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Returning to School: Teachers' Occupational and COVID-19-Related Stress and Their
Perceptions of School Climate

By

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Undergraduate honors thesis under the direction of

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Louisiana State University
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Baton Rouge, Louisiana

**Returning to School: Teachers' Occupational and COVID-19-Related Stress and Their
Perceptions of School Climate**

Georgette M. Metrailler

Louisiana State University

Honors Undergraduate Thesis

Abstract

Minimizing teacher stress is an essential aspect of effective teaching and supporting a healthy school climate. Previous research has indicated that teachers who experience elevated levels of occupational stress may have a negative perception of their school's climate, poor mental/physical health, poor relationships with their students, and are less likely to stay within their occupations. In addition, recent research has shown that Americans have experienced an increase in stress levels since the beginning of 2020 due to COVID-19 related stressors. This study seeks to replicate previous research on how teacher occupational stress relates to teachers' perceptions of school climate, while also extending the research by examining how COVID-19 related stressors relate to teachers' perceptions of school climate as well. Data from 111 elementary, middle, and high school teachers in the southeastern U.S were collected using self-report surveys on school climate, teacher occupational stress, and COVID-19 related stress. Linear regression analysis revealed that teacher occupational stress was not significantly associated with teachers' perceptions of school climate; however, a negative association between teachers' COVID-19 related stress and their perceptions of school climate was observed. This finding suggests that as teachers' COVID-19 related stress increased, their perceptions of school climate tended to decrease. The findings of this study provide insight into how to better support teachers' well-being during this transitional time so they can effectively perform their jobs and contribute to positive outcomes for students.

Keywords: COVID-19, education, school climate, stress

Returning to School: Teacher's Occupational and COVID-19-Related Stress and Their Perceptions of School Climate

The stressors teachers experience within their occupations have been demonstrated to be associated with school climate and have become a topic of concern amongst researchers (Dicke et al., 2020; Koth et al., 2008; Mitchell et al., 2010; Thapa et al., 2013; Smith, 2020). It has been found that the more stressed teachers are, the more likely they are to view their school's climate in a negative light (Dicke et al., 2020; National Foundation for Educational Research, 2019). Previous literature indicates that when teachers feel supported within their profession, teachers are more committed to their work and to their students; however, when they feel stressed and over worked, their students are more likely to have poorer academic performance, higher disruptive behavior, and feel as if their academic needs are not being met (Flook et al., 2013; Jennings & Greenberg, 2009; National Foundation for Educational Research; 2019; Thapa et al., 2013). The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; COVID-19) produced a global pandemic that resulted in widespread lockdowns across the United States (U.S.) and around the world. In the U.S., the COVID-19 pandemic also brought about many new stressors in the education system (Brailovskaia & Margraf, 2020; Park et al., 2020). This is a problem because according to the National Foundation for Educational Research (2019), teachers experience greater occupational stress in comparison to other professionals with at least 20% of teachers feeling stressed most or nearly all the time.

This study aims to replicate existing research showing that teachers' occupational stress is associated with their perceptions of school climate. This study also aims to extend the research by examining how COVID-19 related stress may also be associated with teachers' perceptions of school climate. More specifically, with the prolonged effects that the COVID-19 pandemic has had on education, it is important to note that understanding teacher's occupational stress and

COVID-19 related stress can help to identify which teachers are stressed, why they are stressed, and how to support them in order to promote students getting back on track. Therefore, a basic understanding of their stress and perceptions of the school climate at their workplaces is important.

Teacher Occupational Stress

Teacher occupational stress is defined as “the experience by a teacher of unpleasant emotions, such as anger, anxiety, tension, frustration, or depression, resulting from some aspect of their work as a teacher” (Kyriacou, 2001, p. 28). There are a variety of sources in which teacher occupational stress manifests. The four main sources of teacher occupational stress are school organization (e.g., lack of administrative support, poor school climate), high job demands (e.g., excessive paperwork, insufficient time), work related resources (e.g., limited decision-making power), and social and emotion competence (e.g., lack of collegial interactions; Haydon et al., 2018). Travers (2017) suggests that teachers become stressed when they perceive an imbalance in work demands and they feel as if they are unable to cope and respond adequately to these demands. In addition, the occupational stress that burdens teachers has been associated with poor mental and physical health, poor teacher-student relationships, and decreased retention in the field (Hagermoser Sanetti et al., 2020; Haydon et al., 2018). Multiple studies prior to the beginning of the pandemic have shown that 20 to 30% of teachers are stressed or extremely stressed most of the time (Borg & Riding, 1991; Geving, 2007; Kyriacou & Sutcliffe, 1979; National Foundation for Educational Research; 2019; Thomas et al., 2003). In addition, high occupational stress is noted as one of the main reasons why 25% to 50% of teachers leave the profession within their first 5 years of teaching (Algozzine et al., 2011).

When teachers are met with prolonged stressors that they are unable to control and they feel as if they cannot adequately handle them, they begin to experience burnout. Burnout is defined as “being the by-product of prolonged stress, whereby individuals experience emotional, physical, and attitudinal exhaustion” (Travers, 2017, p. 26). Burnout is considered to manifest as exhaustion, cynicism, and ineffectiveness (Travers, 2017). This intense, prolonged stress is very prevalent amongst human service professions such as teaching. This is said to happen because human service professionals tend to develop heavy emotional investments in their roles and for the people whom they take care of in their jobs (Greenberg et al., 1984). Teachers are more prone to burnout in this way because generally, teachers put much more effort into their work than the amount they get back in terms of compensation, gratification, or acknowledgement from their students, parents, and administrative staff (Kalker, 1984). Not only do teachers’ high levels of occupational stress impact their mental and physical health (Hagermoser Sanetti et al., 2020), but it also affects the school’s climate and the students within their classrooms (Dicke et al., 2020). For example, findings from Madigan & Kim (2021) suggest that teacher burnout is associated with worse academic achievement and lower quality student motivation.

Teachers already experience a high level of occupational stress without considering the stress that they may have experienced in their personal and/or professional lives as a result of COVID-19. The addition of COVID-19 related stressors could have made it even harder for them to cope with the changes within their jobs during the pandemic, potentially exacerbating stress among an already stressed workforce of educators. In fact, multiple articles published since the beginning of the pandemic have found that teachers have experienced a significant increase in their levels of stress, anxiety, and depression (Baker et al. 2021; Carver-Thomas et al., 2021; Santamaría et al. 2021). Due to this, it has also been found that teachers who experience more stress also may experience a decline in mental health and may find it harder to

cope and/or teach effectively (Baker et al., 2021). One of the main contributions to teacher occupational stress during the pandemic has been an increase in teacher workload (Carver-Thomas et al., 2021). School district leaders within the state of California have estimated that the workload of teachers has doubled due to the pandemic because of the transition to online/hybrid learning models and having to support students' social/emotional needs more often (Carver-Thomas, Leung, & Burns, 2021; Sokal & Eblie Trudel, 2020). Many teachers were also tasked with training students and their parents or guardians to engage with online learning or to maintain student learning in families without access to technology. This increase in job demands negatively impacted some teachers' well-being and caused feelings of inadequacy (Baker et al., 2021).

In addition, in one study, almost half of the teachers indicated that a lack of connection to students and colleagues was their most difficult challenge when teaching during the pandemic (Baker et al., 2021). One of the most common reasons for this was because teachers had to utilize skills that were completely different from the skillset they were used to using in a standard classroom (Baker et al., 2021). The shift to distance learning forced many teachers to remodel their years of in-class lessons and materials to an online format or in a form students could work through on their own without a mentor. Again, this shift potentially exacerbated their workloads and caused their stress levels to increase (Carver-Thomas et al., 2021). In the Carver-Thomas and colleagues' study (2021), one school district leader described the impact of distance learning on teachers as,

They're having to completely re-shift the in-person learning into a blank screen of students, little voices, or no voices sometimes at all.... I think the whole spirit, the drive, the impact that they would be able to get every single day is gone for them. You're not seeing any light bulbs going off. It's just [a] blank screen in front of you (p. 13).

This quote exemplifies how teacher motivation significantly decreased due to a lack in personally being able to see their teaching have a positive impact on their students; thus, potentially making their work lives more stressful and less rewarding during the pandemic (Carver-Thomas et al., 2021)

The Coronavirus Pandemic

Since the end of 2019, the world has been battling COVID-19 which has exponentially and rapidly spread across the world in a matter of months. According to statistics from the World Health Organization (2022), there have been almost 400 million confirmed cases and almost 6 million total deaths across the world with about 20% of those cases arising from the U.S. Not only has COVID-19 brought about many health concerns due to its rapid rate of infection and fatalities, but it has also created many social, economic, and political problems across many different countries and territories. More specifically, COVID-19 has resulted in many school closures across the country which may have resulted in a significant loss of learning in K-12 students as parents, students, and teachers navigated online and/or hybrid online/in-person education (Dorn et al., 2020).

