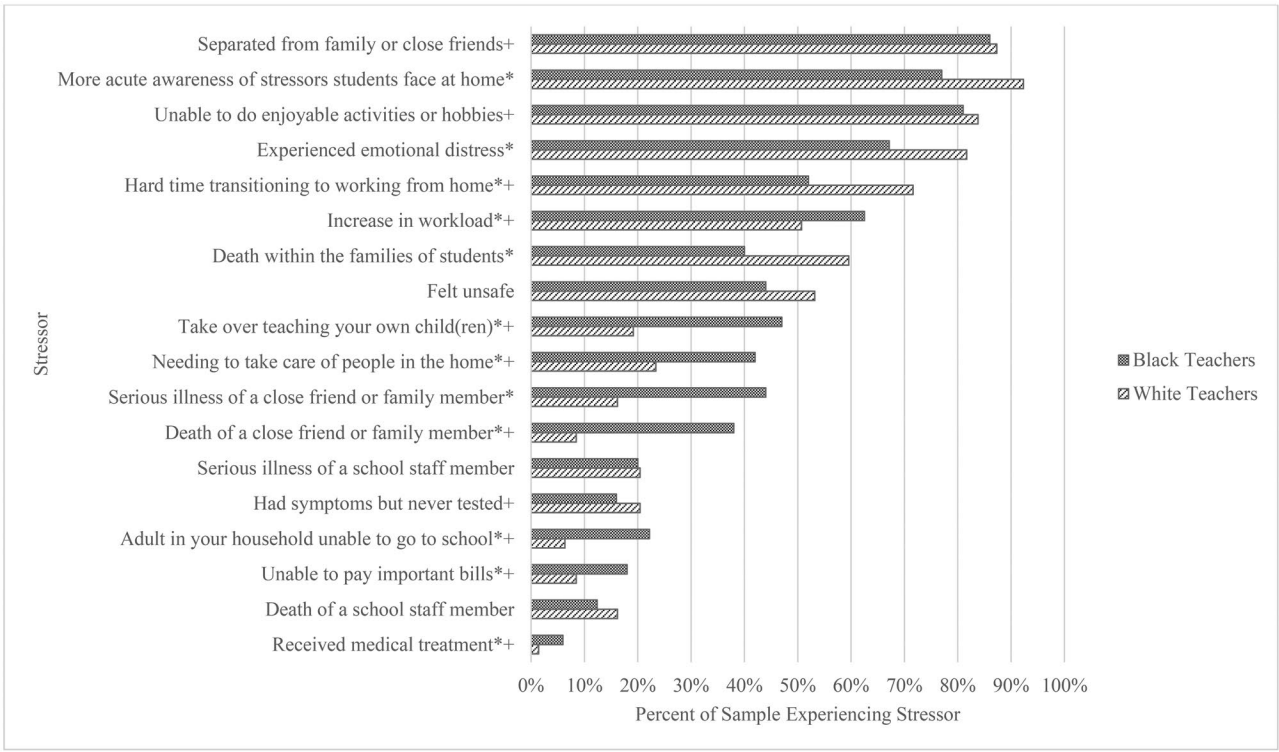
Teachers answered two open-ended questions, "What has been the most difficult aspect of your job during the pandemic?" and "What has been the most helpful in facilitating/supporting your work during the pandemic?"

