



More Than Strength from Within: Cultivating Teacher Resilience During COVID-19

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Abstract: Significant added stressors during the COVID-19 pandemic are likely to compound and exacerbate historic concerns about burnout and turnover within the teaching profession. This study used a convergent mixed methods design to investigate experiences of teacher well-being in the beginning months of the COVID-19 pandemic. Specifically, quantitative surveys investigated relationships among stress, school connectedness, and teacher efficacy among 146 teachers. Interviews with 16 teachers explored their qualitative perceptions of well-being, how they personally navigated the challenges of teaching remotely, and what their school and/or districts did to support teacher well-being. Interviewed teachers could be classified as growing, coping, or discouraged. Findings suggest that both individual and environmental factors contributed to a sense of well-being among growing and coping teachers.

Keywords: teacher well-being, resilience, COVID-19

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Introduction

Under normal circumstances, teacher burnout and attrition are systemic problems, with significant numbers of teachers in the United States experiencing pervasive symptoms of psychological distress, stress, and burnout (Jennings et al., 2017; Roffey, 2012). Burnout affects teachers' physical and mental well-being and ultimately impacts the academic and social-emotional experiences of the students they teach (Fleming et al., 2013; Jennings et al., 2017; Roffey, 2012). Within the context of a worldwide pandemic and great economic uncertainty, teachers' physical and mental well-being is at risk, with many experiencing heightened levels of stress or anxiety (Bushweller, 2020; Hamilton et al., 2020; Kraft et al., 2020). Additionally,

exacerbated inequalities have led many teachers to struggle to meet the needs of all students (Bushweller, 2020; Reich et al., 2020). Yet, in spite of the great challenges facing educators during this time, some teachers have exhibited incredible resilience and maintained a sense of workplace well-being.

Recent literature has investigated not only why teachers leave the profession but also what makes teachers stay and what factors contribute to teacher well-being (McCallum et al., 2017; Walter, 2020). Protective factors at the individual and environmental levels, such as high levels of teacher-efficacy or strong connections with peers and colleagues, can support well-being (Jennings et al., 2017; Renshaw et al., 2015). Increased school support and connectedness can serve as a buffer for morale (Kraft et al., 2020; Ladd, 2011), which may be all the more critical during the COVID-19 pandemic. Thus, the current study investigated protective factors at the individual and environmental levels that may have been associated with teacher well-being in the beginning months of the pandemic (i.e., spring 2020).

Literature Review

In this study, we address several factors associated with teacher well-being, including teacher stress, teacher efficacy, perceptions of school connectedness, and teacher resilience. We review the literature related to teacher stress, efficacy, and connectedness and how these constructs are associated with various levels of teacher resilience and well-being.

Teacher Stress

Over the past few decades, there has been considerable interest in teacher stress as an indicator of subjective well-being. Stress is broadly defined as strain (physiological or psychological) experienced by a person when striving to meet changing demands from one's environment (Carson et al., 2000; Renshaw et al., 2015). In educational contexts, changing demands related to instructional standards, accountability, and evaluation have placed considerable stress on teachers (Renshaw et al., 2015). Work-related stress among teachers has been associated with burnout and a number of other negative outcomes, including low job satisfaction, poor student outcomes, and attrition (Skaalvik & Skaalvik, 2009; Grayson & Alvarez, 2008; Spilt et al., 2011). During the COVID-19 pandemic, teachers were expected to transform their classrooms virtually overnight, often with limited support or preparation. Changing demands from school and district administrators likely led to increased stress among teachers, and there has been considerable concern that many teachers would choose to leave the profession as a result of such heightened demands (EdWeek Research Center, 2020).

Teacher Well-being

Despite growing interest in factors associated with teacher well-being, most research has relied on targeting negative indicators (e.g., stress and burnout) at the exclusion of positive aspects of teachers' work (Renshaw et al., 2015). Positive indicators of teacher well-being—such as efficacy, positive affect, or relationships with students and colleagues—have been associated with a number of critical educational outcomes, including teacher effectiveness, student well-being, classroom climates, and retention (Collie et al., 2015; Renshaw et al., 2015). Among these indicators, teacher self-efficacy and prosocial relations, including connectedness to one's school, have repeatedly demonstrated strong predictive validity of teacher stress and burnout (de Biagi et al., 2018; Mankin et al., 2018; Renshaw et al., 2015). These factors may also be critically

important to maintaining a sense of well-being during significant crises or periods of stress, such as teaching during the COVID-19 pandemic.

Teacher Efficacy

Teacher efficacy is the degree to which teachers believe they are able to effectively support student engagement and learning (Bandura, 1977). Teacher efficacy has been associated with many significant educational outcomes, including teacher retention, job satisfaction, and student achievement (Tschannen-Moran & Hoy, 2001). Teacher efficacy has also been linked to greater levels of persistence and resilience when faced with challenges or setbacks (Kraft et al., 2020). Levels of efficacy vary according to teachers' levels of experience, school setting, and student population (Podolsky et al., 2019).

Teacher efficacy is also impacted by crises (e.g., natural disasters). In a crisis, teachers may experience a feeling of "role overload" from responding to multiple demands and supporting the well-being of their students and impacted communities. This can decrease their sense of efficacy (Seyle et al., 2013). Given the abrupt transition to remote teaching in spring 2020 and related reductions in school morale (EdWeek Research Center, 2020), it is possible that teachers experienced a decrease in efficacy. Prior research indicates that low levels of efficacy are associated with higher levels of burnout and attrition and lower levels of student achievement and engagement (Wong et al., 2017).

School Connectedness

Feeling connected to and supported by colleagues at work has been found to contribute to general workplace well-being and satisfaction, and this appears to be the case for teachers as well (Renshaw et al., 2015). Teachers who reported collegial support and a good atmosphere at work tended to have stronger occupational well-being (Renshaw et al., 2015). Those in negative atmospheres, such as schools experiencing friction in their community or a lack of leadership, reported lower levels of well-being (Bower & Carroll, 2017; Kern et al., 2014).