The increased need for “social distancing” which reduces physical contact amongst people is a crucial step in slowing down the spread of COVID-19 and has been a necessary but troubling concern within the U.S. (Greenstone & Nigam, 2020). The extent of social distancing varies across each state of the U.S., but mainly includes governmental measures such as temporary closure of schools, universities, and non-essential businesses, bans on public gathering and travel, increased home-office, virtual schooling, wearing face masks, and maintaining distance from others as much as possible. From national lockdowns to economic crises, COVID-19 has not only taken the lives of nearly 6 million people thus far, but it has also attacked

societies at their core with every aspect of daily life being altered. Even though, as stated by the World Health Organization (2021), the development of COVID-19 vaccinations has become a critical new tool in the battle against COVID-19, the many problems the virus has brought will continue to affect us, one of those being its effect on the education system.

Due to the many statewide lockdowns in the U.S., many schools were forced to shut down and rely on remote learning plans to continue education. While school closures were recommended by public health professionals and government leaders to slow the spread of the virus, the consequences of these closures were unclear at the time. Many professionals turned to other historical events (e.g., SARS-CoV-2, natural disasters) to predict the potential outcomes of the school closures caused by COVID-19. As Dorn et al. (2020) suggests, the U.S. education system was not designed to withstand extended periods of shutdowns like those imposed by the COVID-19 pandemic. Also, despite the tremendous effort of teachers, administrators, and parents to keep education going, it is expected that school closures and remote learning will have resulted in significant learning loss of students that will present problems in the next few years. For example, the natural disaster of Hurricane Katrina in 2005 resulted in 1.5 million people from the Gulf Coast being displaced from their homes, including about 163,000 children and likely causing significant disruption to their access to education (Redlener et al., 2010). The natural disaster resulted in many school closures within the states of Louisiana and Mississippi which contributed to the 14 to 20% of students who never returned to school due to inaccessibility and/or the struggles their families were experiencing (Redlener et al., 2010).

On average, it has been found that students who miss more than 10 days of school (2 full weeks of Monday through Friday schooling) are more likely to drop out (Dorn et al., 2020). In addition, as Dorn and colleagues (2020) reported, it has been found that online learning is not as effective as in-class instruction specifically for K-12 students. Other possible outcomes that were

identified were negative consequences on students' cognitive functioning, students' emotional and mental health, family dynamics, and on society (Anderson et al., 2021).

Due to the unexpected changes in daily life resulting from national lockdowns, some students did not have the ability to attend school online regularly or even at all due to their home environments. Early within the pandemic, it was reported that only 60% of low-income students were regularly logging into online instruction (Geoghegan, 2021). Additionally, in 28 states in the U.S., distance learning was not mandated for K-12 students in 2020 (Dorn et al., 2020). Because of this, it is estimated that 55.3 million students will have experienced a dramatic loss in learning and that the COVID-19 lockdowns will have resulted in about 648,000 high school student dropouts (Dorn et al., 2020). In addition, it is also projected that there will be a significant increase in the development of mental health issues amongst adolescents (Gruber et al., 2020; Kuhfeld & Tarasawa, 2020). Due to learning loss, an increase in mental health issues, and an increased dropout rate, students who have been presented with educational or emotional barriers because of the COVID-19 pandemic are likely to be less skilled than students from the generations before (Dorn et al., 2020). As students return to more traditional in-person learning formats, teachers may be faced with vast numbers of students who are performing below grade-level expectations. In turn, this could present many challenges for educators as they create lesson plans for students in the same grade but are on vastly different educational levels depending on the amount of education they were able to receive during the pandemic.

COVID-19 Related Stress

With the rapid spread of COVID-19, many state and federal prevention plans were put into place early in 2020 within the U.S. to inhibit the spread of the virus. These measures taken dramatically altered the daily lives of many Americans and are likely to have caused a

substantial impact on their physical, mental, social, and financial well-being (Park et al., 2020). Nationwide, Americans had to navigate school closures or transition to online learning, worry about employment insecurity and financial ramifications, all while also being concerned for the health and safety of their families. Individuals within the U.S. reported experiencing an increase in stress in all areas of their lives due to the COVID-19 pandemic outbreak and these stressors could have created various psychological problems (Galea et al., 2020; Park et al., 2020; Salari et al., 2020). The most frequently experienced stressors were learning about the severity and rapid spread of COVID-19, uncertainty about the length of social distancing requirements, changes to social and daily life, and rated the most stressful - financial/job security (Park et al., 2020). It was also found that individuals who had higher stress levels six months prior to the start of the pandemic, experienced a higher burden due to the pandemic than people with lower stress levels (Brailovskaia & Margraf, 2020). These additive stressors are often beyond an individual's control and increasing an already stressful load can encourage burnout. Since teaching has been regarded as a highly stressful occupation (Johnson et al., 2005), adding on these personal stressors brought about by the pandemic raises the question of how effectively teachers were able to cope while still maintaining their highly stressful jobs.

School Climate

Previous research has shown that school climate is linked to the academic success and psychological well-being of students but only if students feel supported and safe (Thapa et al., 2013). The study of school climate focuses on the school factors that influence the healthy development of students and how to increase the students' capacity for success. School climate encapsulates an overall evaluation of the school and all the elements influencing it (Cohen, 2006). More specifically, school climate reflects the perceptions of the social, emotional, and academic experiences of school life by students, administrators, teachers, parents, staff, and the

community (Smith, 2020). The National School Climate Council states that school climate is based on the patterns of people's experiences of school life, and it reflects the norms, goals, values, interpersonal relationships, teaching/learning practices, and organizational structures of the school (Thapa, et al., 2013). School climate can either be negative or positive, disinviting or inviting. However, in order to have a positive and inviting school climate, the National School Climate Council states that the school climate must foster "youth development and learning necessary for a productive, contributive, and satisfying life in a democratic society" (Cohen et al., 2009, p. 182). And to do so, students, families, and teachers must work together to nurture and provide an educational environment that benefits learning and development.

Teacher Occupational Stress and School Climate

Stress and burnout have been hypothesized as one of the most significant teacher barriers (Hagermoser Sanetti et al., 2020). When teachers are stressed out, they tend to view their school climate negatively (Thapa et al., 2013). School climate has been found to be linked to the social interactions among students and teachers while also being linked to academic achievement and performance (Koth et al., 2008). Student-teacher relationships have been found to be a predictor of student perceptions of school climate (Mitchell et al., 2010; Thapa et al., 2013). When teachers are extremely stressed and not committed to their work, one can predict that they will view the school's climate as negative, the relationships they have with their students will be inhibited, and their students will be more likely to view their school's climate negatively as well (Koth et al., 2008; Thapa et al., 2013). More simply, when teachers are stressed, their students are more likely to feel as if their needs are not being met which is linked to poorer academic outcomes (Hagermoser Sanetti et al., 2020). This is important because positive student-teacher relationships have been found to positively influence academic engagement in students and to encourage less mental health difficulties within students (Ye et al., 2021). On top of this, positive

student-teacher relationships have been found to moderate difficulties with online learning which is significant in terms of the online/hybrid education approach most schools have taken during the COVID-19 pandemic (Ye et al., 2021). Based on the evidence that occupational stress in teachers has been associated with their perceptions of school climate, is it possible that COVID-19 related stress in teachers may demonstrate a similar association with school climate?

The Impact on Students

During the pandemic, school climate shifted to being home-based and this could have inhibited the ability of children to stay on track in terms of their education (Geoghegan, 2021). Many families were able to adapt to create effective routines and educational environments for their children; however, others were unable to cope effectively, and their children's education suffered (Dorn et al., 2020; Pelaez & Novak, 2020). For example, Harris and colleagues (2020) found that children within families that live in poverty and/or who identify as racially or ethnically minority group members were less likely to be able to engage in high-quality remote learning. Regardless of if students were able to attend school online, it is suggested that the elements of school climate are complex and are unable to be met through online education (Dorn et al., 2020; Thapa et al., 2013). Some individuals may have perceived the pandemic as highly stressful and since high levels of stress have been associated with poorer perceptions of school climate, students may have had similar perceptions. If students feel unsupported and unstable, this may impact their performance in school (Mitchell et al., 2010). In addition, teachers have also been found to transfer their stress levels down to their students (Oberle & Schonert-Reichl, 2016). Students' physiological stress regulation has been linked to teacher occupational stress meaning students in classrooms of stressed teachers overall tend to have higher cortisol levels (Oberle & Schonert-Reichl, 2016). Since teachers' perceptions of school climate have been linked to how students perceive the environment (Mitchell et al., 2010), the disruption of the

school climate during the pandemic and the potentially increased stress among teachers due to COVID-19 may be ultimately associated with poorer outcomes for students.