Analytic Approach

Quantitative Data

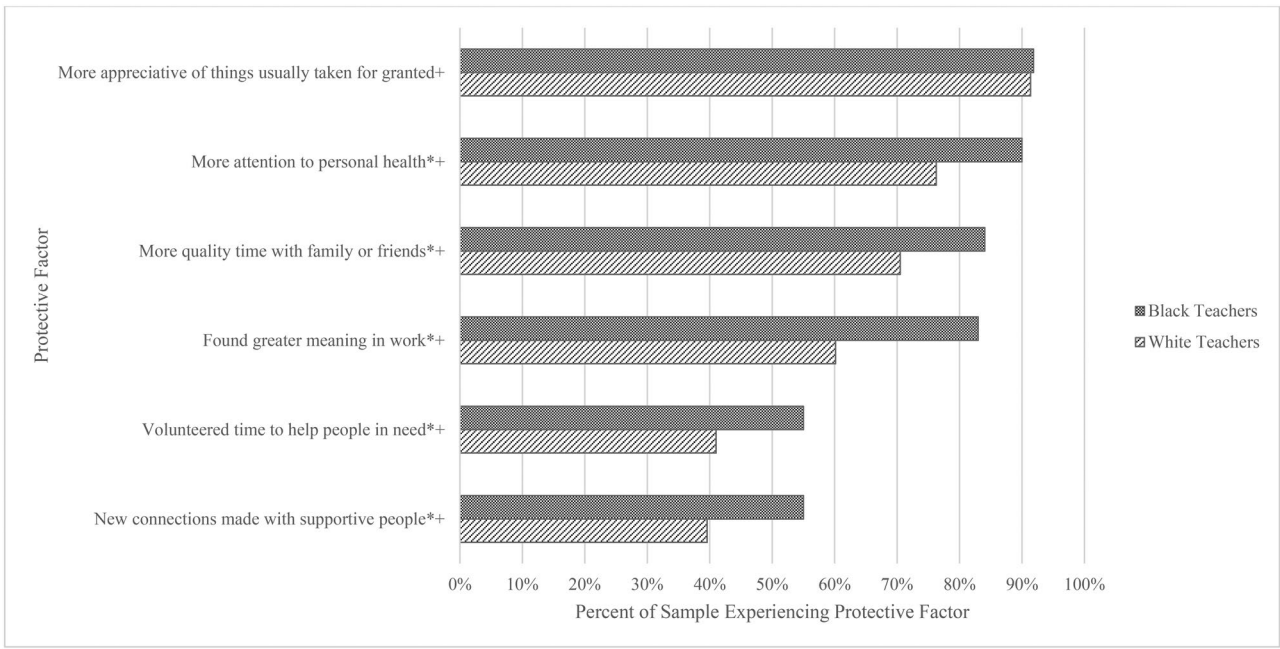
Descriptive statistics were calculated to describe the study variables for the full sample and by teacher race (Black teachers = 1, White teachers = 2). Mann–Whitney *U* tests were used to evaluate differences between Black and White teachers on stressor and protective factor sums and on overall mental health, and chi-square tests were used to evaluate differences by race on individual stressors and protective factors. Bivariate relationships between

Figure 1. Stressors Experienced by Race



*$p < .05$ on chi-square comparisons by teacher race, +borrowed from the Epidemic-Pandemic Impacts Inventory.

Figure 2. Protective Factors Experienced by Race



*$p < .05$ on chi-square comparisons by teacher race, +borrowed from the Epidemic-Pandemic Impacts Inventory.

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outcomes were calculated using Spearman's rho rank correlations for analyses with overall mental health and Pearson product–moment correlations for the rest of the outcome variables (Xu et al., 2013).

Next, five regressions were fit predicting each of the outcomes (mental health, harder to cope, harder to teach, easier to cope, and easier to teach) from race, stressors, protective factors, and the two- and three-way interaction terms between race, stressors, and protective factors. Ordinal logistic regression with robust standard errors was used to predict mental health, and linear regression was used to predict the remaining outcomes. For the linear regressions, the interaction terms were created by multiplying the centered race, centered stressor sum, and protective factor sum variables. Bivariate relationships between the demographic characteristics, predictors, and outcomes were considered, but they did not support the inclusion of covariates. Standardized betas are reported for the linear regressions. Missing data were rare and were handled using pairwise deletion. All analyses were completed using SPSS Version 26.

Qualitative Data

We applied descriptive coding methodology to complete a content analysis of the qualitative data gathered in the survey (Christians & Carey; Colorafi & Evans, 2016; Tashakkori & Teddlie, 2010). Descriptive coding methodology is well-suited to studies such as the current one, in which codes are expected to align with an *a priori* framework, data are limited (i.e., already collected, limited future involvement with participants is possible), and resources such as time are scarce. In the first step of this iterative process, 20% of responses to each of the two open-ended survey items were reviewed independently by all coding team members to develop a broad understanding of the content and generate a list of possible themes with loosely defined operational definitions. The team met to discuss and agreed upon nine themes for the first survey item and seven themes for the second item. Each coding team member then applied these 16 total themes to a shared set of participant responses. During a second meeting, the coding team ensured that all themes were relevant, confirmed that no additional themes were needed, and formalized the themes' operational definitions. Coders worked independently to code the remaining data. Data were coded into the most appropriate theme; the same text segment was not allowed to be double coded. However, complex responses could be broken down into distinct text segments, and those text segments were then coded into themes. Thus, the sum total of coded themes is greater than the total number of responses. In addition, a total of 28 responses could not be coded because they were either one-word responses or were incomprehensible in relation to the prompt. Five individuals served on the coding team and are coauthors on this manuscript (three doctoral students, one faculty member, one practitioner; 100% women, 80% White). Coders used Excel to organize the coding process. Quality markers of qualitative research were attended to across data coding, interpretation, and reporting. Member checking, a technique that enhances the trustworthiness of qualitative findings, was implemented with five teachers. Qualitative findings are discussed in terms of the operational definition of the theme, the frequency with which the theme was coded, and exemplar statements that characterize the theme.