Recent studies of teacher experiences during the spring of 2020 have shown that factors associated with school connectedness, such as the principal's leadership, collegial relationships, and the school's organizational culture, mattered most to teachers (Kraft et al., 2020). Schools that experienced the greatest success with remote teaching and learning relied on flexible, team-oriented cultures to navigate uncertainty amidst the global pandemic (Greenberg, 2020; Kraft et al., 2020). When teachers feel disconnected from their students and colleagues and increasingly isolated, as may have been the case for many during the spring of 2020, they are more likely to leave the profession (Johnson & Birkeland, 2003). Ensuring teachers feel supported and that they are part of a team is critical under any circumstance but may be particularly important during periods of crisis or transition.

Teacher Well-being and Resilience

Resilience has typically been used to describe individuals' capacity to adapt or even thrive despite adversity (Beltman et al., 2011). Resilience in the face of adversity may not be a response to a specific traumatic event but can also include one's daily response to accumulating challenges (Clara, 2017). More nuanced understandings of resilience have suggested that resilience is a complex process resulting from the interplay between risk and protective factors at both the individual and environmental levels (Beltman et al., 2011; Ungar, 2012). Those who do

exhibit resilience are more likely to experience professional engagement, motivation, satisfaction, and well-being (Beltman, 2015; Mansfield et al., 2012).

At the individual level, teachers who exhibit resilient traits, such as a sense of efficacy and accomplishment, flexibility, a sense of purpose, or use of coping strategies, may be more likely to persevere in spite of challenging circumstances (Mansfield et al., 2012). In contrast, teachers who have greater difficulty coping with the emotional demands of their work are at higher risk of stress and burnout (Mansfield et al., 2012).

Social-ecological perspectives of resilience emphasize the significant impact of the environment in which individual teachers are situated (Beltram, 2015; Unger, 2012). Environmental contributors can include new teacher support (e.g., mentors, pre-service experiences), positive relationships with colleagues and school administrators, a positive school culture, and positive experiences while working with students (Ainsworth & Oldfield, 2019; Howard & Johnson, 2004; Mansfield et al., 2012). Critical perspectives of teacher resilience (e.g., Johnson & Down, 2013; Price et al., 2012) also emphasize the importance of context, questioning whether the term “resilience” has become a “means to enable overworked teachers” to cope with the intense pressures of capitalism and globalization rather than attempting to resist or change toxic systems (Price et al., 2012, p. 84).

Resilience and well-being are arguably related but distinct constructs (Harms et al., 2018). The relationship between resilience and well-being is likely bidirectional, and it may also be the case that under duress, resilience serves as a moderator between stress and well-being (Harms et al., 2018). Resilient individuals may be more likely to maintain a strong sense of well-being when confronted with stress. It is also likely that individuals with a strong sense of well-being may be more likely to exhibit resilient behaviors (Harms et al., 2018). As described above, resilience involves both individual and contextual factors. Thus, cultivating teacher resilience to support or maintain workplace well-being during periods of high stress should involve attention to the structure and institutional nature of teachers’ work (including school management and culture) as well as individual teacher dispositions (Ainsworth & Oldfield, 2019). Given the challenges associated with teaching during the COVID-19 pandemic, researchers were interested in how teachers experienced stress and well-being and if their individual actions and those of their schools supported resilient responses to facilitate well-being.

Research Purpose

The purpose of this study was to investigate teachers’ perceptions of their well-being and stress during the first few months of the pandemic (i.e., spring 2020) and the extent to which their personal actions and school or district leaders facilitated resilient responses. Specifically, this study asked the following research questions:

1. What were teachers’ levels of perceived stress according to the Perceived Stress Scale (Cohen, 1983) and teacher well-being according to the Teacher Subjective Well-being Scale (Renshaw et al., 2015) during the beginning of the COVID-19 pandemic in spring 2020?
2. What individual and environmental factors contributed to teachers’ resilient response and subsequent well-being during the beginning of the COVID-19 pandemic in spring 2020?

Methods

This study used a convergent mixed methods design (Creswell & Plano Clark, 2017) in which quantitative and qualitative data were collected simultaneously, followed by separate analyses of each data set. For logistical purposes, teachers participated in interviews after taking the surveys, but quantitative analyses did not inform qualitative data collection methods. Following analyses of each data set, quantitative and qualitative data were then merged for interpretation. The integration of quantitative and qualitative data allowed for a more complete understanding of what factors contributed (i.e., individual or environmental) to teacher well-being during COVID-19 than either data set alone (Creswell & Plano Clark, 2017).

Data Collection

A team of two researchers collected quantitative and qualitative data over the course of two months in the spring of 2020. Participants were recruited using snowball convenience sampling. All participants (a) were at least 18 years old; (b) held a teacher licensure in the United States (c) were teaching full time; (d) were teaching remotely due to mandated physical distancing and school closures at the time of the study; and (e) taught in grades K-12. This study was approved by the university's Institutional Review Board (IRB). Surveys were completed online, and interviews were conducted via video call (e.g., Zoom).

Sample

The full sample consisted of 146 participants. A majority (85%) of participants were female. Participant age ranged from 20s ($n = 18$) to 60s ($n = 13$), with most teachers in their 30s ($n = 53$). Most participants ($n = 85$) had over ten years of experience; 55 had 3 - 10 years of experience, and six were in their first or second year of teaching. Most teachers worked in a public school ($n = 110$), though some were in private settings ($n = 25$) or in a public charter school ($n = 10$). Most participants reported teaching elementary school (K - 5th; $n = 93$), 22 reported teaching middle school, 22 reported teaching high school, and six reported teaching grades K - 8. Sixteen participants from the quantitative sample opted into an interview. Among the interview participants, seven self-reported that they were special education teachers. Interview participants represented a range of ages, settings, and years of teaching (see Appendix A for additional details).