The Current Study

It has been well established by researchers that teachers' occupational stress has been associated with negative perceptions of school climate among teachers (Hagermoser Sanetti et al., 2020). During the durations of the COVID-19 pandemic that sees teachers placed under greater demands than ever before, the goal of this study is to replicate existing research showing that teachers' occupational stress is associated with their perceptions of school climate, and to assess if COVID-19 related stress may also be associated with teachers' perceptions of school climate. The current study's proposed research questions are as follows: (1) What are the typical levels of teachers' occupational stress and COVID-19 related stress and are there significant differences across demographic groups in stress levels? (2) How is teachers' occupational stress associated with teachers' perception of school climate? and (3) How is teachers' COVID-19 related stress associated with teachers' perceptions of school climate, after controlling for occupational stress. Based on previous research, it is hypothesized that this study's sample of teachers will have a high average level of occupational stress (Borg & Riding, 1991; Geving, 2007; Kyriacou & Sutcliffe, 1979; National Foundation for Educational Research; 2019; Thomas et al., 2003). Additionally, given what past research has already demonstrated, it is hypothesized that there will be a negative correlation between teacher occupational stress and teachers' perceptions of school climate with higher occupational stress associated with a more negative perception of school climate (Hagermoser Sanetti et al., 2020; Koth et al., 2008; Thapa et al., 2013). Finally, this study is the first to examine if there is a relationship between teachers' levels of COVID-19 related stress and teachers' perceptions of school climate. Since teacher occupational stress has already been associated with teachers' perceptions of school climate, it is

hypothesized that COVID-19 related stress may exhibit a similar relationship with teachers' perceptions of school climate.

Method

Procedure

This study surveyed K-12 teachers regarding their perceptions of school climate, their levels of occupational stress, and their COVID-19 related stress. The survey was administered in the fall of 2021. All survey measures were completed electronically through Qualtrics survey software; additional measures were included in the survey (e.g., self-efficacy, behavior management techniques), which are not included in the present study. Approval from the university IRB was obtained, and all participants were asked to participate in an informed consent process before any information was collected.

Participants

G*Power 3.1 was used to conduct an a priori power analysis in order to determine the minimum sample size necessary to achieve an effect with recommended power of .80 (Cohen, 1988). The power analysis was conducted on the proposed analysis requiring the highest statistical power (i.e., hierarchical linear regression with 2 predictors). Results of the power analysis indicated that a minimum of 68 participants is needed to detect a small to medium effect (i.e., .15; Cohen, 1988).

Eligible teachers included those who are currently working full-time at an elementary, middle, or high school within the state of Louisiana. Participants included 111 teachers with a majority of the sample including Caucasian women. It is also important to note that the majority of the sample taught in-person during the 2021-22 school year and used a hybrid/in-person

format during the 2020-21 school year. Additional information about the demographic characteristics of the present sample is provided in Table 1.

Table 1.

Demographic Characteristics of the Current Study's Sample

Demographic	Sample	
	<i>N</i>	%
Total	111	100
Gender		
Boy/Man	27	24.3
Girl/Woman	84	75.7
Race/Ethnicity		
Latinx or Hispanic	3	2.7
Asian or Asian American	5	4.5
African American or Black	14	12.6
White or Caucasian	89	80.2
Age		
20-30	12	10.8
30-40	25	22.5
40-50	44	39.6
50-60	18	16.2
Older than 60	12	10.8
Level of Education		
Some College	2	1.8
Bachelor's Degree	51	45.9
Graduate Degree	58	52.3
Grade Level		
Elementary	30	27
Middle	48	43.2
High	23	20.7
Elementary & Middle	3	2.7
Middle & High	7	6.3
Subject Taught		
Core Academics	78	70.3
Electives	33	29.7
Years of Teaching Experience		
0-2	7	6.3
3-5	10	9
6-10	19	17.1
11-20	40	36
21 or more	35	31.5
Years at Current School		
0-2	22	19.8

3-5	40	36
6-10	17	15.3
11-20	22	19.8
21 or more	10	9
Teaching Format 2021-22		
In-person	108	97.3
Hybrid (in-person & online)	3	2.7
Teaching Format 2020-21		
In-person	35	31.5
Online/remote	5	4.5
Hybrid	68	61.3
I did not teach this year	3	2.7

Measures

Occupational Stress. The Teacher Stress Inventory-Short survey (TSI-S) was used to measure teachers' stress levels for distinct factors related to their occupation (Fimian, 1984b; Fimian, 1987). This measure yields a total stress score in addition to five factor scale scores related to the sources of teachers' stress: time management (4 items), work-related stressors (3 items), professional distress (3 items), student discipline and motivation (3 items), and professional investment (2 items). Stress strength for all 15 questions is rated using a 5-point Likert scale (1 = no strength, not noticeable; 5 = major strength, extremely noticeable). In this study, the total stress score was calculated as an average of the five TSI-S factor scale items and considered a measure of experienced occupational stress. Higher scores indicate more frequent occupational stress. Initial factorial and content validity examinations were conducted with the full-length TSI, which found each scale contributed reliably and meaningfully to the measure (Fimian, 1984b). Each TSI item was at least moderately correlated to the total measure of teacher stress, as was each subscale score. The TSI-S has been demonstrated to have adequate internal consistency reliability (alphas ranging from .76 to .90) in a sample of teachers (Fimian, 1987). In the current study, the internal consistency as measured by Cronbach's alpha was 0.70.

COVID-19 Stress. The Pandemic Stress Index (PSI) developed by the University of Miami in 2020 was used to measure each teacher's stress levels for distinct stressors related to the COVID-19 pandemic. The PSI is a measure consisting of questions emphasizing what the participant did and experienced during the COVID-19 pandemic. The authors of the PSI measure recommend adding items based on the population of interest, so educational related items were added for the purpose of this study (Harkness, 2020). The several novel items proposed are included in italicized text within the Appendix, along with the original PSI items. A sum score was calculated for each participant with no/yes being coded as 0/1, and the two Likert type questions being coded as 0-4.

School Climate. The Delaware School Climate Scale – Teacher/Staff (DSCS-T/S) survey was used to measure the teacher's perceptions of their school's climate (Bear, Yang, Pell, & Gaskins, 2014). The DSCS-T/A is a brief survey consisting of items that measures teacher's perceptions of the six aspects of school climate: Teacher–Student Relations, Student–Student Relations, Student engagement School-wide, Clarity of Expectations, Fairness of Rules, School Safety, Bullying Schoolwide (reverse-scored), Teacher-Home Communications, and Staff Relations (Bear et al. 2019). Participants were asked to respond on a scale from 1 (*disagree a lot*) to 4 (*agree a lot*). After summing up all the items while accounting for those items that are reverse scored, results with higher scores indicate a more positive perception of school climate. As examined by Bear et al. (2014), this survey demonstrated strong evidence of internal consistency across grade-level, position, gender, and race/ethnicity groups (range .92 to .95, with overall alpha of .94 for all teachers/staff combined) and evidence of strong concurrent validity in a sample of 5,086 teacher/staff respondents. In the current study, the internal consistency as measured by Cronbach's alpha was 0.95.

Demographic Questionnaire. All participating teachers were asked to provide demographic information such as age, race/ethnic identity, gender identity, and level of education at the end of the survey. Participants were also asked how many years of teaching experience they have, how many years of teaching experience they have, what grade they are currently teaching, if they are a first-year teacher (starting in August 2021), and if they taught full time during the previous two school years (i.e., 2019-2020, 2020-2021).

Analysis

IBM SPSS Statistics (Version 27) was used to conduct all data analyses.

Research Question 1. Descriptive statistics (*M*, *SD*, range [minimum and maximum scores], median) and distribution of scores (histogram) were used for occupational stress and COVID-19 stress. A multivariate analysis of variance (MANOVA) assessed differences in occupational stress and COVID-19 stress among groups (i.e., gender, race and ethnicity, age, level of education, years of teaching experience, building-level taught [elementary, middle, high]).

Research Question 2. Research Question 2 was investigated using linear regression analysis. The dependent variable was teachers' perception of school climate; the independent variable was the teachers' perceived occupational stress. Additionally, a multivariate analysis of variance (MANOVA) was conducted to examine whether there are significant differences in school climate perceptions across various groups of participating teachers (e.g., race and ethnicity, level of education, years of teaching experience). Any variables that demonstrate significant differences in school climate were included as covariates in the regression analysis.

Research Question 3. Hierarchical regression analysis was used to investigate Research Question 3. In Step 1, occupational stress was entered as a predictor of school climate; in Step 2,

COVID-19 stress was also entered as a predictor. As described above, relevant demographic variables were intended to be included as covariates in Step 1; however, as is soon described, there were no significant demographic variables.

Results

Descriptive Statistics (MANOVA)

Bivariate correlations and descriptive statistics (*M*, *SD*, Median, range) were calculated for all study variables (see Table 2). Teachers' average score on occupational stress was 3.24. Given that occupational stress was measured on a 5-point scale ranging from 1 to 5, this suggests that the typical levels of teachers' occupational stress for the sample were moderately high. Additionally, the teachers' average scores for each of the three COVID-19 variables were as follows: behavioral COVID-19 related stress, 6.99; emotional COVID-19 related stress, 8.82; and overall COVID-19 impact, 3.15. Given that behavioral COVID-19 related stress was measured on a dichotomous scale ranging from 0 to 1 on 11 items (i.e., maximum score possible = 11), this suggests that the typical levels of behavioral stress were relatively high ($M = 6.99$). On the other hand, typical levels of emotional stress were low to moderate ($M = 8.82$), given that emotional COVID-19 related stress was measured on a dichotomous scale ranging from 0 to 1 on 20 items (i.e., maximum score possible = 20). Additionally, the overall COVID-19 impact score was high for the sample ($M = 3.15$), given that it was measured on a 5-point Likert scale ranging from 0 to 4 (i.e., maximum score possible = 4).

