An exploratory analysis of the association between coronavirus anxiety and teacher burnout

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Keywords

COVID-19 anxiety, educator burnout, job satisfaction, teacher anxiety, non-parametric analysis

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Abstract

This study was an exploration of COVID-19 anxiety and its relationship with teacher burnout. The study was a cross-sectional survey research design with a convenience sample drawn from a population of K-12 public school teachers. A non-parametric statistical test, Kruskal-Wallis, showed a statistically significant difference in teacher burnout across the three grade levels: χ^2 (2, $N = 61$) = 6.20, $p = .045$. Teacher burnout was lowest amongst elementary school teachers ($M = 47.00$) when compared to middle school ($M = 74.00$) and high school teachers ($M = 71.00$). Implications include a need for increased administrative support and decreased stress levels for teachers.

Keywords: COVID-19 anxiety, educator burnout, job satisfaction, teacher anxiety, non-parametric analysis

Introduction

The spread of the SARS-CoV-2 (COVID-19) virus remains a concern. As of July 2023, the spread of the coronavirus (COVID-19) had slowed, and the number of related cases trended towards eight hundred million cumulative cases, with related deaths of approximately seven million (WHO, 2024). In fact, by March 2024, positive cases reached 775,132,086, and the number of deaths reached 7,042,222 (WHO, 2024). Due to COVID-19, concerns about its impact on the world's population spawned many empirical studies associated with the disease.

Researchers have addressed many concerns. Studies have forged a wide range of interests and have run the gambit from investigating the impact of COVID-19 using random samples drawn from an entire country's population, such as Hong Kong (Choi et al., 2020), the Republic of Ireland (Hyland et al., 2020), Cuba (Broche-Pérez et al., 2020), and Turkiye (Haktanir et al., 2022). Other studies have addressed depression (Ustun, 2021), fear of the virus across race, ethnicity, gender, and age (Niño et al., 2021), and anxiety (Lee et al., 2021). In addition to these studies, some researchers have drawn samples from the population of frontline workers. Samples have been drawn from healthcare workers (Hassannia et al., 2021; Mehta et al., 2021; Zhang et al., 2020) and teachers (Li et al., 2020; Pressley, 2021).

The research relating specifically to COVID-19 and teachers have included investigations of anxiety, depression, and stress (Ozamiz-Etxebarria et al., 2021); coping (Klapproth et al., 2020;

Mohamad Nasri et al., 2020), and teacher burnout, stress, and anxiety (Pressley, 2021; Pressley et al., 2021; Westphal et al., 2022). Teacher burnout is important to understand because instructors are considered frontline workers and educate a nation's children. The COVID-19 pandemic may have worsened general mental health (Idoiaga Mondragon et al., 2023). As such, there is a need to understand teacher burnout during the COVID-19 pandemic and to add to the understanding of differences among milieus.

As noted by Jackson et al. (1986), burnout was coined by clinical psychologist, Herber Freudenberger. Later research by Maslach and Jackson (1981) conceptualized the phenomenon as a continuum of experiences that range from the negative experience of burnout to the positive experience of job engagement. Maslach and Jackson (1981) defined burnout as "a syndrome of emotional exhaustion and cynicism that occurs frequently among individuals who do 'people work' of some kind" (p. 99). Work by Maslach and Leiter (2008) led them to posit three interrelated dimensions of burnout:

- Exhaustion–energy,
- Cynicism–involvement, and
- Inefficacy–efficacy.

The negative experience of exhaustion (emotional exhaustion) is defined as "emotional and physical fatigue resulting from having too many demands and not enough resources" (Sokal et al., 2020, p. 3). Cynicism (depersonalization) is characterized by an increase in apathy, a decrease in empathy, and blame for others. Inefficacy (low personal accomplishment) relates to a lack of accomplishment where people perceive the job as impossible and believe that they cannot be successful. The COVID-19 pandemic, followed by teacher shortages, creates opportunities to ensure teachers stay and have fewer reasons—exhaustion, cynicism, and inefficacy—to leave.

Purpose Statement

Pressley (2021) and Pressley et al. (2021) suggested that researchers need to examine teacher stress and anxiety during the pandemic because they fill roles as frontline workers. Following this suggestion, the present study conducted an exploratory analysis to investigate teacher burnout during the COVID-19 pandemic. Specifically, the current study's purpose was to explore COVID-19-related anxiety on teacher burnout. The study adds to the emerging literature on COVID-19 anxiety and teacher burnout.

In addition, the study was to explore the prevalence of anxiety relating to the pandemic among teachers within a rural community. According to WHO (2022), in the first year of the pandemic, not only was there a 25% increase in the prevalence of anxiety and depression globally, but there was a significant impact on youth and women. As such, one aim of this study is to add to the discussion on understanding the vital role of psychological factors and managing pandemics concerning public health strategies (Batista et al., 2021; Santiago et al., 2023) and, by extension, school policymakers. Understanding the relationship between anxiety during a pandemic and burnout among teachers at differing grade levels is of importance towards how we prepare and treat teachers during a health crisis.