Quantitative Data Collection

Teacher participants responded to two survey instruments measuring stress and well-being. Researchers administered the Perceived Stress Scale (Cohen, 1983) and the Teacher Subjective Well-being Scale (Renshaw et al., 2015). Teacher participants also self-reported demographic information (e.g., gender, school setting, years of experience, grade level).

Perceived Stress Scale

The Perceived Stress Scale (PSS; Cohen et al., 1983) is a widely used 10-item instrument that measures participants' perceived levels of stress over the past month (e.g., "In the last month, how often have you felt nervous and stressed?"; Vallejo et al., 2018). Participants responded on a 5-point Likert-type scale (0 = never, 4 = often). Four items are reverse coded, and then an average score is taken across all items. High scores indicate high levels of stress. In this study, the PSS showed strong internal reliability ($\alpha = .89$).

Teacher Subjective Well-being Scale

The Teacher Subjective Well-being Questionnaire (TSWQ; Renshaw et al., 2015) is an 8-item instrument that includes two subscales related to teachers' well-being: (a) a teacher's efficacy (e.g., "I am a successful teacher") and (b) a teacher's sense of school connectedness (e.g., "I feel like I belong at this school"). Teacher efficacy and connectedness have consistently demonstrated strong structural properties, and there is evidence of strong external validity for these constructs among diverse populations of teachers (Arslan, 2018; de Biagi et al., 2018; Mankin et al., 2018; Renshaw et al., 2015).

On the TSWQ, participants respond to items using a 4-point Likert-type scale (1 = almost never, 4 = almost always). Scores on each subscale were calculated independently; high scores reflect high levels of connectedness and efficacy. Internal reliability estimates on the TSWQ school connectedness and TSWQ teacher efficacy subscales for this study were high ($\alpha = .80$, $\alpha = .88$).

Qualitative Data Collection

Participants had the option to participate in an interview at the conclusion of the survey. Two researchers, who were special education teachers and now pk - 12 university special education and teacher preparation researchers, conducted virtual interviews that lasted 30 - 60 minutes. Interview questions were semi-structured and asked teachers to describe their experiences related to well-being during the spring of 2020 (e.g., "how has your well-being changed as a result of remote teaching?"). This method was chosen so that we were able to elaborate on questions and probe participants further if necessary. Teachers were also asked to talk about factors that supported their well-being at the individual and school level during the pandemic. Interviews were audio-recorded and transcribed by the authors. Several measures were taken to establish trustworthiness throughout the study, including member checking and triangulation. Interview questions were checked by content experts, and participants were asked to review interview transcripts for accuracy and clarity (Lincoln & Guba, 1985).

Data Analysis

Quantitative descriptive statistics were analyzed using Microsoft Excel and SPSS v. 27 to identify trends across participants. Qualitative analysis included a three-cycle coding process. First, participant interviews were open-coded by two researchers using MAXQDA 2020. Based on the emergent codes, researchers created a codebook that included individual and environmental factors affecting teacher well-being. The codebook was then applied to all interviews. Finally, researchers assigned participants profiles according to their perceptions of well-being during the spring of 2020. Specifically, researchers examined the level of support received by participants (e.g., school, colleagues) and classified the level of professional support as low, medium, or high. Researchers also examined participants' personal disposition toward work (e.g., positive versus discouraged), coping strategies (e.g., effective versus ineffective), and sense of professional efficacy (e.g., believed they could be successful versus did not think they would be successful). Participants were then coded according to one of three categories. Those with generally low support and a pessimistic outlook, ineffective coping strategies, or low professional efficacy were identified as "discouraged." Participants who reported low support but expressed a positive outlook, effective coping strategies, or strong professional efficacy were identified as "coping." Finally, participants who expressed strong support and a positive outlook, effective coping strategies, or strong professional efficacy were identified as "growing."

When conducting qualitative analyses, it is important to consider how researchers can ensure that findings are trustworthy. One approach for supporting validity in qualitative research is peer debriefing (Creswell & Miller, 2000). A peer debriefer reviews the research and analysis process, challenging the researchers to justify their research decisions and pushing their next steps methodologically (Lincoln & Guba, 1985). In the current study, a third researcher initially served as a peer debriefer after qualitative and quantitative analyses were complete, then remained engaged in the research process to support integrated analyses, interpretation, and writing. The three researchers integrated quantitative and qualitative data for the purpose of triangulation and expansion (Greene et al., 1989). Participants' quantitative scores were compared to participants' qualitative profiles using a data matrix and visual display (see Figures 1 and 2). The integration of quantitative and qualitative data allowed for a more complete understanding of what factors contributed (i.e., individual or environmental) to teacher well-being during COVID-19 than that provided by either data set alone (Creswell & Plano Clark, 2017).

Results

Quantitative results

Researchers calculated descriptive statistics for all participants ($n = 146$) as well as among those who participated in interviews ($n = 16$). Mean, standard deviation, median, and range were calculated for each scale and subscale across all participants. Teachers' reported stress levels varied from 0.20 (low stress) to 3.10 (high stress) and, on average, were moderate ($M = 1.85$, $SD = 0.61$). School connectedness levels as measured by the TSWQ ranged from 1.50 to 4.00. Average connectedness was 3.23 ($SD = 0.61$), suggesting that most participants tended to feel positively about their level of school connectedness. Teacher efficacy levels as measured by the TSWQ ranged from 1.75 to 4.00. On average, efficacy levels were also high ($M = 3.45$, $SD = 0.54$). Mean, standard deviation, median, and range were also calculated among interview participants and compared to the larger sample. Independent samples *t*-tests confirmed that there were no significant differences between the full group and the interview group.

Pearson's correlations between scales were also analyzed. School connectedness and perceived stress were significantly inversely correlated ($r = -.35$, $p < .01$); efficacy and perceived stress were also significantly inversely correlated ($r = -.32$, $p < .01$); school connectedness and efficacy were significantly positively correlated ($r = .44$, $p < .01$). This suggests that individuals with higher levels of school connectedness and teacher efficacy tended to have lower levels of perceived stress. Although the average levels of teacher well-being and stress indicate that many participants appeared to cope well in the midst of the COVID-19 pandemic, the wide range of responses suggests that some participants may have coped better than others.