The bivariate correlations showed that occupational stress was not significantly associated with school climate, COVID-19 behavioral stress, and overall COVID-19 impact. However, occupational stress was significantly associated with COVID-19 emotional stress.

Additionally, all three COVID-19 stress variables were significantly associated with school climate.

Table 2.

Bivariate Correlation Matrix and Descriptive Statistics for Study Variables

Variable	1	2	3	4	5	<i>M (SD)</i>	Median	Min., Max.
1. Occupational Stress	1.00					3.24 (0.62)	3.24	1.60, 4.67
2. COVID-19 Behavioral Stress	-.08	1.00				6.99 (2.14)	7	1, 11
3. COVID-19 Emotional Stress	-.21*	.48**	1.00			8.82 (4.99)	8	1, 20
4. COVID-19 Impact	.004	.49**	.47*	1.00		3.15 (1.06)	3	1, 5
5. School Climate	-.12	.23*	-.21*	-.34*	1.00	101.62 (15.81)	102	14, 136

Note. Min = minimum score; Max = maximum score; occupational stress ranged from 1 to 5, with higher scores suggesting higher stress; school climate ranged from 1 to 4, with higher scores suggesting a more positive perception of school climate (maximum possible score is 156 for 39 items); all three COVID-19 related stress variables were measured using a sum score with higher scores suggesting higher stress.

* $p < .05$

** $p < .01$

To examine the distribution of scores for teachers' occupational and COVID-19 related stress, histogram frequency charts were obtained for each stress variable (see Figures 1-4). The histograms for occupational stress and overall COVID-19 impact represent fairly normal distributions, suggesting that the frequencies are near to being normally distributed. However, the histogram for behavioral COVID-19 related stress is slightly negatively skewed, and the histogram for emotional COVID-19 related stress is slightly positively skewed.

Figure 1.

Occupational Stress Histogram

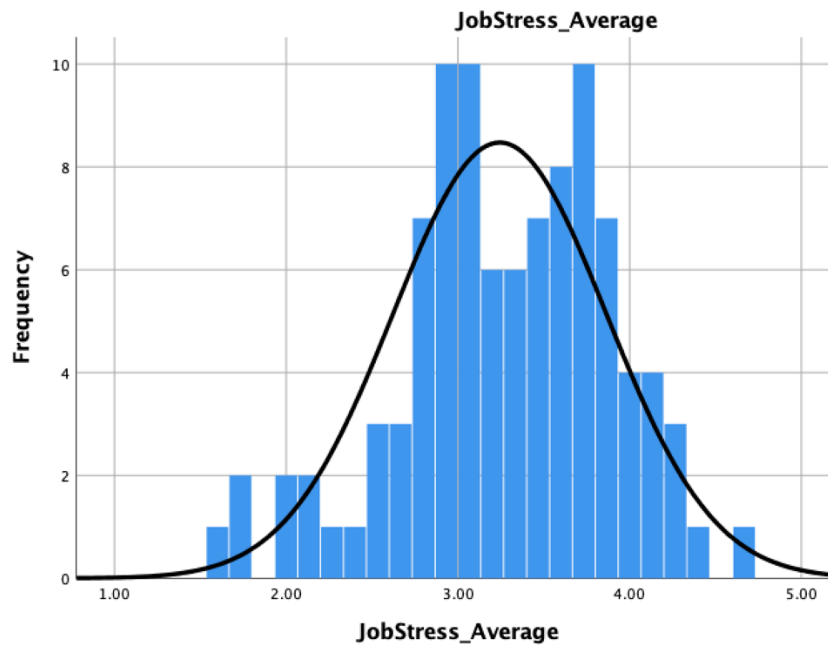


Figure 2.

Behavioral COVID-19 Stress Histogram

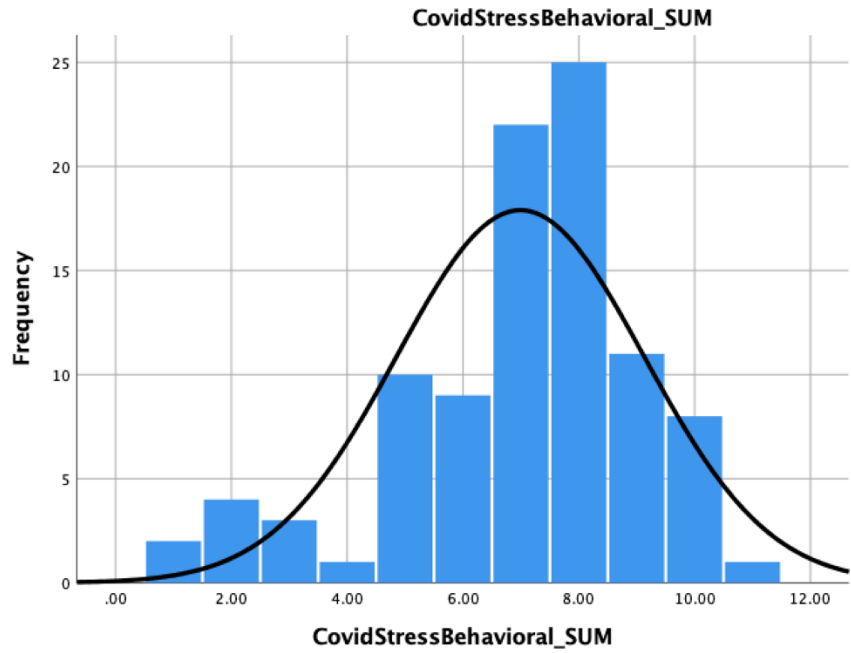


Figure 3.

Emotional COVID-19 Stress Histogram

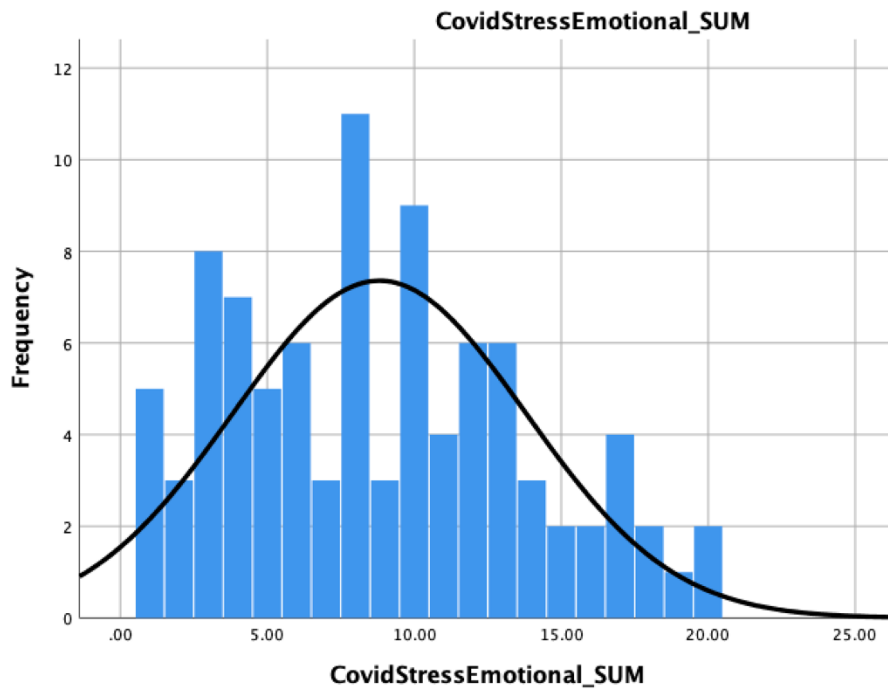
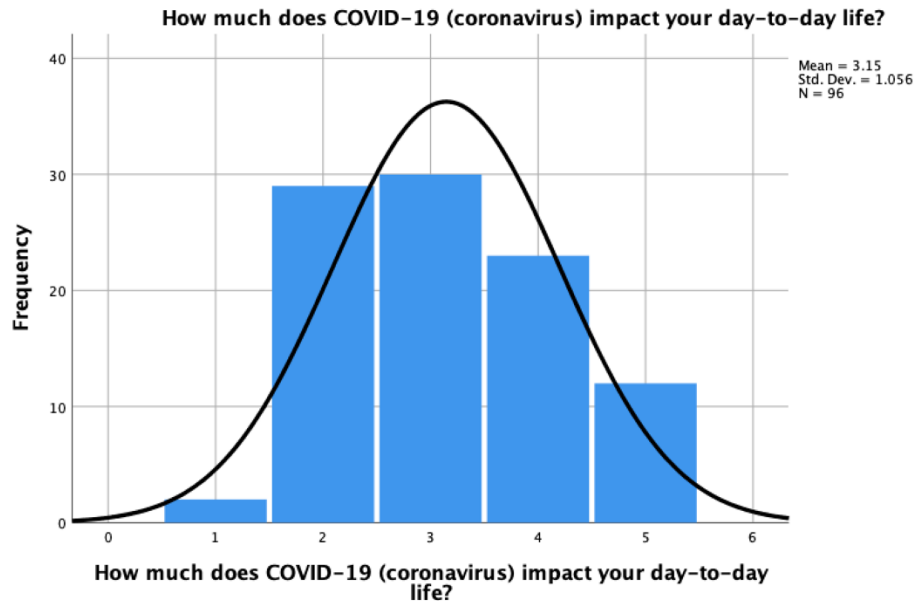


Figure 4.