In order to calculate interrater reliability, 25% of participant responses were randomly selected and coded by the full, five-member coding team. Interrater reliability was determined before and after discussion by calculating percent agreement. For example, if four out of five of the coding team members agreed on the theme for the response, the percent agreement was 80%. Because some responses contained multiple text segments and could therefore be coded into more than one theme, each separate theme was included in the interrater reliability calculations. Interrater reliability was acceptable, with percent agreement at 76% for the "most difficult" survey item and 85% for the "most helpful" survey item (Miles & Huberman, 1994). Discrepancies were discussed and resolved at a rate of agreement of 100% for both survey items.

RESULTS

Teachers' Experience of Stressors and Protective Factors

On average, teachers reported experiencing 7.39 stressors ($SD = 2.84$), with a range of 0 to 15 stressors. Black and White teachers experienced comparable numbers of stressors ($M = 7.59$ [$SD = 2.97$] for Black teachers vs. $M = 7.15$ [$SD = 2.58$] for White teachers, $U = 15902$, $p = .13$). Indeed, rates of experiencing six of the 18 stressors did not differ significantly between Black and White teachers. For example, about 85% of both Black and White teachers reported being separated from family or close friends. However, the experience of some stressors varied significantly by race. See Figure 1 for frequencies of stressors and chi-square comparisons by teacher race. Specifically, Black teachers were significantly more likely than their White colleagues to report an increase in workload, $X^2(1) = 5.80$, $p = .02$; difficulty doing their job well because of needing to take care of people in the home, $X^2(1) = 13.25$, $p < .001$; a need to take over teaching their own children, $X^2(1) = 30.16$, $p < .001$; difficulty paying bills, $X^2(1) = 6.02$, $p = .01$; and that an adult in their

household had to withdraw from school, $X^2(1) = 16.14$, $p < .001$.

Black teachers were also significantly more likely than White teachers to experience the health impacts of COVID-19 themselves or in their close network of family and friends. For example, in comparison to only 1% of White teachers, 6% of Black teachers reported receiving medical treatment due to severe symptoms of COVID-19, $X^2(1) = 4.80$, $p = .03$. Similarly, 44% of Black teachers (compared to 16% of White teachers) reported that a close friend or family member was seriously ill from the disease, $X^2(1) = 31.54$, $p < .001$, and 38% (compared to 8%) reported the death of a close friend or family member due to COVID-19, $X^2(1) = 40.18$, $p < .001$. White teachers, on the other hand, were more likely than their Black colleagues to report experiencing a difficult transition to working from home, $X^2(1) = 14.32$, $p < .001$; experiencing emotional distress, $X^2(1) = 9.70$, $p = .002$; becoming more acutely aware of the stressors students face at home, $X^2(1) = 14.20$, $p < .001$; and being aware of a death within the families of students from COVID-19, $X^2(1) = 13.73$, $p < .001$.

In addition to stressors, we also evaluated teachers' experience of protective factors. On average, teachers reported experiencing 4.32 ($SD = 1.46$) protective factors, with a range of 0 to 6 protective factors. Black teachers ($M = 4.58$, $SD = 1.35$) experienced significantly more protective factors than White teachers ($M = 3.78$, $SD = 1.54$, $U = 11710$, $p < .001$). See Figure 2 for frequencies of protective factors and chi-square comparisons by teacher race. Black teachers were more likely than their White colleagues to report increasing quality time spent with family or friends, $X^2(1) = 9.40$, $p = .002$; forming new connections with supportive people, $X^2(1) = 8.37$, $p = .004$; paying more attention to personal health, $X^2(1) = 13.13$, $p < .001$; finding greater meaning in their work, $X^2(1) = 25.27$, $p < .001$; and volunteering time to help people in need, $X^2(1) = 7.31$, $p = .007$.