Qualitative Results

Teachers' well-being was affected by factors at the individual and environmental levels. Using response patterns based on these factors, researchers identified three groups, including teachers who were (a) growing, (b) coping, and (c) discouraged.

Individual Factors

Individual factors influence how one copes with environmental factors and persists in response to stress or adversity. Individual factors as defined by the current study included positive dispositions, confidence, coping skills, self-care strategies, and desire for professional

growth. Having a positive disposition, including a commitment to student learning and the ability to reframe challenging situations, was important for teachers' sense of well-being. Many teachers with a positive disposition talked about how they tried to see the "silver lining" in challenging situations or focus on things that were going well, such as improved parent relationships, rather than on everything that was hard. For example, one teacher stated that they could "accept that I am doing the best that I can and adopt a growth mindset" (PID 2624). Teachers also talked about gaining confidence over time and that this helped them feel better about their job, especially when working with colleagues. One participant shared how feeling that "we are all rowing in the same boat" helped her have a positive attitude (PID 5518). As they got used to new technological tools and online teaching, they felt more efficacious. Others discussed specific coping strategies, including setting boundaries around their work. Additionally, motivation to learn and grow through professional development opportunities came up as an important contributor to well-being. Lastly, self-care was mentioned by many teachers who tried to manage their stress and well-being by taking lunch breaks, talking with friends, asking for support, or exercising.

Environmental Factors

Teacher participants also described environmental factors that contributed to their well-being. Environmental factors included teachers' interactions with others and the availability of resources, including district interactions or support, school administrator and peer support, family and friends, and working with students. These interactions ranged from very positive to very negative depending on the individual teacher and school environment. District supports included free resources, professional development opportunities, empathetic superintendents, acknowledgment of physical or mental health needs, or flexibility with work schedules. School administrator support included tangible support (e.g., technology) as well as emotional support. Some teachers described very "aloof" administrators, whereas others felt their school leaders were working around the clock to protect teacher well-being and support learning. One participant, for example, felt relief when she received "weekly emails from my superintendent" (PID 2715), while another thought administrators "were forcing them to teach in a one-size-fits-most approach," which was not the way she was used to teaching (PID 2622). Many teachers also brought up the role of peer support—either socially connecting with colleagues online or collaborating with other teachers to adapt to online teaching. Participants discussed the importance of relying on friends and family for emotional support as well as for household needs. Finally, teachers discussed working with students. For some, the move to virtual learning ruptured student-teacher relationships; for others, it encouraged more one-on-one time and fostered a sense of meaning or purpose. Teachers who generally felt more supported by their environment tended to report better overall experiences during the spring of 2020 than those who felt less supported.

Growing Teachers

Six of the 16 teachers interviewed were identified as "growing" or having high levels of social and school-based support as well as strong individual coping strategies that allowed them to learn and grow as professionals. This group of teachers tended to describe their experiences more positively than other participants. They felt that teaching remotely may have presented challenges but had not been an entirely negative experience. Growing teachers had a more optimistic outlook than others, some sharing that this experience helped them improve as individuals or professionally. For example, one teacher specifically stated that her health

improved because she was able to eat better and get outside for walks more frequently (Participant ID 2002), and others shared the virtual classroom helped them learn new skills.

Growing teachers spoke about environmental factors that contributed to their well-being, such as positive administrator and district support. Teachers described administrators as “awesome” (PID 7461), highly effective, and understanding of what teachers needed during a crisis. Strong social networks and school connectedness amongst family and friends were major themes that growing teachers focused on. These teachers relied on others in their school community for support. One teacher specifically talked about how colleagues helped each other through virtual formats: “[We] really were there for each other and there was a lot of conversation, and it was great. If someone was overwhelmed it was like, we can work this out” (PID 1164). Another described frequent team check-ins as beneficial, sharing, “we have a group meeting where everybody just checks in every day and says, good morning, [and] makes sure everybody is okay” (PID 1686).

Many growing teachers found comfort in their family and friends. One teacher explained that “even though we were doing it remotely, I’m still staying connected with my church. So, I think that’s probably what really helps me to get through” (PID 7461). Another described leaning on her family to help with household responsibilities and taking care of elderly parents (PID 2002).

Lastly, growing teachers mentioned how working with students in new ways provided opportunities for learning and growth. For many in this group, teaching in new online formats was a “silver lining.” Teachers found opportunities to connect with parents more frequently or to work more closely with some students one-on-one. Others loved the chance to try online tools and improve their pedagogical practices. Growing teachers saw silver linings in their work, were able to use productive coping mechanisms and self-care strategies, and often reported high levels of school-based and social support to help them adjust to remote teaching.

Coping Teachers

Five teachers were identified as coping, including one outlier. These teachers tended to have positive mindsets, good coping mechanisms, and used a variety of self-care strategies. However, unlike growing teachers, they felt less supported by their school and administrators. Thus, while coping teachers persisted despite challenges associated with remote teaching, they also tended to feel more isolated and relied more heavily on individual coping strategies. The participant outlier reported strong school connectedness and administrative support but faced significant obstacles with childcare and thus also reported very high levels of stress.

Coping teachers tended to share greater frustration with school-based administrators or their district. One felt “dissonance and disconnect” between what the district was asking and what was feasible (PID 7653). Others felt “a lot of anxiety” because the “school hasn’t really told us anything” (PID 1686). This differed significantly from the growing group of teachers who commonly reported high levels of school-based support. Although they felt less supported by their school or district, teachers in the coping group spoke of having a few (one or two) colleagues they could turn to or family members they felt connected to.

Despite many frustrations, this group of teachers found ways to manage uncertainty even without school or district support. They tended to have very positive attitudes, high levels of self-efficacy, and found ways to cope to do their job. Like growing teachers, coping teachers also saw the “silver lining” in a crisis and were able to verbalize positive moments and learning experiences.