Overall COVID-19 Stress Histogram

A series of multivariate ANOVAs (MANOVAs) were conducted to test for differences in occupational stress and COVID-19 stress based on a variety of demographic variables. Six demographic variables were entered as independent variables and with occupational stress and COVID-19 related stress as dependent variables. The six independent variables included: gender, age, race, overall years of teaching experience, level of education, and building level (elementary/middle/high). Findings revealed nonsignificant associations between the scale scores for occupational stress and COVID-19 related stress for all six of the demographic variables. The omnibus effect of Gender in predicting occupational stress and COVID-19 stress was not statistically significant, $F(4, 16) = 0.842, p = .519$, Wilks' Lambda = 0.862. Thus, no follow-up analyses (i.e., follow-up ANOVAs and post-hoc tests of significance) were conducted, as the overall effect of gender on each form of stress was not statistically significant. Similarly, the omnibus effect of race, $F(12, 43) = 1.72, p = .097$, Wilks' Lambda = 0.352; age, $F(16, 50) = 0.42, p = .971$, Wilks' Lambda = 0.68; building-level, $F(12, 43) = 1.23, p = .297$, Wilks' Lambda

= 0.46; years of experience, $F(16, 50) = 1.08$, $p = .394$, Wilks' Lambda = 0.40; and level of education, $F(8, 32) = 1.28$, $p = .286$, Wilks' Lambda = 0.57 in predicting occupational stress and COVID-19 stress were not statistically significant. Thus, no follow-up analyses were conducted for demographic factors.

Table 3.

Results of the Multivariate Analysis of Variance (MANOVA)

Variable	<i>Wilks' Lambda</i>	<i>F</i>	df	Sig.
Gender	0.862			
Occupational Stress		1.76	1	.200
COVID-19 Behavioral Stress		0.79	1	.387
COVID-19 Emotional Stress		0.40	1	.844
COVID-19 Impact		1.34	1	.261
Race	0.352			
Occupational Stress		2.15	3	.128
COVID-19 Behavioral Stress		0.47	3	.708
COVID-19 Emotional Stress		1.38	3	.278
COVID-19 Impact		3.07	3	.053
Age	0.679			
Occupational Stress		0.49	4	.745
COVID-19 Behavioral Stress		0.73	4	.582
COVID-19 Emotional Stress		0.89	4	.489
COVID-19 Impact		0.98	4	.442
Building-Level	0.456			
Occupational Stress		0.44	3	.724
COVID-19 Behavioral Stress		1.93	3	.159
COVID-19 Emotional Stress		1.22	3	.330
COVID-19 Impact		2.66	3	.078
Years of Experience	0.399			
Occupational Stress		1.44	4	.259
COVID-19 Behavioral Stress		1.03	4	.416
COVID-19 Emotional Stress		1.64	4	.207
COVID-19 Impact		2.49	4	.078
Level of Education	0.679			
Occupational Stress		2.45	2	.113
COVID-19 Behavioral Stress		1.12	2	.347
COVID-19 Emotional Stress		1.28	2	.302
COVID-19 Impact		1.14	2	.341

Linear Regression

Research Question 2 was investigated using linear regression analysis. Teachers' perception of school climate was entered as the dependent variable; the independent variable was teachers' perceived occupational stress. Prior to conducting the regression analysis, a univariate

analysis of variance (ANOVA) was conducted to examine whether there are significant differences in teachers' school climate perceptions across various demographic groups (e.g., gender, age, race and ethnicity, level of education, building-level, and years of teaching experience). Any variables that demonstrate significant differences in school climate were then to be included as covariates in the regression analysis. The results of the univariate ANOVA revealed no statistically significant differences in teachers' perceptions of school climate based on the demographic characteristics they reported.

Specifically, the omnibus effect of Gender in predicting perceived school climate was not statistically significant, $F(1) = 0.19, p = .67$. Additionally, the omnibus effect for race, $F(3) = 0.36, p = .78$; age, $F(4) = 0.34, p = .85$; building-level, $F(4) = 0.79, p = .55$; years of experience, $F(4) = 0.09, p = .99$; and level of education, $F(2) = 0.76, p = .48$ were not statistically significant. Because no demographic groups were revealed as having statistically significantly different perceptions of school climate, no follow-up analyses (i.e., post-hoc tests of significance) were conducted. Further, no demographic variables were entered as covariate predictors in the linear regression to investigate Research Question 2.

The results of the regression analysis revealed that the overall model was not statistically significant, $F(1, 97) = 1.31, p = .256$. Specifically, the direct association between teachers' occupational stress and their perceptions of school climate ($B = -2.53, p = .256$) suggests that teachers' occupational stress was not a significant predictor of their perception of school climate in the current study. This finding is contrary to the present study's hypothesis, as previous research has demonstrated a significant association between teachers' occupational stress and the way they perceive their school climate.

Hierarchical Regression

Research Question 3 was investigated using hierarchical regression analysis. In Step 1, teachers' perception of school climate was entered as the dependent variable; the predictor variable was teachers' perceived occupational stress. In Step 2, occupational stress was again entered as a predictor of school climate and COVID-19 related stress factors (behavioral COVID-19 stress, emotional COVID-19 stress, overall COVID-19 stress) were entered as predictors. Since there were no significant demographic variables found in the previous analyses, no demographic variables were included as covariates within the regression.

In Step 1 of the hierarchical regression, about 1% of the variance in school climate was accounted for by occupational stress ($R^2 = .011$) and the overall model was not statistically significant $F(1, 90) = 1.05, p = .309$. After adding the additional variable as predictors in Step 2, there was a significant increase in the proportion of variance accounted for in school climate ($\Delta R^2 = .138$), $F(3, 87) = 4.70, p = .004$. The model ran in Step 2 accounted for about 15% of the variance in school climate ($R^2 = .149$) and yielded an overall regression model that was significant, $F(4, 87) = 3.82, p = .007$.

Contrary to hypotheses, teachers' occupational stress, behavioral COVID-19 stress, and emotional COVID-19 stress were not significantly associated with teachers' perceptions of their school climate. However, the overall impact of COVID-19 stress ($B = -3.72, p = .019$) was significantly inversely associated with teachers' perceived school climate. As hypothesized, as teachers' overall COVID-19 stress increased, their perception of school climate decreased (i.e., teachers viewed their climate more negatively).

Table 4.

Direct Associations between School Climate, Occupational Stress, and COVID-19 Related Stress

Variable	Model 1			Model 2		
	<i>B</i>	SE <i>B</i>	Sig.	<i>B</i>	SE <i>B</i>	Sig.
School Climate						
Occupational Stress	-2.53	2.22	.256	-3.36	2.26	.140
Behavioral COVID-19 Stress				-0.81	0.85	.344
Emotional COVID-19 Stress				-0.15	0.33	.658
Overall Impact of COVID-19 Stress				-3.72*	1.56	.019

* $p < .05$

Discussion

In the current study, the relationship between teachers' perceptions of school climate and teachers' occupational and COVID-19 related stress was investigated. Previous research has found that teachers' occupational stress has been associated with negative perceptions of school climate among teachers (Hagermoser Sanetti et al., 2020). The main purpose of this study was to replicate previous findings that teachers' occupational stress is related to their perceptions of school climate and to investigate if COVID-19 related stress follows a similar pattern. The three research questions were as follows: (1) What are the typical levels of teachers' occupational stress and COVID-19 related stress and are there significant differences across demographic groups in stress levels? (2) How is teachers' occupational stress associated with their perception of school climate? and (3) How is teachers' COVID-19 related stress associated with their perceptions of school climate, after controlling for occupational stress?

Review of Findings

Research Question 1: Stress levels and demographic differences. Descriptive statistics showed that the sample reported moderately high levels of occupational stress, high levels of COVID-19 behavioral stress, low/moderate levels of emotional COVID-19 stress, and a high COVID-19 impact score. This is congruent with previous research that teachers are likely to experience high levels of occupational stress (Borg & Riding, 1991; Geving, 2007; Kyriacou & Sutcliffe, 1979; National Foundation for Educational Research; 2019; Thomas et al., 2003). In

addition, the sample's average perception of their school climate was on the higher side of the scale indicating that teachers generally had positive perceptions of school climate. None of the six demographic variables (e.g., gender, age, race, overall years of teaching experience, level of education, and building level) were found to be significantly different among teachers regarding their occupational stress or COVID-19 related stress levels. It is important to note that a majority of the population sample included Caucasian women and lacked racial and ethnic diversity as described later within the limitation section.

Research Question 2: Association between occupational stress and school climate.