In the present study, anxiety and teacher stress should be understood in the context of COVID-19. COVID-19 anxiety should be distinguished from generalized anxiety and other forms of anxiety,

such as social phobia (Furmark, 2002) and post-traumatic stress disorder (Boyraz et al., 2016). Generalized anxiety is manifested in behavioral (e.g., dysfunctional activities), cognitive (e.g., worry), emotional (e.g., fear), and physiological (e.g., somatic distress). Generalized anxiety is one of the well-known mental disorders seen in outpatient practice (Spitzer et al., 2006). Using factor analysis, Spitzer et al. (2006) found that generalized anxiety is distinct from depression.

Lee (2020) showed the importance of measuring COVID-19 anxiety. In developing a COVID-19 Anxiety Scale, Lee posited that while some people may show symptoms of anxiety and reactions due to trauma, those who are not infected with the COVID-19 virus might believe that showing symptoms of anxiety is due to the "effects of mass hysteria" (p. 399). Silva et al. (2020) suggest that measures of COVID-19 anxiety differ by placing related anxious symptoms in the context of the pandemic "as a particular source of anxiety" (p. 5700).

Teacher stress can be distinguished from burnout and anxiety. Burnout and anxiety can be related to stress. High burnout levels are linked to higher vulnerability to stress (Candeias et al., 2021). Sources of teacher stress include aggressive and non-aggressive classroom disruptions (Wettstein et al., 2021). In a study conducted by the RAND Corporation, teachers reported that stress was the main reason for teachers leaving the profession pre-pandemic and during the pandemic (Diliberti & Schwartz, 2021).

Research Questions

Two research questions were posed:
- What is the strength of the relationship between the level of COVID-19 anxiety, current level of anxiety, and teacher burnout?
- Are there differences in burnout among teachers from elementary, middle, and high school?

Literature Review

Teacher burnout and associated factors among K-12 teachers have been studied. Among early studies, Friesen and Sarros (1989) found that overall work stress predicted exhaustion among teachers and administrators. Work stress accounted for a significant portion of the variance in teacher burnout. Additionally, it was found that satisfaction with status and recognition, as well as job challenges, are predictors of inefficacy among teachers. Stress can have an influence on teachers in several ways such as leading to burnout or quitting teaching (Betoret, 2006; Klassen & Chiu, 2010).

Teachers face distinct stressors. One stressor is improper work-life, which adds stress to teacher balance (Mulyani et al., 2021). Other stressors include perceived demands from the job (De Clercq et al., 2021), perceived lack of support from administrators (De Clercq et al., 2021; Pressley, 2021), and poor working conditions (Mulyani et al., 2021). These issues must be addressed in their specific context. However, there are also culminating factors at play. Factors associated with teacher burnout include "negative occupational stress" (Ferguson et al., 2012, p. 37), accumulation of stressors during the pandemic (Hatzichristou et al., 2021), and emotional exhaustion (Skaalvik & Skaalvik, 2021). Using structural equation modeling, Shimony et al. (2022) found remote teaching associated with teacher burnout. For teachers, contributory factors such as exhaustion as

well as depersonalization are associated with the intent to leave. Jackson et al. (1986) found that those high in personal accomplishment were in supportive environments, and while they found that lack of principal support was associated with depersonalization, burnout scores did not predict job search behaviors. However, in their meta-analysis of burnout, Lee and Ashforth (1996) found exhaustion and depersonalization were associated with turnover intentions. Fernet et al. (2012) found depersonalization and personal accomplishment can decrease over the school year, but exhaustion was stable. Of interest is that when all three burnout dimensions are high, early career teachers indicated intentions to leave (Goddard & Goddard, 2006). In their meta-analysis, Madigan and Kim (2021) found that burnout and job satisfaction explained almost 30% of the variance in teacher intent to leave their job. However, burnout was a more important predictor than job satisfaction (Madigan & Kim, 2021). Among a sample of music teachers, results revealed that teachers who taught multiple grade levels, as well as those with certification, were higher in emotional exhaustion, depersonalization, and personal accomplishment (Bernhard, 2016). Is it possible that burnout dimensions can be associated with levels of anxiety?