Some described excitement over “delivering content in a whole new way” and providing “way more personal assessment and feedback to kids” (PID 7653). Others similarly found students’ reflections on their learning to be deeply moving (PID 8542). Another teacher shared that she gained “a lot more confidence [in] things I would not have done” and was “more comfortable [teaching remotely] to the point where I kind of liked being at home” (PID 6132). One teacher discussed how in a virtual learning environment she gets “to completely reinvent [the] job... I feel a sense of urgency around that. Like how can I do that so I can set my kids up in a way so that when they come back, school will never look the way it looked” (PID 7653). This group of teachers also reported communicating more frequently with parents, sending “positive notes” home, or helping parents support their students who had learning differences (PID 6132, 1686).

Coping teachers found ways to take care of themselves, either by starting a yoga practice (PID 1686), taking regular walks (PID 6132), or making dog walks “sacred” time (PID 7653). Some also talked about the importance of keeping schedules and thinking in smaller chunks of time to get to the end of the year (PID 1686, 7653).

Teachers in this group also reported that they found a lot of joy and meaning from student interactions. Some described hosting social “hangouts” with their students. They provided students opportunities for unstructured time during lunch or breaks to play games and talk to one another informally (PID 7653, 1686). These moments cultivated a sense of meaning and purpose that teachers felt was often lacking from remote instruction. Another teacher found meaning from seeing students who “struggled in the classroom” do “so much better at home” (PID 6132). She shared that “seeing that was kind of motivation for me to just keep going, I learned every day for them.” One teacher found promise in the idea of forming relationships with students in a very personal and private way that may be deeper than relationships formed in a traditional classroom (PID 7653).

There was one outlier in this group who, unlike others, had very high levels of school support but also very high self-reported levels of stress. She shared, “we are being given more tools and being asked to do more” in comparison to most schools that are asking teachers to do more, with less. However, she had a very challenging time teaching remotely because of a lack of childcare for her pre-school-aged daughter. Balancing teaching and parenting made the spring of 2020 incredibly challenging for this teacher. Had she had child support, she may have reported growing, but without it, she relied heavily on her colleagues to get through. Thus, her resilience stemmed from strong school support rather than simply relying on individual coping strategies.

Apart from the outlier in this group, coping teachers spoke more negatively about environmental factors such as low school and district support than growing teachers. They did, however, speak very positively about working with children and found individual coping mechanisms to be effective.

Discouraged Teachers

The third group of teachers had a much more difficult time navigating remote teaching than other participants. These “discouraged” teachers reported far less support and tended to have lower levels of confidence and more negative outlooks on their situation. Discouraged teachers spoke of the lack of support they received from their district and school administration. One teacher shared that her administrators were not adequately addressing teacher needs during this period. She stated:

I feel like they said that a lot but there was no actionable [steps]... like I thought about what if someone needs to take a day off?...There was never any mention of what would happen....And so there was a lot of like, these emails that would come and say things like “in these unprecedented times, etc., etc.” and “you need to care for yourself first,” but it was like, what does that even mean? (PID 5695)

Another teacher similarly shared that her school had a counselor to check in if needed but said, “Did she really provide any services to the teachers? No, not at all” (PID 5130).

This group of teachers also felt there was too much “back and forth” from the district or administration about expectations, making it difficult to plan because “no one really knew what to do, it was really confusing” (PID 5130). One teacher shared, “I just felt like their plan was... haphazard... they need to have a more structured plan moving forward” (PID 2624). Another described a “disastrous” rollout after ten weeks of missed learning time, feeling the district could have had a better plan in place without losing so much time (PID 5695). These disparate standards made some teachers feel like there were wide interpretations of how teachers should spend their time, with some going “above and beyond” and others “not doing anything at all” (PID 5103, 5695), which created a feeling of resentment among some staff.

Many teachers in this group also expressed their concern about equity of access for students and their families. These teachers stated that they couldn’t assure equity of access to online materials, could not get computers to families, or software was not updated. Even if these issues were solved, discouraged teachers worried that their students had not been seen or provided with services in weeks. Discouraged teachers also spoke of how stressful it was to keep students engaged and motivated online and how hard it was to teach when some students did not even have their basic needs met (e.g., food, social services).

All five teachers in the discouraged group also happened to be special educators (although not all self-identified special educators were classified as “discouraged,” with one classified as coping and one as growing). Many discouraged teachers reported concern that they were unable to provide services to students and feared future legal battles (PID 5695, 5130). One teacher shared, “just knowing that they’re not being serviced in the way that they should” impacts “how effective you feel as a teacher” (PID 5130). Another felt her job became very compliance-driven, sharing, “once we actually started teaching... it felt very legal... like there wasn’t anything really as a teacher I was contributing” (PID 5695). Similarly, a participant said, “our role really changed... like we weren’t really just teachers anymore—we were more like government representatives” (PID 8630).

Some teachers spoke of peer support, but many said that as special education teachers, they often felt isolated in their role. This group did talk about some positive coping and self-care strategies such as relying on family members, venting to friends, trying to exercise, or working with private therapists. Unlike other participants, this group did not speak of positive professional growth or report any particular “silver linings” associated with teaching remotely.