The linear regression showed that occupational stress was not significantly correlated with school climate which was contrary to previous research. This finding was in contrast with previous research that demonstrated teachers' occupational stress was inversely associated with school climate perceptions, such that increases in occupational stress were associated with decreases in the quality of the school climate (e.g., Hagermoser Sanetti et al., 2020; Koth et al., 2008; Thapa et al., 2013). However, the association, though not significant, was found in the expected direction, meaning as teachers' occupational stress increased their perception of their school climate decreased, but not in a statistically significant manner. Interpretation of the sample's average occupational stress levels and perceptions of their school climate suggests that maybe a significant correlation was not found because our sample had a more positive view of their climate. Thus, even in the presence of heightened job stress, teachers in the current study may have maintained positive views about their school's climate. More research is needed to determine why teachers who are stressed might view their school climate in a positive light. It is possible that teachers who report higher stress are those who are the most passionate, driven, and committed to working hard. It is also possible that teachers could be burnt out from having to contribute even more energy to building and maintaining a positive school climate throughout

the pandemic and through the transition into the “new normal.” On the other hand, our measure might not have been a valid indicator of teachers’ actual stress or maybe they experience higher stress, but another confounding variable was present but not measured in this study that would have better explained the variance in school climate perceptions (e.g., gratitude, coping skills, student-teacher relationships, staff relations).

Research Question 3: COVID-19 Related Stress. Out of all three of the COVID-19 stress variables, overall COVID-19 impact was the only COVID-19 related stress variable that was found to be significantly inversely correlated with school climate. The significant association between overall COVID-19 stress and teachers’ perception of their school climate was in line with hypotheses. It is important to understand the differences in the types of COVID-19 stress we measured in order to interpret why not all three stress variables were significant. Behavioral COVID-19 related stress includes physical behaviors that the participants changed (e.g., social distancing, self-isolation, changed travel plans, etc.). Notably, most of these behavioral changes that teachers may have experienced were likely to have occurred outside of the school setting itself, and because they are outside of school control (i.e., it is not the fault of the school setting itself that teachers may have needed to cancel travel plans), it makes sense that behavioral changes may not be directly associated with teacher’s perceived school climate. Emotional COVID-19 related stress includes experiences and challenges that the participants undertook during the pandemic such as being fearful, anxious, depressed, or worried.

Lastly, overall COVID-19 impact encapsulated how the participants felt COVID-19 was influencing their lives and how much stress they indicated it was causing. It is possible that timing played a factor in why behavioral and emotional stress was not significant because at the time the data was collected in the fall of 2021. At that point, the pandemic had been ongoing for about a year and a half, suggesting that teachers were becoming accustomed to the “new normal”

of the behavioral and emotional changes caused by the pandemic. In other words, the behavioral changes and emotional stressors of the pandemic may have become more habitual in nature, and thus teachers may have adjusted to these changes as normal, rather than as chronic stressors. In some ways, this may demonstrate that teachers have learned to cope with and adapt to the life changes required by the COVID-19 pandemic in a way that did not directly correlate with how they viewed the school climate as a whole. This could also be an indication of why the overall COVID-19 impact was significant, as participants indicated that COVID-19 was highly impacting their lives due to the long ongoing timeline of the pandemic. This reveals that subjective evaluations of how impactful COVID-19 has been on their lives was directly correlated with how teachers viewed their school climate. When asked about specific behaviors and emotions that have changed in their lives (i.e., behavioral COVID-19 stress, emotional COVID-19 stress), school climate was not associated, but when asked broadly about how deeply their lives have been affected by COVID-19, this connected significantly with teachers' perceived school climate.

Implications

To our knowledge, only a handful of studies have empirically examined how COVID-19 related stress is associated with teachers' school experiences and their mental well-being. Our findings suggest that COVID-19 has had a clear association with how teachers perceive their school climates. This is important for other researchers because it suggests that outside factors, or things out of the school's control, might contribute to teachers' perceptions of school climate. These findings further indicate that school climate is a multidimensional concept that may draw influence from a wide range of sources which might not always be easily identifiable. Other potentially drastic life events similar to COVID-19 that might also contribute to school climate could be natural disasters and national warfare. Beyond our sample of K-12 grade teachers, our

findings imply that similar findings may occur for professors and college students as well, suggesting that COVID-19 has also potentially had damaging effects within higher education.

In addition, our findings also imply that the relationship between teacher occupational stress and school climate is more dynamic than described in previous research. Researchers need to be aware of this because identifying the ways in which teachers are able to view their school climate positively while also being stressed out by their occupations could provide insight into how to increase teacher retention rates. Further, our findings suggest that teacher occupational stress and teacher perceptions of school climate may not have a linear relationship as previously thought. Instead, these two variables may exhibit a more parabolic (u-shaped) relationship suggesting that low and high levels of teacher stress are detrimental to their perceptions of school climate, but a moderate level of teacher stress is okay. More specifically, if teachers are not stressed at all by their jobs or if they are very highly stressed, they may not be passionate about their place of work leading to a poor school environment; however, if teachers are moderately stressed by their work, they might be more passionate about their jobs and are more likely to contribute to a positive school environment. In addition, our findings further imply that teacher occupational stress might be caused by an outside variable not able to be measured by current school climate surveys. More investigation into the relationship between teacher occupational stress and school climate, could provide more insight into how to better support teachers in terms of their stress levels and how to foster a more positive school climate.

Results of the current study may also help to inform school psychologists and other educators on how to identify different sources of stress for teachers and how to help them cope. It is important for school psychologists and educators to be aware of the associated outcomes of the stressors teachers may be experiencing due to the pandemic, and for administrators to regularly assess their teachers' levels of stress and to provide outlets (e.g., focus groups, training

in mindfulness or coping skills, etc.) to support them when needed. Not all stressors might be important indicators of the health of a school's climate, but they do indicate the overall well-being of teachers and the quality of their mental health which is an important aspect in making sure they can perform their jobs effectively. Helping teachers learn how to better cope with the stressors caused by their jobs and their outside lives might be beneficial as schools around the world are transitioning back into the "new normal." Timely screenings, regular monitoring, and support efforts for teachers are more imperative than ever as teachers are the guiding force in ensuring students are making up for the educational time they potentially lost during the beginning of the pandemic.

Limitations and Future Directions

There are several limitations to this study. First, this study was conducted about a year and a half after the onset of the COVID-19 pandemic. Because of this, it is hard to decipher whether COVID-19 had a significant impact on teacher stress especially since there was no comparison value from before the onset of the pandemic; further, because this was a correlational study, the directionality of significant associations or potential causality of changes in these variables cannot be claimed. Due to the timely nature of this study, the COVID-19 stress measure that was used was one of few that were available for research purposes at the time the study was administered, and also this measure lacked sufficient research support as COVID-19 research is a new and developing topic of psychological research. Additionally, despite replicating previous research methods, occupational stress and school climate were not significantly correlated with each other. This may be due to not having a big enough sample even though we had more than enough participants based on the a priori power analysis we conducted prior to the study.

Our sample was also lacking in racial and ethnic diversity as a majority of the participants were Caucasian women from the southeastern United States. In the current study, there was a nearly statistically significant difference in overall COVID-19 impact across racial and ethnic groups, suggesting that there was not a significantly different experience of this type of COVID-19 stress in our sample; however, given that our sample lacked racial diversity, it is possible that there may be true racial/ethnic differences in the impact of COVID-19 in the broader population. In other words, our sample may have lacked sufficient diversity in order for a true effect of race/ethnicity to be detected (Type II error). Also, a larger and more diverse sample may be necessary to generalize the study's findings more broadly to all teachers, as the current findings may only generalize to teachers that are similar to those who participated in the current study. The generalizability of these findings would be especially improved if a national sample of teachers was collected across all regions of the U.S.

Another limitation of the current study is the fact that teachers completed self-report questionnaires, as participants may have exaggerated symptoms in order to make their situation seem worse, or they may have under-reported the severity of their issues in order to minimize their problems. Additionally, participants could have misremembered their past experiences or misinterpreted the questions asked within the survey. This is a potential issue in the current study because the survey was conducted about a year and a half after the onset of the pandemic, potentially causing participants to misremember the experiences or the extent of the experiences they had throughout the pandemic. Additionally, this study's use of a frequency COVID-19 stress measure may not be a strong measure of stress as many of the experiences encapsulated within the measure (e.g., fear of getting COVID-19 versus being hospitalized for COVID-19) may have various levels of intensity in the amount of stress they caused to the participant; however, they were scored equally (i.e., each indicated item counted for 1 point on the summed

score). Future directions could include longitudinal studies following teachers' COVID-19 related stress as the pandemic diminishes and mandates and restrictions are lifted. Interviews that document teachers' experiences throughout the entire pandemic could also be a helpful tool if there is an instance in the future where isolation and online education are needed again.

Evaluating how other variables such as teacher coping skills, teacher resources, and student-teacher relationships affect levels of teacher stress and teachers' perceptions of school climate might give educators more information into how to better support teachers' well-being. Measuring student stress as well as their perceptions of school climate could also be a helpful tool in deciphering the differences between teacher and student perceptions of school climate, differences in stress, where the differences occur, and how to use this information to better promote and foster a healthy, positive climate within schools.