COVID-19 Anxiety

Peteet (2020) posited that the COVID-19 pandemic presents conditions for "uncertainty, fear of infection, moral distress and grief often experienced" and "evokes in many of us a deeply rooted, existential anxiety experienced as a threat to our accustomed identity, and to our sense of place in the world" (p. 2203). Generalized anxiety is manifested in behavioral (e.g., dysfunctional activities), cognitive (e.g., worry), emotional (e.g., fear), and physiological (e.g., somatic distress). Santiago et al. (2023) found COVID-19 to be a significant stressor associated with anxiety and depression. During the pandemic, studies found healthcare workers, women, and the elderly expressed higher levels of death anxiety than younger people. In a recent study, one set of researchers found factors associated with death anxiety that included attitudes toward COVID-19, subjective proximity to death, and a history of COVID-19 contact (Özgüç et al., 2024).

Measures of the psychosocial states emanating from COVID-19 have been developed. For example, Ahorsu et al. (2020) developed a seven-item Fear of COVID-19 Scale that showed strong psychometric properties, but a limitation included the lack of a measure of anxiety specificity and sensitivity. In their systematic review of instruments and methodologies for measuring COVID-19 anxiety during the outbreak, Batista et al. (2021, p. 321) found studies that used the "Spielberger State-Trait Anxiety Scale (STAI); Sleep State Self-Rating Scale (SRSS); 7-item Generalized Anxiety Disorder Scale (GAD-7); Self-Rating Anxiety Scale (SAS); General Self-Efficacy Scale (GSES); Stanford Acute Stress Reaction (SASR) questionnaire; Pittsburgh Sleep Quality Index (PSQI); Social Support Rate Scale (SSRS); Impact of Event Scale-Revised (IES-R); Depression, Anxiety and Stress Scale (DASS- 21)." However, Batista et al. (2021) did not mention the Coronavirus Anxiety Scale (CAS). Lee (2020) developed the 5-item CAS as a health screener that discriminates between persons with dysfunctional anxiety and COVID anxiety. CAS can be readily used to identify associated dysfunctional anxiety.

Using the COVID-19 pandemic as context, Santiago et al. (2023) analyzed psychiatric disorders such as generalized anxiety disorder and depression as well as burnout syndrome and its risk factors in teachers from elementary to university. Generalized anxiety in teachers ranged from approximately 39% to 73%. These researchers found an increase in generalized anxiety among teachers during the pandemic when compared to pre-pandemic data. In their study of elementary

school teachers in Israel during the first two waves of COVID-19 and using structural equation modeling, Shimony et al. (2022) found that significant predictors of professional burnout were stress relating to remote teaching and support gaps.

Teacher Burnout and COVID-19 Anxiety

Pressley (2021) was among the first major studies that investigated the impact of COVID-19 on teacher burnout. Using a national sample of US teachers, Pressley found COVID-19 anxiety, current anxiety, anxiety with respect to communicating with parents, and lack of administrative support as significant predictors of teacher burnout. However, Pressley did not distinguish teacher burnout by grade level. In a meta-analysis, Ozamiz-Etxebarria et al. (2021), among the first to report on teacher stress, anxiety, and depression during the COVID-19 pandemic, found the overall prevalence levels of anxiety at 17%, depression at 19%, and stress at 30%. Of interest was that there were no differences between male and female teachers related to stress or anxiety. In a systematic review, Westphal et al. (2022) and Santiago et al. (2023) found teacher burnout did increase during the COVID-19 pandemic, but teachers showed no differences in stress compared to other occupations. Westphal et al. (2022) did not distinguish K-12 teachers by grade level. Santiago et al. (2023) found an inverse correlation between resilience and burnout. They also found factors associated with burnout among teachers included the need to develop new communication and technology skills, workload increase, work/family conflict, and difficulties with stress.

March 2020, when the coronavirus pandemic started, could be considered a point in time that forever changed the educational enterprise. The pandemic created a lot of uncertainty about the future and led to several changes, especially for teachers. Not only did schools worldwide temporarily shut down but for those that reopened learning environments were different. Some teachers pivoted into emergency remote teaching (ERT; Hodges et al., 2020), and their students began to meet virtually using platforms such as Zoom.

Before the pandemic, there were virtual learning environments. Notwithstanding, Robinson et al. (2023), in their investigation of teachers' experiences during the pandemic relied on National Center for Education Statistics data and noted that 3.4% of primary schools offered completely online classes; however, by the spring of 2021, almost half of these students were learning remotely. The widespread effects of COVID-19 on education included lower learning time from pre-pandemic norms (e.g., expected times dropped from five to four hours daily), and for Spring 2020, 17% of school districts reported that students received instruction not to teach new skills, but as review what was already taught, which metaphorically could be described as a "pandemic holding pattern" (Goldberg, 2021, p. 2). Diliberti and Schwartz (2021) reported that approximately 3% of districts ran a virtual school pre-pandemic, and this growth was ninefold post-pandemic. Of interest was that one-quarter of districts that were initially uninterested in virtual schooling in the 2021–2022 academic year showed some inclination to establish one in the future.