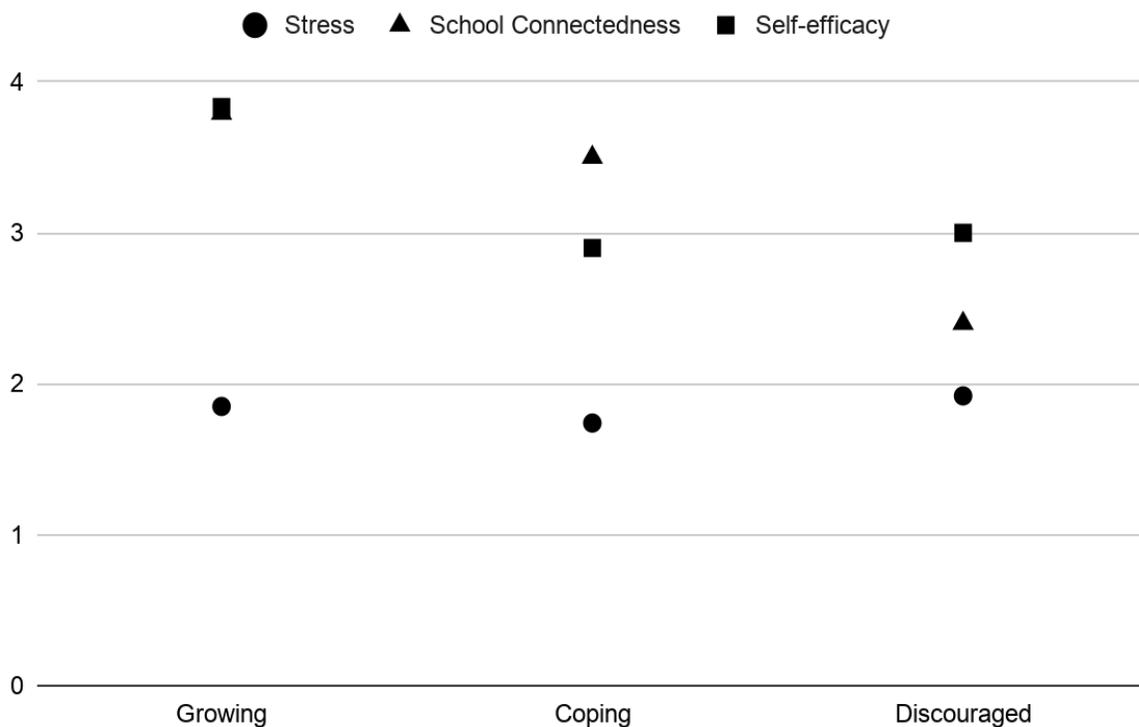
Integrated Analysis and Results

After analyzing quantitative and qualitative results independently, results were integrated into joint displays (Guetterman et al., 2015), which combined qualitative and quantitative findings in a visual illustration for analysis and interpretation. First, researchers organized scores on measures of stress, school connectedness, and teacher efficacy together with qualitative responses to overarching themes in a meta-matrix by participant (Miles et al., 2014). Participants were sorted by their qualitative profile of growing, coping, or discouraged. Visual analysis of the

integrated joint displays triangulated qualitative and quantitative results, revealing overlapping and distinct patterns in quantitative scores among the different qualitative profiles.

First, we compared mean scores of perceived stress, school connectedness, and self-efficacy by participant profile (Figure 1) to explore patterns among each teacher profile group. The results showed that all three groups reported similar stress levels, $M = 1.85, 1.74,$ and 1.92 for growing, coping, and discouraged participants, respectively (range = 0.7 - 2.5, 0.9 - 3.1, 1.2 - 2.3). However, differences emerged in the school connectedness and teacher efficacy scores. Consistent with qualitative findings, growing teachers reported the highest levels of teacher efficacy ($M = 3.83$, range = 3.5 - 4.0) and school connectedness ($M = 3.79$, range = 3.5 - 4.0). Teacher efficacy scores for coping ($M = 2.9$, range = 2.25 - 3.25) and discouraged teachers ($M = 3.0$, range = 2.5 - 3.75) were slightly lower than the growing group. Reports of school connectedness diverged further, with coping teachers reporting levels of school connectedness that were strong ($M = 3.5$, range = 3.25 - 4.0) but lower than that of growing teachers ($M = 3.8$, range = 3.5 - 4.0). Consistent with qualitative reports, struggling teachers reported the lowest levels of school connectedness ($M = 2.4$, range = 2.0 - 3.0).

Figure 1.
Participant Profile Group by Average Score

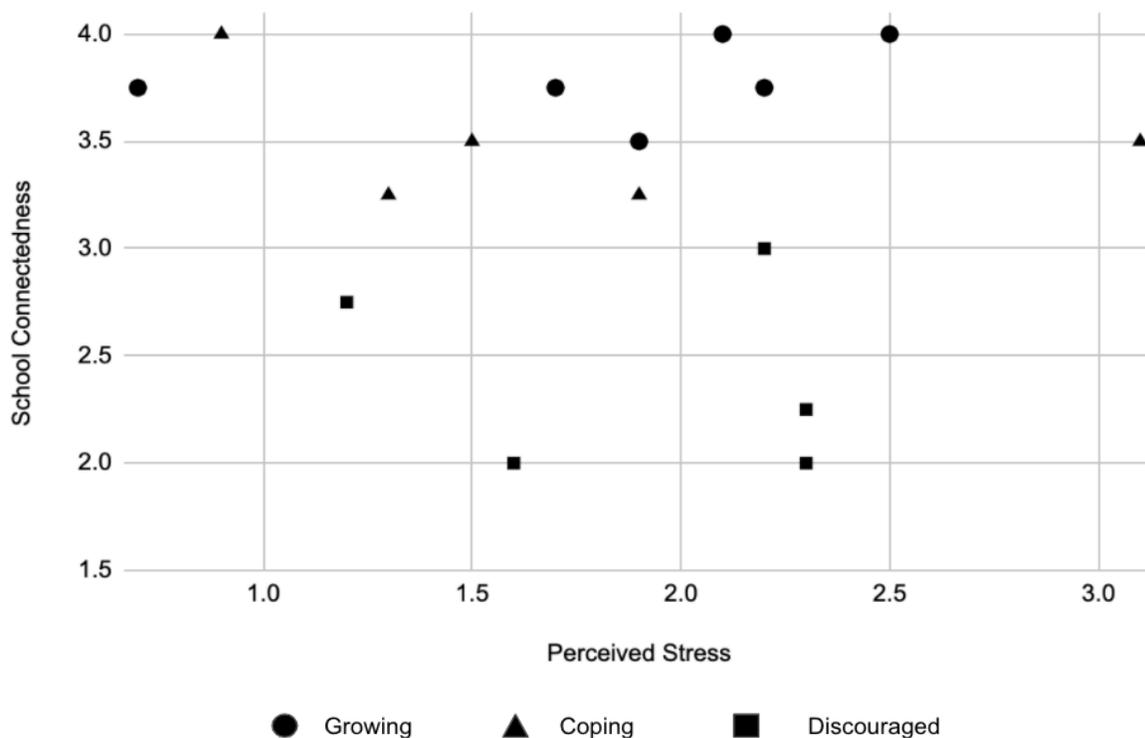


Note. Stress = average score on the Perceived Stress Scale (scale of 0-4) for participants in the growing, coping, and discouraged groups; School connectedness = average score on the TSWQ (scale of 1-4); Self-efficacy = average score on the TSWQ scale (scale of 1-4).