Descriptive Statistics Related to Study Outcomes

With regard to their overall mental health since the COVID-19 disease pandemic began, most teachers reported that it was between "fair" and "good" ($M = 2.84$, $SD = 1.05$). Black teachers reported better mental health ($M = 3.00$/good, $SD = 1.05$) than White teachers ($M = 2.49$/fair to good, $SD = .91$, $U = 12152.50$, $p < .001$). Mental health was predictably inversely related to the coping and teaching outcomes (see Table 2). The lack of statistically significant relationships between the "harder to cope" and "harder to teach" ratings and the "easier to cope" and "easier to teach" ratings suggest that the constructs may be orthogonal in the current study.

Predicting Mental Health, Coping, and Teaching From Race, Stressors, and Protective Factors

The first regression predicted mental health from race, stressors, protective factors, and the interactions between race, stressors, and protective factors. As hypothesized, holding everything else constant, teachers with more stressors were likely to report worse overall mental health, b = −.28, $p = .03$, 33% increase in odds (see Table 3 and Figure S1 in the supplemental materials). Hypotheses related to protective factors and the interactions were not supported.

Table 2. Bivariate Relationships Among Outcomes

	Mental Health	Harder to Cope	Harder to Teach	Easier to Cope	Easier to Teach
Mental Health ($M = 2.84$, $SD = 1.05$)	–	−.43***	−.25***	.23***	.25***
Harder to Cope ($M = 2.70$, $SD = .79$)		–	.74***	0.09	0.05
Harder to Teach ($M = 2.72$, $SD = .75$)			–	0.03	0.03
Easier to Cope ($M = 2.91$, $SD = .85$)				–	.80***
Easier to Teach ($M = 2.70$, $SD = .89$)					–

Note. Relationships with Mental Health are estimated using Spearman's rho rank correlations; remaining relationships are estimated using Pearson product–moment correlations.
*$p < .05$, **$p < .01$, ***$p < .001$.

Table 3. Predicting Mental Health, Coping, and Teaching From Race, Stressors, and Protective Factors

	Mental Health		Harder to Cope		Harder to Teach		Easier to Cope		Easier to Teach	
	b	Wald X^2	*b*	*t*	*b*	*t*	*B*	*t*	*b*	*t*
Predictors										
Race (Black = 1, White = 2)	1.98	1.33	.19***	3.84	.04	.85	−.13*	−2.55	−.39***	−4.39
Stressors	−.28*	4.63	.39***	8.12	.29***	5.56	−.01	−.08	−.01	−.21
Protective Factors	.03	.02	−.11*	−2.23	−.12*	−2.28	.30***	5.67	.24***	7.77
Interaction Terms										
Race x Stressors	−.14	.34	−.13**	−2.73	−.03	−.61	.08	1.48	.03	.96
Race x Protective Factors	.08	.05	.07	1.46	.06	1.18	.01	.26	.01	.13
Stressors x Protective Factors	.03	1.19	−.05	−.94	.06	1.08	.02	.32	.01	.66
Race x Stressors x Protective Factors	−.01	.06	−.01	−.25	−.04	−.79	.05	.96	.03	1.15

Note. Models were fit using ordinal regression with robust standard errors for the mental health outcome variable and linear regressions for the rest of the outcome variables.
*$p < .05$, **$p < .01$, ***$p < .001$.