Some teachers were not prepared or trained to teach online in an emergency. Hodges et al. (2020) noted in an online magazine posting that it takes six to nine months to plan, prepare, and develop a fully online university course before it is ready for delivery. In the present study, the understanding of teaching online should be in the context of ERT, described as a temporary change in how instruction is delivered, shifting away from face-to-face or blended formats due to crisis circumstances, eventually returning to its original format (Hodges et al., 2020). Aslan et al. (2021)

found that teachers believed that curricula should be adjusted to meet online expectations, and technology training should be increased because some were not properly prepared. Gordy et al. (2021) found in their interviews that teachers faced challenges with virtual classes, such as taking more time and effort, being harder to turn off work, and collaborating with colleagues. In Bhutan, among primary school teachers, Dhendup and Sherab (2023) found that most preferred face-to-face teaching. Relating to preparation, some educators may not have learned in college how to teach elementary and middle students online. Due to virtual study, a host of problems resulted, such as inadequate institutional communication, an increase in school dropouts, and "the mental health of students affected due to the proliferation of episodes of anxiety, rebellion, apathy, and frustration" (Orejarena et al., 2021, p. 4756). In the 2021-2022 school year, not much changed. Educators across the world tried to put pieces back together from the impact March 2020 brought to everyone.

In the educational field, since the beginning of the pandemic, some researchers have examined the importance of added stress to educators' lives. Contributing to stress and burnout among teachers were lack of resources, difficulty handling students, and workloads (Robosa et al., 2021). Pressley et al. (2021) found that teachers had higher mean levels of anxiety at the beginning of the Fall 2020 school year than one month later. Pressley et al. (2021) posited that earlier levels of anxiety may be related to the expected use of technology for virtual learning and communicating with parents. Pressley (2021) conducted a study with 526 elementary teachers across the United States and found that teachers had low instructional and engagement efficacy scores. However, those elementary teachers who provided all virtual instruction had the lowest instructional and engagement efficacy scores.

During the pandemic, in a nationwide survey conducted in May 2022, Marshall et al. (2022) found more teachers said that they sought counseling for mental health issues during the pandemic. Notwithstanding, teachers who felt respected, trusted, and supported by parents and school administration were more satisfied with their jobs, and they were less likely to leave. Among middle school teachers, higher teacher burnout was associated with lower work commitment, higher turnover intention, and more depressive and anxiety symptoms (Gutentag et al., 2022). Another study found that when compared to all other education levels, higher education teachers had statistically significantly lower burnout scores, except for teachers in early childhood education. However, except for early childhood education, Ramos et al. (2023) found that the lower the educational level, the lower the quality of life and health scores.

Methods

Data was collected from a convenience sample ($N = 61$) which was drawn from a population of K-12 teachers from a rural, public school district in the mid-southern region of the United States. Only certified teachers and those teaching full-time were included. *A prior* analysis suggested an adequate sample size. This analysis was done with G*Power calculations using Power (.80) and medium effect size ($f^2 = .25$) with a Type 1 error rate (p-value = .05).

Sample

The participants were mostly female ($n = 44$, 72.1%) and White ($n = 51$, 83.6%). Teachers included African Americans ($n = 6$, 9.8%) and Asian Americans ($n = 1$, 1.6%). Most teachers (57.4%) reported 0-10 years of service, and 19.7% reported having 21-plus years. Most were teaching high school ($n = 38$; 62.3%), followed by middle school ($n = 18$; 29.5%) and elementary school ($n = 5$, 8.2%).

Data Collection

IRB was sought, and approval was granted. A Google form with a link to the questionnaire was sent to teachers in their respective schools. Participants who provided consent were able to access the questionnaire. Data collection was started and ended during the Fall 2021 semester. No personal data was collected, and access to the cloud storage of the data is by password. Data collection included demographic data on grade level, number of years teaching, gender, and ethnicity. In addition, data was collected on three Likert-type scales: COVID-19 anxiety, current anxiety, and teacher burnout.

Data Source

The instrument was a self-administered questionnaire that elicited information on grade level, number of years teaching, gender, and ethnicity. Included in the questionnaire were three scales: CAS (Lee, 2020), current anxiety, and teacher burnout (Seidman & Zager, 1987). The CAS is a five-question survey that asks respondents to rate their experience with stress and anxiety due to COVID-19 in the past two weeks. Each item is rated on a 5-point Likert scale to measure the frequency of the symptom ranging from 0 *(not at all)* to 4 *(nearly every day over the past 2 weeks)*. An example question is: *I felt nauseous or had stomach problems when I thought about or was exposed to information about the coronavirus.*