Because using mean scores for each group can mask individual participant variability, we also visualized integrated profiles for each participant by mapping each participants' reported score of school connectedness and perceived stress (Figure 2). The results suggested that

although stress levels varied across all three groups, measures of school connectedness differentiated among teachers' reported experiences of well-being; teachers who described experiences of growing reported strong school connectedness (3.5 or higher), while teachers who were discouraged reported lower connections to their schools (3.0 or lower). Coping teachers generally reported levels of school connectedness between the discouraged and growing groups, with the exception of one coping participant who indicated school connectedness of 4.0. However, the interview with this participant suggested that she felt less support from her school than suggested by the quantitative scale.

Figure 2
Individual Participant Perceived Stress by School Connectedness



Note. Stress = average score on the Perceived Stress Scale (scale of 0-4) for participants categorized as growing, coping, and discouraged; School connectedness = average score on the Teacher Subjective Well-Being Questionnaire (scale of 1-4)

Discussion

The results of this mixed-methods investigation indicate that teacher responses to remote teaching during the spring of 2020 varied, with some teachers embracing opportunities to grow professionally and others feeling discouraged by their role. More specifically, integrated findings suggest that feeling connected to one's school community served as a protective factor for many teachers. However, special educators had unique challenges and were more likely to describe feelings of isolation or frustration than general education teachers. Additionally, findings suggest that despite heightened stress, individuals with communities of support and strong individual coping mechanisms can still find ways to thrive.

School Connectedness as a Protective Factor

This study found that individual experiences of well-being during the pandemic varied according to levels of environmental support, specifically school connectedness. It is possible that connectedness allowed teachers to be more resilient in the face of stress and thus experience higher degrees of well-being during the pandemic. School connectedness may have served as a protective factor against the stress associated with remote learning and COVID-19. Teacher participants who felt supported by their school had colleagues with whom they could collaborate or problem solve and had networks of support outside of school tended to report better overall well-being. Those who felt they were a part of a team tended to report relying less on individual coping mechanisms in response to stress. Feeling connected to their school community may have bolstered feelings of belonging and reduced anxiety associated with remote teaching.

Teachers reported many ways they stayed connected during remote learning. Supportive school leaders created intentional opportunities for collaboration among pairs or teams of teachers and held regular staff meetings, including informal opportunities to connect online. Teachers also felt a deeper sense of community and connection when provided with professional development opportunities and appropriate technological tools to adapt to online learning. Finally, teachers felt more connected when school leaders embraced an attitude of empathy and flexibility. Although schools prioritize the needs of students and families, it is equally important to consider the needs of teachers during a pandemic. Flexibility in teaching approaches or work schedules, for example, can make teachers feel supported and cared for.

Special Education Teacher Resilience

While the focus of this study was on teachers' well-being in general during the pandemic, one auxiliary finding from the qualitative interviews was that all teachers who were classified as "discouraged" also self-reported that they were special educators. These teachers expressed feelings of isolation, limited support, and mixed messages from administrators. Under normal circumstances, special education teachers experience higher levels of stress and burnout than their general education peers (Haslip & Gullo, 2018). Special education teachers in this study similarly described higher levels of stress and feelings of discouragement than the general education teachers in this study.

Discouraged special education teachers particularly struggled with online service delivery, confusion around compliance with individualized education programs (IEPs), and feeling professionally isolated from their general education colleagues. In a traditional classroom environment, teachers can rely on multiple visual and verbal cues with ample opportunities to check for understanding, redirect students if they are on task, and work one on one. Remotely, few of these strategies were viable, and for some students with disabilities, learning from a computer screen for hours each day was not developmentally appropriate. Special education teachers also reported mixed messaging from administrators regarding IEP compliance and service delivery. Many of the interviewed teachers were the only special education teacher in their grade level or specialty area. Even teachers who collaborated with general education teachers for push-in support were unclear as to what their role was in an online classroom. Confusion and isolation likely contributed to feeling discouraged among this group of special educators.

When considering the needs of special education teachers, particularly during remote learning, it is important to provide clear and structured guidance in terms of compliance obligations. Support for special education teachers can also include greater opportunities for

collaboration with general and special education colleagues and professional development specifically targeting special education teachers' needs, such as effective online accommodation tools, strategies for student engagement in a virtual environment, or clear guidance for IEP compliance.

Stress

Study findings also raise important questions about teachers' experiences of stress and how feelings of stress are related to teachers' perceptions of professional well-being. The Perceived Stress Scale measures general stress, not stress specific to teaching during the pandemic. However, stress experienced in other parts of one's life can impact an educator's professional well-being. For example, most interviewed participants did not have children at home, either because their children were old enough to self-monitor their own online learning, were adults, or because they did not have children. Teachers who are parents may experience additional stressors as they juggle teaching and parental responsibilities. Future research should investigate how other life stressors impact teacher well-being at work.

Additionally, this study raises some questions about the use of stress as a measure of well-being. Despite responding to a survey during a time in which teachers were arguably experiencing significant stressors, both the larger sample and qualitative sample showed moderate stress levels. As expected, school connectedness and teacher-efficacy were negatively correlated with stress, but these correlations represented a small effect. Furthermore, integrated findings suggested that teachers' reported stress levels were not strongly related to their qualitative perceptions of their own well-being. In other words, integrated findings suggested that it was possible to experience high levels of stress while still feeling that one was growing or coping as an educator. Such findings suggest that general measures of stress may not fully or accurately reflect teachers' perceptions of well-being. Future research should make use of multidimensional measures or methods to understand the relationship between stress and teachers' experiences of well-being.