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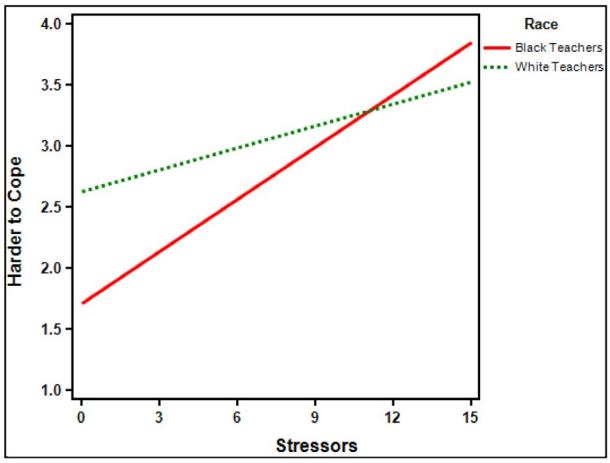
The second and third regressions predicted whether teachers found it "harder to cope" and "harder to teach," given their race and their experiences of stressors and protective factors. As hypothesized, teachers who experienced more stressors found it "harder to cope" and "harder to teach," $b = .39$, $p < .001$ and $b = .29$, $p < .001$, respectively. Each additional stressor increased teachers' ratings of how hard it was to cope and teach during the pandemic by about a third of a standard deviation. Also as hypothesized, experiencing protective factors decreased teachers' ratings of how hard it was to cope and teach during the efarly days of the pandemic by about one tenth of a standard deviation, $b = -.11$, $p = .03$ and $b = -.12$, $p = .02$, respectively. Teacher race played a meaningful role in these relationships. In comparison to Black teachers, White teachers reported that the stressors they experienced had more of a negative impact on their ability to cope, $M_{White} = 2.85$, $SD_{White} = .64$, $M_{Black} = 2.59$, $SD_{Black} = .86$, $b = .19$, $p < .001$. In addition to this main effect, the relationship between experiencing stressors and finding it "harder to cope" also depended on race, $b = -.13$, p = .01. Though more stressors made it "harder to cope" for all teachers, this relationship was exacerbated for Black teachers in comparison to White teachers (see Table 3 and Figure 3). Hypotheses related to the remaining interactions were not supported.

Finally, the fourth and fifth regressions predicted whether teachers reported that it was "easier to cope" and "easier to teach," given their race and their experiences of stressors and protective factors. As hypothesized, teachers who experienced more protective factors reported that they helped make it "easier to cope" and "easier to teach," $b = .30$, $p < .001$ and $b = .24$, $p < .001$, respectively. Each additional protective factor teachers experienced increased their ratings of how easy it was to cope and teach during the pandemic by about a third of a standard deviation.

Figure 3. Interactions Between Race and Stressors in Predicting Mental Health and Coping



Contrary to hypotheses, the experience of stressors was unrelated to teachers' reports of how easy it was to cope and teach during the pandemic. Finally, teacher race was a significant predictor of whether teachers reported that their experience of protective factors made it "easier to cope" and "easier to teach." Black teachers, more so then White teachers, reported that the protective factors they experienced had a positive impact on their ability to cope and teach (for "easier to cope," $M_{White} = 2.73$, $SD_{White} = .80$, $M_{Black} = 3.07$, $SD_{Black} = .83$, $b = -.13$, $p = 01$; for "easier to teach," $M_{White} = 2.40$, $SD_{White} = .80$, $M_{Black} = 2.94$, $SD_{Black} = .86$, $b = -.39$, $p < .001$; see Table 3).

Most Difficult and Helpful Aspects of Being a Teacher During the Pandemic

About 91% ($n = 412$) of the sample provided a response to the question, "What has been the most difficult aspect of your job during the pandemic?" These responses produced 602 text segments, which were coded into nine themes (see Figure S2 in the supplemental materials). The most common theme, present in about 43% of responses, was *Lack of Connection*. For example, one teacher wrote, "The most difficult aspect of my job during the pandemic was not being able to see my students. I felt like the distance learning wasn't reaching across to them the way I normally reach them in the classroom, academically and emotionally." The theme *Online Teaching Challenges* followed in terms of frequency, appearing in about 31% of responses. An example of this theme is the following teacher's statement: "Adapting to online only learning is also difficult because it is a completely different skill set from what I typically use day-to-day as a teacher."

The third and fourth most common themes were *Lack of Student and Family Resources* and *Negative Impact of Work on Family/Self*, both of which were endorsed in about 18% of responses. With regard to the former, one teacher wrote,

> Communicating with parents and getting them to the school to pick up materials has been an ongoing challenge, and we still have probably 40% of our kids who either do not have access to the learning happening online due to tech access, or they have tech access but their families are dealing with bigger issues currently and not able to focus on things like their kids' learning right now. Additionally, it has been very hard to connect with the appropriate supports and resources for our families most in need … the resources and supports that were available before the city shut down are not necessarily available now.

With regard to *Negative Impact of Work on Family/Self*, one teacher reported,

> Trying to home school my children and teach online has been enormously difficult for me. I can only do one or the other, and since one earns my paycheck, I have had to allow my children to watch T.V./tablets instead of engag[ing] in meaningful learning.