The CAS has strong psychometric properties. The PCA pattern/structure coefficients ranged from .81 to .84, commonality coefficients ranged from .74 to .79, and cross-loadings ranged from .23 to .29. Confirmatory factor analysis yielded excellent fit [χ^2/df ratio = 0.54; CFI = 1.00; TLI = 1.00; $SRMR$ = .01; $RMSEA$ = .00 (.00, .05; 90% CI)] and high reliability (α = .93). Receiver operating characteristic analysis suggests that a CAS score ≥ 9 classifies a respondent with a dysfunctional level of anxiety. The internal consistency for the present study is reported as high (α = .83). Current anxiety was measured using a two-item scale that asked respondents to rate their feelings of anxiety. Each item is rated on a 5-point scale to measure feelings of anxiety. The first question asks about anxiety at the beginning of the year, and the second asks about feelings of anxiety at the current moment. The first question is: *How did you feel at the beginning of the 2021 school year?* The second question is: *How do you feel in this moment about the 2021 school year?* The internal consistency of the current anxiety scale was moderate to high (α = .76).

The Teacher Burnout Scale (Seidman & Zager, 1987) is a 21-item instrument with four subscales: career satisfaction (five items), perceived administrative support (six items), coping with job-related stress (six items), and attitudes towards students (four items). Each item is rated on a 6-point scale, which ranges from *Strongly Agree* to *Strongly Disagree*. Two example questions are: I look forward to teaching in the future, and *I get adequate praise from my supervisors for a job*

well done. After factor analysis, *career satisfaction* accounted for 36% of the variance, while *attitudes toward students* accounted for 6%.

Predictive validity results suggested that teachers in low-stress/burnout schools were statistically different from those found in high-stress/burnout schools. Internal consistency for each scale was found to be high: career satisfaction ($\alpha = .89$), perceived administrative support ($\alpha = .84$), coping with job-related stress ($\alpha = .80$), and attitudes towards students ($\alpha = .72$). For the present study, the internal consistency for each scale is: career satisfaction ($\alpha = .90$), perceived administrative support ($\alpha = .55$), coping with job-related stress ($\alpha = .77$), and attitudes towards students ($\alpha = .73$). For the present study, the overall internal consistency is reliable ($\alpha = .89$). Higher scores on the burnout scale and subscales suggest higher measures of teacher burnout. SPSS v. 28.0 was used for computations.

Data Analysis

To answer the first research question, Spearman's rank-order correlation analysis was conducted. Spearman's rank-order correlation measures the strength and direction of the monotonic relationship between two ranked variables measured at either ordinal, interval, or ratio levels. It is the nonparametric equivalent of the Pearson product-moment correlation. To answer the second research question, the Kruskal-Wallis test was conducted using one independent variable with three levels (elementary school, middle school, and high school) and one dependent variable, COVID-19 anxiety. The Kruskal-Wallis is the equivalent non-parametric test for parametric ANOVA because of the violation of normality in one variable.

Findings

Figure 1 displays the means on teacher burnout subscales: *career satisfaction, administrative support, coping with job stress, and attitude towards students*. Elementary school teachers were found to be higher in COVID-19 anxiety ($M = 5.60$, $SD = 5.03$) than teachers in middle school ($M = 2.44$, $SD = 1.50$) and high school ($M = 2.06$, $SD = 2.95$). Three respondents were found to have scores greater than nine. According to Lee (2020), these scores indicate dysfunctional levels of COVID-19 anxiety. Of these three, one each taught in high, middle, and elementary school.

Figure 1. Means[*] on Teacher Burnout Subscales ($N = 61$)
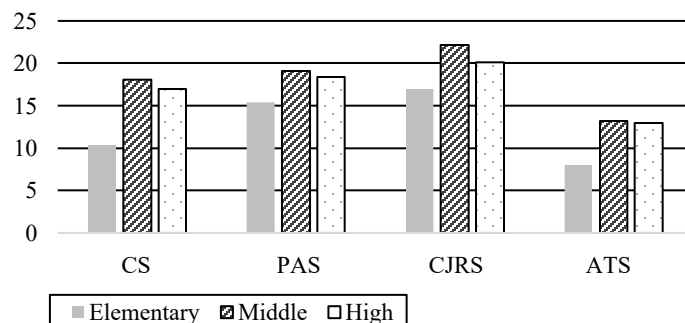
Note. CS = Career Satisfaction; PAS = Perceived Administration Support; CJRS = Coping With Job-Related Stress; ATS = Attitudes Towards Students. *Higher scores indicate less satisfaction with their careers, less perceived administrative support, less ability to cope with job-related stress, and a negative attitude towards students.