Conclusion

The COVID-19 pandemic greatly impacted many areas of life within the United States and around the world. With the needed lockdowns, restrictions, and mandates in order to decrease the spread of the virus, it greatly disrupted the education system causing significant barriers and challenges teachers had to face. Research has already shown that teaching is regarded as a high-stress profession and the significant additional stress they were/are experiencing due to the pandemic is of great concern. In addition, school climate is an important aspect of child development and student success. Understanding what contributes to a positive school climate is essential to promoting students getting back on track. Due to this, it is important that we understand how to pinpoint and better understand how to regulate teacher stress so there is more retention within the field, teachers are more willing to support their

students, and teachers are more likely to view their school climates in a positive light. As Bill Gates once said, “Students deserve great teachers. And teachers deserve the support they need to become great.”

References

- Algozzine, B., Gretes, J., Queen, A. J., & Cowan-Hathcock, M. (2007). Beginning teachers' perceptions of their induction program experiences. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 80(3), 137-143.
- Algozzine, B., Wang, C., & Violette, A. S. (2011). Reexamining the relationship between academic achievement and social behavior. *Journal of Positive Behavior Interventions*, 13(1), 3-16.
- Anderson, J. R., Hughes, J. L., & Trivedi, M. H. (2021). School Personnel and Parents' Concerns Related to COVID-19 Pandemic's Impact Related to Schools. *School Psychology Review*, 50(4), 519-529.
- Baker, C. N., Peele, H., Daniels, M., Saybe, M., Whalen, K., Overstreet, S., & The New Orleans, T. I. S. L. C. (2021). The experience of COVID-19 and its impact on teachers' mental Health, coping, and teaching. *School Psychology Review*, 50(4), 491-504.
- Bear, G. G., Yang, C., Pell, M., & Gaskins, C. (2014). Validation of a brief measure of teachers' perceptions of school climate: Relations to student achievement and suspensions. *Learning Environments Research*, 17(3), 339-354.
- Bear, G., Yang, C., Harris, A., Mantz, L., Hearn, S., & Boyer, D. (2019). Technical manual for the Delaware School Survey: Scales of school climate; bullying victimization; student engagement; positive, punitive, and social emotional learning techniques; and social and emotional competencies. Newark, DE: Center for Disabilities Studies.
- Borg, M. G., & Riding, R. J. (1991). Occupational stress and satisfaction in teaching. *British Educational Research Journal*, 17(3), 263-281.

- Brailovskaia, J., & Margraf, J. (2020). Predicting adaptive and maladaptive responses to the Coronavirus (COVID-19) outbreak: A prospective longitudinal study. *International Journal of Clinical and Health Psychology, 20*(3), 183-191.
- Carver-Thomas, D., Leung, M., & Burns, D. (2021). California Teachers and COVID-19: How the Pandemic is Impacting the Teacher Workforce. *Learning Policy Institute*.
- Cohen, J., McCabe, L., Michelli, N. M., & Pickeral, T. (2009). School climate: Research, policy, practice, and teacher education. *Teachers College Record, 111*(1), 180-213.
- Cohen, J. (2006). Social, emotional, ethical, and academic education: Creating a climate for learning, participation in democracy, and well-being. *Harvard educational review, 76*(2), 201-237.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Dicke, T., Marsh, H. W., Parker, P. D., Guo, J., Riley, P., & Waldeyer, J. (2020). Job satisfaction of teachers and their principals in relation to climate and student achievement. *Journal of Educational Psychology, 112*(5), 1061.
- Dorn, E., Hancock, B., Sarakatsannis, J., & Viruleg, E. (2020). COVID-19 and student learning in the United States: The hurt could last a lifetime. *McKinsey & Company*.
- Fimian, M. J. (1987). Alternate-forms and alpha reliability of the Teacher Stress Inventory. *Psychology in the Schools, 24*(3), 234–236.
- Fimian, M.J. (1984b). The development of an instrument to measure occupational stress in teachers: The Teacher Stress Inventory. *Journal of Occupational Psychology, 57*: 277-293. <https://doi.org/10.1111/j.2044-8325.1984.tb00169.x>

- Flook, L., Goldberg, S. B., Pinger, L., Bonus, K., & Davidson, R. J. (2013). Mindfulness for teachers: A pilot study to assess effects on stress, burnout, and teaching efficacy. *Mind, Brain, and Education, 7*(3), 182-195.
- Galea, S., Merchant, R. M., & Lurie, N. (2020). The mental health consequences of COVID-19 and physical distancing: the need for prevention and early intervention. *JAMA internal medicine, 180*(6), 817-818.
- Geoghegan, T. (2021). *Childhood in the Time of Covid (pp. 1-28, Rep.)*. Fairfield, CT: Save the Children.
- Geving, A. M. (2007). Identifying the types of student and teacher behaviors associated with teacher stress. *Teaching and Teacher Education, 23*(5), 624-640.
- Greenberg, L. W., GOLDBERG, R. M., & Jewett, L. S. (1984). Teaching in the clinical setting: factors influencing residents' perceptions, confidence and behavior. *Medical education, 18*(5), 360-365.
- Greenstone, M., & Nigam, V. (2020). Does social distancing matter?. *University of Chicago, Becker Friedman Institute for Economics Working Paper, (2020-26)*.
- Hagermoser Sanetti, L. M., & Luh, H. J. (2020). Treatment fidelity in school-based intervention. In *Student Engagement (pp. 77-87)*. Springer, Cham.
- Harkness, A. (2020). The Pandemic Stress Index. University of Miami
- Harris, L., Dargusch, J., Ames, K., & Bloomfield, C. (2020). Catering for 'very different kids': Distance education teachers' understandings of and strategies for student engagement. *International Journal of Inclusive Education, 1-17*.
- Haydon, T., Leko, M. M., & Stevens, D. (2018). Teacher Stress: Sources, Effects, and Protective Factors. *Journal of Special Education Leadership, 31*(2).

- Jennings, P. A., & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research, 79*(1), 491-525.
- Johnson, S., Cooper, C., Cartwright, S., Donald, I., Taylor, P., & Millet, C. (2005). The experience of work-related stress across occupations. *Journal of managerial psychology.*
- Kalker, P. (1984). Teacher stress and burnout: Causes and coping strategies. *Contemporary Education, 56*(1), 16.
- Koth, C. W., Bradshaw, C. P., & Leaf, P. J. (2008). A multilevel study of predictors of student perceptions of school climate: The effect of classroom-level factors. *Journal of Educational Psychology, 100*(1), 96.
- Kuhfield, M., & Tarasawa, B. (2020). The COVID-19 Slide: What Summer Learning Loss Can Tell Us about the Potential Impact of School Closures on Student Academic Achievement. Brief. *NWEA*.
- Kyriacou, C., & Sutcliffe, J. (1979). Teacher stress and satisfaction. *Educational Research, 21*(2), 89-96.
- Kyriacou, C. (2001). Teacher stress: Directions for future research. *Educational review, 53*(1), 27-35.
- Madigan, D. J., & Kim, L. E. (2021). Does teacher burnout affect students? A systematic review of its association with academic achievement and student-reported outcomes. *International Journal of Educational Research, 105*, 101714.
- Mitchell, M. M., Bradshaw, C. P., & Leaf, P. J. (2010). Student and teacher perceptions of school climate: A multilevel exploration of patterns of discrepancy. *Journal of School Health, 80*(6), 271-279.

- National Foundation for Educational Research (2019). More teachers feel 'tense' or 'worried' about their job than those in comparable professions. Retrieved April 22, 2021, from <https://www.nfer.ac.uk/news-events/press-releases/more-teachers-feel-tense-or-worried-about-their-job-than-those-in-comparable-professions/>
- Oberle, E., & Schonert-Reichl, K. A. (2016). Stress contagion in the classroom? The link between classroom teacher burnout and morning cortisol in elementary school students. *Social Science & Medicine, 159*, 30-37.
- Pelaez, M., & Novak, G. (2020). Returning to school: Separation problems and anxiety in the age of pandemics. *Behavior Analysis in Practice, 13*(3), 521-526.
- Park, C. L., Russell, B. S., Fendrich, M., Finkelstein-Fox, L., Hutchison, M., & Becker, J. (2020). Americans' COVID-19 stress, coping, and adherence to CDC guidelines. *Journal of General Internal Medicine, 35*(8), 2296-2303.
- Redlener, I. E., DeRosa, C., & Parisi, K. (2010). Legacy of Katrina: The impact of a flawed recovery on vulnerable children of the Gulf Coast. In *IOM Workshop on Human Health Effects of Gulf Oil Spill from the National Center for Disaster Preparedness and Columbia University Mailman School of Public Health*.
- Salari, N., Hosseini-Far, A., Jalali, R., Vaisi-Raygani, A., Rasoulpoor, S., Mohammadi, M., ... & Khaledi-Paveh, B. (2020). Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: a systematic review and meta-analysis. *Globalization and health, 16*(1), 1-11.
- Sanetti, L. M. H., Boyle, A. M., Magrath, E., Cascio, A., & Moore, E. (2020). Intervening to Decrease Teacher Stress: A Review of Current Research and New Directions. *Contemporary School Psychology, 1-10*.

Santamaría, M. D., Mondragon, N. I., Santxo, N. B., & Ozamiz-Etxebarria, N. (2021). Teacher stress, anxiety and depression at the beginning of the academic year during the COVID-19 pandemic. *Global Mental Health, 8*.