The remaining five themes were less common, appearing in 6–10% of responses. The first of these themes was *Increased Job Demands*, exemplified by the comment "No real hours. Being contacted on all days at all hours and on weekends and holidays too. Feels like I am always on call." *Tension between Academic Expectations and Student Well-Being* followed in terms of frequency and is exemplified by the comment,

> It has been a really hard internal balance. On [the] one hand, I feel that if I push academics too strictly, I'm doing a disservice to families who are struggling or experiencing trauma. And on the other hand, I feel like if I'm not providing academics, I'm doing a disservice to kids. I'm trying to find the perfect middle ground.

Next, teachers' responses reflected their *Feelings of Inadequacy*, as exemplified by the comment "…I constantly feel like I am failing, or worse, a failure."

Teachers also reported *Worry About Students' Basic Needs*, such as this teacher's comment, "… Students are home and family members are dying. Changes happen in the household. Not all parents can be around or support the child as much as is required right now." Finally, *Equity Issues* were identified by several teachers, who "most difficult" question by making comments such as "Noticing the faults within the education system and the disproportionate amount of Black and Brown students that will be negatively affected by this pandemic" and "I … think through issues of equity and access for students who are often not first considered (i.e., special education)." Additional exemplar text segments for each of the nine themes are included in Table S1 in the supplemental materials.

About 88% ($n = 400$) of the sample provided a response to the question, "What has been the most helpful in facilitating/supporting your work during the pandemic?" These responses produced 556 text segments, which were grouped into seven themes (see Figure S3 in the supplemental materials). The most common theme, present in about 42% of responses, was *Support From Coworkers*. One teacher, for example, identified "Working with a group of coworkers that really cares" as a key element to feeling supported as a teacher during the pandemic. The second most frequently used theme was *Support From Administrators*, which appeared in about 29% of responses. One teacher exemplified this theme, stating, "My school has allowed us much personal freedom during this time and has acknowledged the personal needs of the staff. There is no pressure to work excessively. This is so helpful." *Technology Resources* was the third most common theme, with about 23% of responses including this theme, including statements by teachers such as, "Distribution of hotspots and computers," "Twitter and online resources have been great for finding a community of other teachers figuring out distance learning within the U.S. and abroad," and "Zoom has been really helpful to connect with students." Finally, about 15% of responses were coded to the *Connections With Students and Families* theme. One teacher wrote about the benefit of "Connecting better with students and seeing how they are able to work through this difficult time."

Each of the remaining three themes encapsulated less than 10% of the responses. These themes included *Support From Family and Friends*, *New Work Routines*, and *Self-Care*. With regard to *Support From Family and Friends*, one teacher noted that "Talking with friends and video chatting with family has been very fun and helpful." For *New Work Routines*, one teacher stated,

> I don't have to spend time on things that aren't my class–every moment of the day is my choosing. I feel wildly empowered to help my students, to learn new systems for them, to check in on them, and to finally teach them.

Finally, related to *Self-Care*, a teacher said,

> The most helpful things for me have been regular check-ins with myself three times a day (morning, midday, and night-time), getting fresh air and sunshine outside with a daily walk or run, doing meditation and yoga, teletherapy sessions with my counselor, and making sure I'm eating some healthy things to sustain me throughout the day.

Additional exemplar text segments for each of the seven themes are included in Table S2 in the supplemental materials.

DISCUSSION

The current study, conducted with data gathered as part of a needs assessment in April–May 2020, aimed to describe the impact of the COVID-19 pandemic on mental health, coping, and teaching within a sample of 454 urban, charter school teachers in New Orleans. In line with the findings of other pandemic-specific teachers surveys (Cipriano & Brackett, 2020; Sokal & Eblie Trudel, 2020), New Orleans' public charter school teachers reported experiencing a considerable amount of stress during the early weeks of the pandemic. Specifically, teachers reported experiencing an average of about seven of the 18 stressors on the survey. Some teachers experienced up to 15 stressors. Like the rest of the country, teachers were separated from family, friends, coworkers, and students, and they were unable to engage in their preferred activities.

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School closures and the pivot to distance learning came with increased workloads and difficulties in the transition to working from home. In line with previous findings (Sokal & Eblie Trudel, 2020), teachers were challenged by their lack of familiarity with online teaching formats and rapidly changing approaches required by their administration for contacting students and families, documenting their work, and attending meetings. Many teachers were also tasked with training students and their caregivers to engage with online learning or to maintain student learning in the absence of technology. These increased job demands negatively impacted some teachers' well-being, including provoking feelings of inadequacy. Echoing previous findings (Cipriano & Brackett, 2020), these increased job demands were also made more complicated for teachers who had family or caregiving responsibilities.