The elementary school teacher was highest in COVID-19 anxiety, followed by the high school teacher. Although the middle school teachers were lowest in COVID-19 anxiety, they scored highest in burnout score. Teacher burnout (M = 68.59, SD = 17.64) differed among the groups. Burnout was highest for middle school teachers (M = 72.50, SD = 15.07) than for high school (M = 69.11, SD = 17.92) and elementary school (M = 50.60, SD = 15.98). Table 1 displays descriptive statistics for the variables of interest. Teachers self-reported feelings of anxiety at the beginning of the school year (M = 3.07, SD = 1.13) were higher than current feelings of anxiety measured at the end of November when the questionnaire was administered (M = 2.86, SD = 1.25).

Table 1. Descriptive Statistics of Variables of Interest in the Study

Variable	*M*	*SD*	Min.	Max.	α
COVID-19 anxiety	2.47	3.30	0	13	
Beginning of year anxiety	3.07	1.13	1	5	
Current anxiety	2.86	1.25	1	5	
Scale	*M*	*SD*	Min.	Max.	α
Teacher burnout*	68.59	17.64	27	99	.89
Career satisfaction	16.89	6.40	5	30	.90
Elementary school teachers	10.40	1.86	6	17	
Middle school teachers	18.06	1.43	6	30	
High school teachers	17.00	1.08	5	30	
Perceived admin support	18.41	4.20	11	33	.55
Elementary school teachers	15.40	1.91	11	22	
Middle school teachers	19.06	1.36	11	28	
High school teachers	18.39	4.50	11	33	
Coping with job-related stress	20.57	6.52	6	35	.77
Elementary school teachers	17.00	2.41	13	26	
Middle school teachers	22.17	1.46	11	30	
High school teachers	20.11	1.14	6	35	
Attitudes towards students	12.72	3.79	5	19	.73
Elementary school teachers	8.00	1.30	6	13	
Middle school teachers	13.22	0.91	6	19	
High school teachers	12.94	0.58	5	18	

Note. *Higher scores indicate more burnout and on subscales less satisfied with career, less perceived administrative support, less ability to cope with job-related stress, and negative attitude towards students.

What is the Strength of the Relationship Between Level of COVID-19 Anxiety, Current Level of Anxiety, and Teacher Burnout?

After an inspection of histograms to test for normality, the Shapiro-Wilks test showed that teacher burnout, $W(61)$ = .968, p = .119, was normally distributed for all items, except COVID-19 anxiety, $W(61)$ = .781, p = < .001, which was positively skewed. Spearman's rank-order correlations were conducted to examine the relationships between levels of COVID-19 anxiety, Current anxiety, and Teacher burnout. There was a positive and significant relationship between COVID-19 anxiety and current anxiety, $r_s(59)$ = .330, p = .011, CI [.073, .546], and between current anxiety and teacher burnout, $r_s(59)$ = .485, p < .001, CI [.259, .661]. The relationship between COVID-19 anxiety and teacher burnout was not significant, $r_s(59)$ = .130, p = .328 (see Table 2).

Table 2. Spearman Rank-Order Correlations

Variable	1	2	3
1. COVID-19 anxiety	-	-	-
2. Current anxiety	.330*	-	-
3. Teacher burnout	.130	.485**	-

*Note. *p* < .05, **p* < .001*

Are Teachers from Elementary School, Middle School, and High School Different in Levels of Burnout?

A Kruskal-Wallis test revealed a statistically significant difference in teacher burnout across the three grade levels, χ2 (2, $N = 61$) = 6.20, p = .045. Teacher burnout was lowest amongst elementary school teachers ($M = 47.00$) when compared to middle school ($M = 74.00$) and high school teachers ($M = 71.00$). The subscales, career satisfaction and attitudes towards students, were statistically significant. Career satisfaction, χ^2 (2, $N = 61$) = 6.13, p = .047, was different for elementary school teachers ($M = 10.00$) when compared to middle school ($M = 18.00$) and high school teachers ($M = 18.00$).

On specific sub-scales, results in attitudes towards students were found to be different across the three grade levels, χ^2 (2, $N = 61$) = 7.27, p = .026. Attitudes towards students were different for elementary school teachers ($M = 7.00$) when compared to middle school ($M = 12.50$) and high school teachers ($M = 13.00$). Perceived administrative support was not different across the three grade levels, χ^2 (2, $N = 61$) = 2.291, p = .318. Perceived administrative support was no different between elementary school teachers ($M = 14.00$) when compared to middle school ($M = 20.00$) and high school teachers ($M = 17.50$). Coping with job-related stress was not statistically different across the three grade levels, χ^2 (2, $N = 61$) = 3.361, p = .186. *Coping with* job-related stress was no different for elementary school teachers ($M = 14.00$) when compared to middle school ($M = 23.00$) and high school teachers ($M = 20.00$).