Limitations

It is important to recognize several limitations to this study. First, the quantitative scales were designed to address general stress and teacher well-being; they were not specifically worded to address participant experiences during the spring of 2020. For example, our survey did not ask teacher efficacy questions as they specifically related to remote teaching and learning (i.e., we did not revise the TSWQ). Had we designed the survey to target efficacy more intentionally towards remote teaching, our findings may have been different. The PSS also asked participants about their stress levels in general, not specifically related to teaching. Thus, teacher stress levels may be related to external stress associated with the pandemic.

Second, participants were recruited through snowballing and were not randomly selected, which means that results cannot be generalized to a larger population of teachers. Additionally, because some demographic information was not collected (e.g., race/ethnicity), it is not possible to understand how this sample compares with characteristics of the general teaching force. Although interview participants' scores on quantitative measures did not differ significantly from the full sample, interview participants self-selected, and their views may not fully capture all participant perspectives.

Additionally, the interview protocol did not define "well-being" for teachers. Thus, participants may have had differing ideas of what well-being is as the construct is often not

consistently defined (McCallum & Price, 2017). Finally, it is important to note that the survey and interviews were conducted either during or immediately after the 2019-20 school year. This was a period of emergency instruction at the beginning of the pandemic when teachers across the US found themselves in the unanticipated situation of teaching remotely. Teachers' experiences of resilience may shift under prolonged pandemic conditions as "emergency" teaching scenarios become a long-term reality.

Conclusion

Although media outlets have painted a grim picture of teaching and learning during the pandemic, teachers in this study shared incredible moments of innovation, adaptability, and community. In cases where schools cultivated teacher resilience by providing adequate emotional support, teachers were able to maintain a sense of well-being and excitement about their work. Although these individuals may have been more "resilient" in response to COVID-related stress and thus experienced higher levels of well-being, they also reported greater levels of support from administrators and connectedness to their school communities. Unfortunately, in places where teachers felt isolated or disregarded by their administration and school community, self-reported well-being suffered. Teacher resilience during COVID-19 was not just a story of individuals exhibiting great strength to overcome obstacles but rather one that included strong community connections and holistic support. These findings suggest that fostering teacher resilience, and thus well-being, during periods of undue stress must include strategies at the individual level but also improvements to the broader school, community, and political environment in which teachers work.

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Appendix A

Table 1
Teacher Interview Participants

| <i>PID</i> | <i>Scale Scores</i> | | | <i>Demographics</i> | | | | | |
|------------|---------------------|-----------|-----------|---------------------|------------|--------------|----------------|------------------------------------|------------------|
| | <i>PSS</i> | <i>SC</i> | <i>TE</i> | <i>Gender</i> | <i>Age</i> | <i>Years</i> | <i>Setting</i> | <i>Grades</i> | <i>Group</i> |
| 6132 | Low | Avg. | Avg. | F | 50s | 10+ | Public | 3 rd – 5 th | Coping |
| 1164 | High | High | High | F | 60s | 10+ | Public | 3 rd – 5 th | Growing |
| 5130 | Age. | Low | Low | F | 30s | 5 - 10 | Public | K – 2 nd | Discouraged |
| 5518 | Avg. | High | High | F | 50s | 10+ | Private | 9 th – 12 th | Growing |
| 5695 | High | Low | High | F | 30s | 2 - 5 | Public | K – 2 nd | Discouraged |
| 7653 | Age. | Avg. | Avg. | F | 50s | 10+ | Public | 3 rd – 5 th | Coping |
| 8542 | High | Avg. | Avg. | F | 30s | 5 - 10 | Private | 9 th – 12 th | Coping (Outlier) |
| 2624 | High | Avg. | Avg. | F | 40s | 10+ | Public | K – 2 nd | Discouraged |
| 1686 | Avg. | Avg. | Low | F | 20s | 0 - 2 | Charter | K – 2 nd | Coping |
| 9136 | Low | High | High | M | 60s | 10+ | Public | 6 th - 8 th | Growing |
| 8370 | Low | Low | Low | F | 20s | 2 - 5 | Public | 3 rd – 5 th | Discouraged |
| 3310 | Low | High | Low | F | 40s | 0 - 2 | Public | 6 th - 8 th | Coping |
| 1886 | High | Low | Age. | F | 60s | 10+ | Public | K – 2 nd | Discouraged |
| 2378 | High | High | High | F | 30s | 2 - 5 | Charter | K – 2 nd | Growing |
| 7461 | Avg. | Avg. | High | F | 50s | 10+ | Public | 3 rd – 5 th | Growing |
| 2002 | High | High | Avg. | F | 30s | 10+ | Public | K – 2 nd | Growing |

Note. PSS = Perceived Stress Scale (scale of 0-4; low < 1.6, average = 1.6 - 2.0, high > 2.0); SC = School Connectedness on TSWQ (scale of 1-4; low < 3.0, average = 3.0 - 3.5; high > 3.5); TE = Teacher Efficacy on TSWQ (scale of 1-4; low < 3.0; average = 3.0 - 3.5; high > 3.6).

Appendix B

Teacher Semi-Structured Interview Questions

1. In general, how is your well-being as a teacher?
2. In what ways has your well-being as a teacher changed as the result of the global pandemic?
3. How has teaching remotely impacted your well-being as a teacher?
4. What personal strategies have you found helpful to improve your well-being as a teacher and reduce stress during this time?
5. What has your school or district done to support your well-being as a teacher during this crisis?
6. What do you need from your school or district right now to improve your well-being as a teacher?
7. *If you are going to teach remotely next year, what ideas do you have to support teachers' well-being at your school?
8. What is giving you meaning right now in teaching?
9. What have you/your school done to forge connections with other staff/students?

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