Similar to Sokal and Eblie Trudel (2020) and Gewertz (2020), teachers worried about their students' basic needs and felt unable to address them. Most teachers, and especially White teachers, reported becoming more acutely aware of the stressors students typically face at home. Given the fact that 84% of New Orleans public schoolchildren live in poverty, these stressors were rampant even before the pandemic. Teachers reported that it was difficult or impossible to implement remote learning strategies with many students due to a pervasive lack of resources, including internet access. Teachers were unsure how to best balance academic and learning goals with student well-being, which is especially poignant, given that some students lost loved ones to the disease. In line with the findings of Sokal and Eblie Trudel (2020), teachers worried deeply about educational inequity. The universality of the belief that education is the pathway out of poverty was severely tested during the pandemic, as it became clear that the most vulnerable students were likely to be impacted the most. Taken together, it is unsurprising that teachers reported experiencing emotional distress, mirroring national findings (Cipriano & Brackett, 2020).

Of note, however, teachers also noted positive changes during the early months of the pandemic. Out of the six protective factors on the survey, teachers endorsed an average of four. For example, teachers reported feeling more appreciative of things they usually took for granted and finding greater meaning in their work, factors that have been shown to foster resilience in the face of crisis (Fredrickson et al., 2003). Our findings also point to the importance of feeling supported by family and friends and feeling connected to students. Teachers' comments also highlighted how vital the support they received from their coworkers and administration was, echoing previous findings (Sokal & Eblie Trudel, 2020). Finally, teachers also appreciated the technology resources that allowed them to stay connected to people and resources, suggesting that some schools were successful at providing these resources without turning them into an additional demand (Sokal & Eblie Trudel, 2020).

In addition to describing the number and type of stressors and protective factors experienced by teachers during the early months of the pandemic, this paper also aimed to evaluate the relationships between stress, resilience, and several outcomes related to mental health, coping, and teaching. The findings suggest, unsurprisingly, that experiencing more stressors was associated with worse self-reported mental health and with finding it "harder to cope" and "harder to teach." Similarly, teachers who experienced more protective factors were more likely to find it "easier to cope" and "easier to teach." These findings add to the growing literature on teacher resilience and shine a particular light on this construct during times of crisis (Beltman et al., 2011; Patterson et al., 2004). Together, these relationships suggest that policy makers and district and school leaders should take steps to build protective factors and minimize stressors, particularly in teachers' proximal environments, with the goals of supporting teacher coping and preventing burnout.

The current study also explored differences between Black and White teachers in their experiences of stressors, protective factors, and the study outcomes. Although the frequency of stressors experienced was comparable between Black and White teachers, the types of stressors differed. For example, Black teachers were significantly more likely to report caregiving responsibilities, financial stressors, and direct impacts of COVID-19, such as needing medical treatment and experiencing the illness or death of close friends or family. This pattern exemplifies the disproportionately negative impact of COVID-19 and pandemic-related stressors on the Black community that has been documented not only in New Orleans but across the United States (Oppel et al., 2020; Thakur et al., 2020; Villarosa, 2020).

For Black teachers, in particular, the experience of stressors made it "harder to cope." This is unsurprising given the nature of the stressors they reported experiencing. At the same time, Black teachers reported better mental health than White teachers. Although this finding may be a result of underreporting due to concerns about being dismissed or pathologized (Legha & Miranda, 2020; Smedley et al., 2003), it may also point to indicators of resilience. For example, Black teachers reported experiencing more protective factors than White teachers, which they felt made it easier to cope and teach. Relatedly, Black

teachers were less likely to report that stressors made it "harder to cope."

Given the disproportionately negative impact of COVID-19 and pandemic-related stressors on racial and ethnic minority individuals (Oppel et al., 2020; Thakur et al., 2020; Villarosa, 2020), these findings are especially notable. However, they are also consistent with research highlighting important resiliencies developed by Black individuals in response to pervasive racism-related stress. Accumulating research suggests that these protective factors likely include racial/ethnic identity, racial socialization, hope, faith, and community (Caldwell-Colbert et al., 2009; Jones & Neblett, 2017). Though dealing with the stress of a pandemic is new to most people in the United States, individuals with resiliencies developed in any context likely benefit from them.