Discussion

The purpose of this study was to explore the relationship between COVID-19 anxiety and teacher burnout. The present study contributes to added research relating to COVID-19-related anxiety on teacher burnout. Specifically, the current study's purpose was to explore COVID-19-related anxiety on teacher burnout during the pandemic among teachers within a rural community. Understanding the relationship between anxiety during a pandemic and burnout among teachers at differing grade levels is important as it relates to how we prepare and treat teachers during a health crisis. The researchers asked the following research questions:

- What is the strength of the relationship between the level of COVID-19 anxiety, the current level of anxiety, and teacher burnout?
- Are teachers from elementary school, middle school, and high school different in levels of teacher burnout?

The data suggest a positive and significant relationship between COVID-19 anxiety and the current level of anxiety. There was also a significant relationship between the current level of anxiety and teacher burnout. However, in this sample, there was no statistically significant relationship between COVID-19 anxiety and teacher burnout. The significant relationship between COVID-19 anxiety and the current level of anxiety suggests that COVID-19 anxiety as a construct may be

within the same domain as other forms of anxiety. It is well supported in the literature that anxiety is a unidimensional construct. Anxiety has been understood in the literature as a psychological construct. Generalized anxiety is manifested in behavioral (e.g., dysfunctional activities), cognitive (e.g., worry), emotional (e.g., fear), and physiological (e.g., somatic distress). COVID-19 was found to be a significant stressor associated with anxiety and depression Santiago et al. (2023). During the pandemic, studies found healthcare workers, women, and the elderly expressed higher levels of death anxiety than younger people. Attitudes toward COVID-19, subjective proximity to death, and a history of COVID-19 contact were found to be factors associated with death anxiety (Özgüç et al., 2024). Although there have been different measures of anxiety related to the COVID-19 pandemic (Batista et al., 2021), Lee's COVID-19 anxiety instrument was developed as a health screener, and content validity supported items that measured symptoms associated with elevated fear and anxiety (Lee, 2020; Silva et al., 2020). Given anxiety as unidimensional, the correlation between COVID-19 anxiety and the current level of anxiety provides as it relates to how different populations, including teachers, experienced the pandemic psychologically.

An explanation for the significant correlation between COVID-19 and current anxiety is the wording of the question relating to the current anxiety level. This question was framed to be answered using a two-item scale. Another explanation is that other forms of stressors may be present among teachers. Possible stressors found included improper work-life (Mulyani et al., 2021) and perceived lack of support from administrators (De Clercq et al., 2021; Pressley, 2021). Given these possible stressors, the question could be raised about the extent to which COVID-19 anxiety can be used with other anxiety scales for validation (Silva et al., 2020). More studies relating to COVID-19 as a separate construct from other forms of anxiety would be needed. In fact, Batista et al. (2021) provided an extensive systematic review of some instruments for measuring COVID-19 anxiety developed during the pandemic.

The relationship between current levels of anxiety and teacher burnout is a concern. In this sample, the mean differences in stress at the beginning of the year were higher than closer to the end of the fall semester. This result is supported by findings by Pressley et al. (2021), who also found that teachers' anxiety levels for returning to school during week one of the Fall 2020 school year were higher when measured one month later. Pressley et al. (2021) posited that earlier levels of anxiety may be related to the expected use of technology for virtual learning and communicating with parents. These findings were also in line with (Shimony et al., 2022; Trinidad, 2021). Perceived lack of support from administrators (De Clercq et al., 2021; Pressley, 2021) was found to be a stressor for teachers during the pandemic. Jackson et al. (1986) found that teachers with high personal accomplishments were in supportive environments. Akbaba Altun and Bulut (2023) found that administrators should provide psychological support not only for students but also for teachers; administrators should motivate teachers to keep morale high.

Teachers at all levels need to be supported by parents and school administration were more satisfied with their jobs since they were less likely to leave (Marshall et al., 2022). Among middle school teachers, higher teacher burnout was associated with lower work commitment, higher turnover intention, and more depressive and anxiety symptoms (Gutentag et al., 2022). To avoid burnout by teachers, they need to feel supported through pandemics and stressful times.

In the present study, burnout was lowest amongst elementary school teachers and highest for middle school teachers. These results align with a Brazilian sample where it was found that middle and high school teachers indicated higher levels of burnout than elementary school teachers (Ramos et al., 2023). Westphal et al. (2022) found that in their systematic literature review, teacher burnout increased during the COVID-19 pandemic, but teachers had no differences in stress compared to other occupations. Diliberti and Schwartz (2021) found that 44% of teachers said that the COVID-19 pandemic was one reason for leaving the profession. When compared with those who left before the pandemic, 56% left because they were stressed and disliked how their school was managed. For those who left because of the pandemic and did not rank stress as the top reason to leave, two-thirds showed that stress was one of their COVID-19-related reasons for leaving.