Smith, K. H. (2020). Perceptions of School Climate: Views of Teachers, Students, and Parents. *Journal of Invitational Theory & Practice, 26*.

Sokal, L. J., Eblie Trudel, L. G., & Babb, J. C. (2020). Supporting teachers in times of change: The job demands-resources model and teacher burnout during the COVID-19 pandemic.

Thapa, A., Cohen, J., Guffey, S., & Higgins-D'Alessandro, A. (2013). A review of school climate research. *Review of Educational Research, 83(3)*, 357-385.

Thomas, N., Clarke, V., & Lavery, J. (2003). Self-reported work and family stress of female primary teachers. *Australian Journal of Education, 47(1)*, 73-87.

Travers, C. (2017). Current knowledge on the nature, prevalence, sources and potential impact of teacher stress. *Educator Stress, 23-54*.

World Health Organization (2021). WHO (World Health Organization) coronavirus (COVID-19) Dashboard. (n.d.). Retrieved March 28, 2021, from <https://covid19.who.int/>

Appendix A

Teacher Stress Inventory-Short Survey

The following are a number of teacher concerns. Please identify those factors which cause you stress in your present position. Read each statement carefully and decide if you ever feel this way about your job. Then, indicate how strong the feeling is when you experience it by circling the appropriate rating on the 5-point scale. If you have not experienced this feeling, circle number 1 (no strength; not noticeable). The rating scale is shown at the top of each page.

	1 No Strength / Not Noticeable (1)	2 Mild Strength / Barely Noticeable (4)	3 Medium Strength / Moderately Noticeable (5)	4 Great Strength / Very Noticeable (2)	5 Major Strength / Extremely Noticeable (3)
I easily over-commit myself. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have to try doing more than one thing at a time. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think about unrelated matters during conversations. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There isn't enough time to get things done. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is little time to prepare for my lessons/responsibilities. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The pace of the school day is too fast. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My personal priorities are being short-changed due to time demands. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I lack promotion and/or advancement opportunities. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1 No Strength / Not Noticeable (1)	2 Mild Strength / Barely Noticeable (4)	3 Medium Strength / Moderately Noticeable (5)	4 Great Strength / Very Noticeable (2)	5 Major Strength / Extremely Noticeable (3)
I need more status and respect on my job. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I lack recognition for the extra work and/or good teaching I do. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel frustrated having to monitor pupil behavior. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel frustrated attempting to teach students who are poorly motivated. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel frustrated when my authority is rejected by pupils/administration. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I lack control over decisions made about classroom/school matters. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I lack opportunities for professional improvement. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix B

The Pandemic Stress Index

1. What are you doing/did you do during COVID-19 (coronavirus)? (check all that apply)
 - no changes to my life or behavior
 - practicing social distancing (i.e., reducing your physical contact with other people in social, work, or school settings by avoiding large groups and staying 3-6 feet away from other people)
 - isolating or quarantining yourself (i.e., while you are sick or if you have been exposed, separating yourself from other people to prevent others from getting it)
 - caring for someone at home (a child or children; an elderly person; someone who was sick)
 - working from home (*because of COVID-19*)
 - your job was considered to be high risk for contracting COVID-19*
 - someone in your household's job was considered to be high risk for contracting COVID-19*
 - received one of the available COVID-19 vaccinations.*
(if no: *do you plan on receiving one of the available COVID-19 vaccinations*)
 - had a known exposure to COVID-19 (whether or not you later tested positive)*
 - a change in use of healthcare services (e.g., calling your healthcare provider, going to urgent care, etc.)
 - following media coverage related to COVID-19 (e.g., watching or reading the news, following social media coverage, etc.)
(if yes: on average, how many hours per day did you spend on this?)
 - changing travel plans
(if yes – did you travel more or less?)

2. How much is/did COVID-19 (coronavirus) impact your day-to-day life?
 0. Not at all
 1. A little
 2. Much
 3. Very Much
 4. Extremely

3. *How much is/did COVID-19 cause stress in your day-to-day life?*

0. *Not at all*
1. *A little*
2. *Much*
3. *Very Much*
4. *Extremely*

4. Which of the following are you experiencing (or did you experience) during COVID-19? (check all that apply)

- being diagnosed with COVID-19
- being hospitalized for COVID-19 treatment*
- fear of getting COVID-19
- fear of giving COVID-19 to someone else
- worrying about friends, family, partners, etc. getting COVID-19
- friends, family, partners were diagnosed with COVID-19*
- friends, family, partners were hospitalized for COVID-19 treatment*
- friends, family, partner passed away due to COVID-19*
- fear related to receiving one of the available COVID-19 vaccinations (e.g., negative symptoms, negative long term effects)*
- stigma or discrimination from other people (e.g., people treating you differently because of your identity, having symptoms, or other factors related to COVID-19)
- fear of losing job during COVID-19*
- fear of friends, family, partner losing their job during COVID-19*
- personal financial loss (e.g., lost wages, job loss, investment/retirement loss, travel-related cancellations)
- frustration or boredom
- not having enough basic supplies (e.g., food, water, medications, a place to stay)
- more anxiety
- more depression
- more sleep, less sleep, or other changes to your normal sleep pattern
- increased alcohol or other substance use
- a change in sexual activity
- loneliness

__ confusion about what COVID-19 is, how to prevent it, or why social distancing/isolation/quarantines are needed

__ getting emotional or social support from family, friends, partners, a counselor, or someone else

__ getting financial support from family, friends, partners, an organization, or someone else

__ other difficulties or challenges

Appendix C

The Delaware School Climate Scale – Teacher/Staff Survey

This survey reflects how you feel about your school this year. Please complete all items. Your scores will be added by a computer with the scores of other staff members to see how all staff members, as a group, feel about the school. This survey will remain anonymous.

Please read each statement and mark the response that best shows how much you agree.

In this school...

	Disagree A LOT (1)	Disagree (2)	Agree (3)	Agree A LOT (4)
1. Most students turn in their homework on time. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Teachers treat students of all races with respect. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The school rules are fair. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Students are safe in the hallways. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Rules are made clear to students. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Most students try their best. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Teachers care about their students. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. The consequences of breaking rules are fair. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Students threaten and bully others. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Students know how they are expected to act. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Students are friendly with each other. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| 12. Most students feel happy. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13. Students feel safe. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 14. Students worry about others bullying them. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15. Students know what the rules are. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16. Students care about each other. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 17. Teachers listen to students when they have problems. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 18. The school's Code of Conduct is fair. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 19. Students know they are safe in this school. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 20. It is clear how students are expected to act. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 21. Students respect others who are different. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 22. Adults who work here care about the students. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 23. Most students follow the rules. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 24. Most students like this school. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 25. Teachers like their students. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 26. Students bully one another. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 27. Classroom rules are fair. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 28. Most students work hard to get good grades. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 29. Students treat each other with respect. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

- | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| 30. Students get along with each other. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 31. Teachers work closely with parents to help students when they have problems. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 32. Teachers, staff, and administrators function as a good team. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 33. Teachers do a good job communicating with parents. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 34. There is good communication among teachers, staff, and administrators. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 35. Teachers show respect toward parents. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 36. Teachers, staff, and administrators work well together. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 37. Teachers listen to the concerns of parents. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 38. Administrators and teachers support one another. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 39. I like this school. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Appendix D

Demographic Questionnaire

This information is for research purposes only to understand the characteristics of those who choose to participate. It WILL NOT be shared with administrators or used to identify any participant. As described at the beginning of this survey, your responses will be kept confidential. They will not be shared with administrators with any potentially identifying information included.

Please provide the following information:

School name: _____

Gender:

- Male (1)
- Female (2)
- Other (3)
- Prefer not to respond (4)

Display This Question:

If Gender: = Other

Q51 Please describe your gender:

Race:

- American Indian or Alaska Native (1)
- Asian (2)
- Black or African American (3)
- Native Hawaiian or Pacific Islander (4)
- White (5)
- None of these (6)
- Prefer not to respond (7)

Display This Question:

If Race: = None of these

Please describe your race:

Ethnicity:

- Hispanic/Latino (1)
- Not Hispanic/Latino (2)

Age:

- Younger than 20 (1)
- 20-30 (2)
- 30-40 (3)
- 40-50 (4)
- 50-60 (5)
- Older than 60 (6)

Highest level of education:

- Highschool (1)
- Some college (2)
- Bachelor's degree (3)
- Graduate degree (4)

Grade(s) taught this year:

- Preschool (1)
- K (2)
- 1 (3)
- 2 (4)
- 3 (5)
- 4 (6)
- 5 (7)
- 6 (8)
- 7 (9)
- 8 (10)
- 9 (11)
- 10 (12)
- 11 (13)

Years of teaching experience:

- Less than 5 (2)
- 5-10 (3)
- 10-15 (4)
- 15-20 (6)
- 20+ (7)

Please indicate if you are a first-year teacher (started teaching in August 2021):

- Yes

- No

Please indicate if you taught full time during the 2019-2020 school year:

- Yes
- No

Please indicate if you taught full time during the 2020-2021 school year:

- Yes
- No