We also hypothesized that the experience of protective factors would buffer the impact of stressors, which was informed by the robust literature on developmental psychopathology, stress, and resilience. Contrary to this hypothesis, the interaction between stressors and protective factors was absent across all models. This null finding may be due in part to how we measured the study outcomes. Specifically, teachers who reported a specific stressor also rated how much that stressor made it "harder to cope" and "harder to teach." The same measurement approach was taken to evaluate protective factors. Thus, our instrumentation may have promoted an artificial orthogonality of risk and resilience. On the other hand, it is possible that the interactive effects of stressors and protective factors inherent to developmental psychopathology may only become clear over time.

Limitations and Future Directions

Though this study is timely and responsive to an immediate need to understand the impact of the pandemic on teachers, it suffers from several limitations. First, the data reported in this study are self-report, which is well-known to be limited in terms of objectivity and because of social desirability. Second, the items used in the survey were not drawn from well-established instruments because the measurement literature related to functioning during a pandemic is extremely limited. Like other stressful life events questionnaires, survey items varied in intensity and probable impact on participants' well-being. Nonetheless, characterizing outcomes linked to the cumulative experience of stressors and protective factors provides helpful guidance to those developing and implementing universal supports for teachers (Anda et al., 2020). We also hope that future researchers will use this measure of stress, resilience, coping, and teaching, not only to further validate the instrument but also to continue shining light on teachers' experiences and needs during the pandemic.

Third, these data were collected at a single time point, limiting our ability to infer causality, especially with regard to changes in study outcomes as a result of the pandemic. Fourth, because these data derive from a district-wide needs assessment, schools are not equally represented in the sample. Given that few studies have investigated pandemic-related stress and coping in teachers, we aimed to provide a timely and descriptive first look at these phenomena in educators. However, school-level variability may contribute meaningfully to the study outcomes and should be investigated in future work on this topic. Finally, though our findings aligned well with the results of other teacher surveys during the pandemic (Cipriano & Brackett, 2020; Sokal & Eblie Trudel, 2020), they are most representative of charter school teachers in a low-resource, high-poverty urban district. Caution should be used when generalizing these findings to dissimilar schools, such as those in traditional or rural districts.

Recommendations to Support Teachers

We must bolster teachers' wellness if we are to avoid the devastating ripple effects of teacher burnout and turnover in our education system (Herman et al., 2018; Loeb et al., 2005). Teachers have been significantly impacted by the pandemic, including experiencing a large number of stressors that are linked to poorer mental health, coping, and teaching. These stressors have not been equally experienced by all teachers, with Black teachers, in particular, bearing the brunt of the pandemic so far across health, family, community, and economic wellness, in a pattern that is unlikely to change in the coming months. It is hopeful, however, that even in light of the stressors of the pandemic, teachers have also been bolstered by their experience of protective factors. The current study suggests that this process may be especially true for Black teachers.

Though policy makers and district and school leaders are faced with immense challenges related to closing the learning gap, not the least of which is a looming budgetary crisis (Turner, 2020), they must not lose sight of the primacy of supporting the well-being of teachers by reducing pandemic-related stressors, fostering resiliencies, and paying particular attention to those teacher populations most deeply affected during the pandemic. Though school psychologists are also impacted by the pandemic, with proper supports from their administrators, they are uniquely poised to lead in this effort. For a full set of recommendations for supporting teachers, organized around the key

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principles of trauma-informed approaches (SAMHSA, 2014 and drawn heavily from recent guidance from the National Child Traumatic Stress Network [NCTSN, 2020], see Table S3 in the supplemental materials). Key activities we recommend include facilitating school-wide supports for teachers; elevating teacher voices in school reopening plans; facilitating connection and collaboration among teachers, administrators, students, and families; and providing professional development around managing stress and trauma in the school community. Education has always tackled the issues of inequity head on, and this pandemic provides a new frontier to have those discussions and think creatively about how to ensure that every student can access a free and appropriate public education via virtual learning and every teacher can thrive in the profession.

DISCLOSURE

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The New Orleans Trauma-Informed Schools Learning Collaborative, is a group of community leaders spanning community-based mental health, education, psychology, public health, and social work and committed to the implementation and evaluation of trauma-informed schools in New Orleans and nationally.