Teacher burnout seems to exist differently across grade levels, but COVID-19 anxiety as a contributory factor still needs to be understood when ERT is implemented. Pressley (2021) found COVID-19 anxiety as a significant predictor of teacher burnout. Pellerone (2021) found that burnout increased along with reduced personal accomplishment. Pellerone suggested that this result was probably due to the sense of losing "the ability to manage behavior in physical proximity and experiencing uncertainty about ways of managing behavior while online due to distance" (p. 509). However, they posit that younger-generation teachers may have been more comfortable using online tools. Aslan et al. (2021) found that during ERT, middle school teachers reported concerns about having difficulty in achieving affective and psychomotor objectives. Meletiou-Mavrotheris et al. (2023) found teachers suggested that ERT is an opportunity to transform teaching and learning. They noted innovative e-learning tools and technologies can be used to enhance education, especially in mathematics. Also, teachers noted that the lockdown provided an opportunity for students to become more autonomous and play a more active role in their learning, which could be positive for students and teachers. Taken together, these factors may show teachers that they have support from administration which can help to alleviate teacher stress, and less stressors, in turn, may lead to less burnout.

Theoretical Implications

Administrators need to be aware that during pandemics, teachers may begin the school year with a heightened sense of concern about virtual learning. As a result, before the school year begins, teachers need to be reassured about the challenges they will meet and be provided with training and tools to mitigate their concerns. Teacher burnout may be related to other factors other than COVID-19. Measures of association between teacher burnout and specific anxiety stemming from the pandemic should be examined with longitudinal designs (Westphal et al., 2022). Pandemic preparation for the future, especially with teachers, is important. Teasing apart the data, administrative support and job-related stress subscales were consistent across grade levels. There needs to be policies, practices, and procedures to increase administrative support and decrease stress levels for teachers, especially during a pandemic.

Practical Implications

It is important to understand teachers' intentions post-pandemic. A sample of teachers in Vietnam (Khong et al., 2023) corroborated other studies that teachers who intend to teach online post-pandemic and if necessary are innovative, they need support, training, and infrastructure. These researchers found that training, support from schools, resources, and infrastructure positively

influence perceptions and intentions to teach online. Implications for teacher education programs include increased training in online tools and awareness of coping mechanisms. Although there are arguments that younger teachers may be comfortable using technology, the use of these tools during a pandemic state should not be taken for granted. Training all teachers on how to use online teaching tools is not a single-approach solution. All aspects of school cannot replace face-to-face learning since schools still give social learning opportunities to students (Westphal et al., 2022).

Professional development opportunities should be provided to combat teacher burnout with an emphasis on emotional intelligence (Chan, 2006). Administrators need to know that perceived administrative support and coping with job-related stress are factors present among K-12 that contribute to indications of higher teacher burnout. The growth of virtual schooling and teacher burnout in those environments will be of interest. Teacher burnout is not a new phenomenon being studied. There are several studies on teacher burnout and associated factors and causes (Madigan & Kim, 2021). On the contrary, COVID-19 anxiety has not been thoroughly understood. This is a new phenomenon being studied and analyzed; thus, some limitations exist.

Limitations and Future Research

Generalizing these results nationwide should be done with caution. The analytical approach used was a correlation; however, correlation does not imply causation. There needs to be a test of more variables. There is a need to get a better understanding of COVID-19 and generalized anxiety. The present exploratory study did not control for gender, years of experience, or subject taught. The sample and cross-sectional design place a limitation on generalizations from the study. Another limitation is the cross-sectional design. This study relied on a small convenience sample of rural teachers in one region of the United States. Participants are predominately female and White. In addition, this was a cross-sectional study with data collected at a particular point in time. It is important to recognize that the COVID-19 pandemic was among several factors that might affect teachers' mental health (Hirshberg et al., 2023).

More studies need to be done to examine teacher anxiety and student responses after the COVID-19 pandemic. Gender differences, years in the teaching profession, and subject areas should be examined. Studies should examine college and high school seniors who were graduating when the lockdowns occurred, as well as college-level faculty. Taken together, teacher burnout and COVID-19 Anxiety are not only affecting teachers. Replication of this study using the same school and participants in the post-pandemic could be of interest as it relates to longitudinal changes. Results could be of interest to help establish the relationship between COVID-19, the current anxiety link, and teacher burnout.

Conclusion

Teacher burnout is affecting students. Relationship building can suffer due to teacher disengagement since it affects the quality of students' learning experiences (Anderson et al., 2021). With school closures, absences due to quarantines, and seclusion from others, it is no wonder teachers struggled during the pandemic. Teachers put much pressure on themselves because of their COVID-19 anxieties. COVID-19 made a major impact on the education profession. Dealing with stress led many teachers to have feelings of burnout or even quit the profession altogether (Diliberti & Schwartz, 2021). Marshall et al. (2022) posited that policymakers and school leaders

alike need to find pathways of support for talented teachers already in the classroom, otherwise, teachers will leave the profession.

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