

Effects of the COVID 19 Pandemic on School Nurses' Resiliency and Ability to Cope: A Mixed Methods Study in the State of Hawaii

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Abstract

This mixed-method study examined school nurses' experiences during the Coronavirus Disease 2019 pandemic related to role change, psychological feelings, and coping/resiliency in the State of Hawaii. A total of 30 school nurses completed a Brief Resilience Coping Scale plus a series of open-ended questions in January 2022. On the coping scale, over 40% of participants scored high, 52% scored medium, and 7% scored a low resilient/coping level. We did not identify any association between coping level and participant characteristics. Three qualitative themes emerged: 1) school nurses experience chronic negative emotions related to the pandemic, 2) school nurses demonstrate attributes of resilience, and 3) school nurses utilize positive coping techniques. The pandemic created significant stresses and negative emotions among school nurses. Yet, school nurses reported effective coping strategies and demonstrated strength/resilience. Support and open communication between school nurses, their employers, and other school-based stakeholders is needed to provide continued support for school nurses.

Keywords

experience, stressors, resiliency, coping, school nurses, COVID-19, pandemic

Introduction

At the start of academic year 2020, there were approximately 49 million students enrolled in public schools across the United States (National Center for Education Statistics, 2021). The health of these students is imperative as a student's health is known to affect educational outcomes and potential future success (Langford et al., 2017). Having health services available at school, provided by a school nurse, has shown to positively impact student health outcomes including a reduction in absenteeism, reduced symptoms for those with chronic illness, and improved quality of life, while also decreasing geographic and transportation barriers to health care (Johnson, 2017). While the focus of school nursing beginning in 1902 was on reducing absenteeism related to communicable diseases, the roles and responsibilities have greatly expanded and include routine health screening, health education, management of chronic diseases, and assessment and triage for acute illnesses (Johnson, 2017). Some school systems have school-based health centers that provide services by nurses as well as advanced practice nurses (e.g., nurse practitioners) while other school systems are without a nurse forcing other staff to take on health related issues (Durant et al., 2011).

During the recent and ongoing Coronavirus Disease 2019 (COVID-19) pandemic school nurses had renewed focus on reducing communicable diseases in their settings. Across the country, as schools prepared for and re-opened, school nurses modeled effective inter-professional collaborative practice (Fleming & Willgerodt, 2017), which is aligned with the National Association of School Nurses Framework for 21st Century School Nursing Practice (2016) and includes: care coordination, community and public health, standards of practice, quality improvement, and leadership. School nurses led collaborative efforts with public health officials, public health nurses and other health professionals such as physicians and social workers, as well

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as non-health professionals such as teachers, administrators, and school counselors to promote school health and safety (Combe, 2020). School nurses have supported and developed systems for COVID-19 education, contact tracing, quarantine support, social distancing and masking strategies, and vaccine rollout efforts (Galemore et al., 2022). These new role demands have been challenging for school nurses in systems with few school nurses available. Despite national recommendations for every school to have a nurse (American Academy of Pediatrics [AAP], 2016; National Association of School Nurses, 2020), the latest available data highlighted that fewer than 40% of schools nationwide had a full-time nurse, 35% had a part time nurse, and 25% did not have a nurse (Willgerodt, 2018).

The pandemic has taxed nurses in all settings across the nation, and nurses in general report exhaustion (American Nurses Foundation [ANF], 2021; Fauteux, 2021; Galemore et al., 2022). Additionally, nurses report challenges with managing stress, feeling anxious, frustrated, overworked, overwhelmed, undervalued, and unwell (ANF, 2021; Lee et al., 2020). They also report job fatigue, economic strain, and family/caregiver strain (Combe, 2020; Fontenot et al., 2022). School nurses specifically have reported additional stressors related to navigating the school environment, for example, not always being included in developing school pandemic response guidelines despite being responsible for the health and safety of the students and other faculty/staff (Lee et al., 2020).

The unique experience of school nurses as related to the COVID-19 pandemic has been underexplored and strategies to support school nurses have yet to be developed. Therefore, the purpose of this study was to understand school nurses' experiences during the pandemic related to role change, psychological feelings, and coping/resiliency in the State of Hawaii.

Hawaii has one statewide school district which includes 256 public schools educating approximately 180,000 students (Hawaii Department of Education, n.d.). Nursing services for these schools are primarily provided by the Hawaii Keiki: Healthy and Ready to Learn Program (Keiki meaning children in Hawaiian language [Pukui & Elbert, 1986]). This program is a partnership between the Hawaii Department of Education and the University of Hawaii at Manoa School of Nursing. At the time of this study, there were approximately 56 school nurses (which includes 15 school nurse practitioners) in this program who provide services in schools across the state. These school nurses were integral in providing pandemic-associated health services (e.g., testing, contact tracing, quarantine guidance, and vaccination efforts) in addition to general health services provided in person and via telehealth to support students, school administration, teachers and staff's well-being during both times of distance and in person learning.

Methods

Participants and Recruitment

This study was conducted in January 2021, which marked a distinct resurgence of COVID-19 positive cases nationwide (Hoogenboom et al., 2021) including Hawaii (State of Hawaii, Department of Health, 2021). At this time, in Hawaii, mask-mandates remained in place and the initial COVID-19 vaccine (emergency use authorization) roll-out for those 18 years or older had just began. Hawaii Keiki Program school nurses were recruited to complete an electronic survey that captured both quantitative and qualitative data. Utilizing the program's email listserv, a total of 56 school nurses were sent a series of email invitations to participate in the study utilizing Dillman's Method (Crosby, 1989). The email contained a link to the study webpage, which contained study information as well as informed consent procedures. After consent was obtained, participants then completed the 15-20-min online survey. No remuneration was provided and all study data were collected anonymously/without personal identifying information. The study was reviewed and accepted by the University of Hawaii at Manoa Institutional Review Board, November 19, 2021.

Measures

The survey items collected information about general demographics, coping/resiliency, and general thoughts and experiences during the pandemic. Demographic information included: age, level of education, years as a nurse, and years as a school nurse. The Brief Resilient Coping Scale (BRCS) was used to capture behaviors related to adapting to and coping with stress (Kocalevent et al., 2017). The BRCS is a 4-item measure that focuses on use of effective coping strategies despite stressful circumstances and has been found to have internal consistency ($r = .76$) and test-retest reliability ($r = .71$; Kocalevent et al., 2017). The 4-items are scored on a Likert-type scale from 1 to 5 (1 = the item does not describe you at all; 5 = the item describes you very well) for a total score between 4–20 with higher scores indicating better resilience and coping. An individual scoring 13 or less is considered a low resilient copier while those scoring 17 or higher is a high resilient copier (Sinclair & Wallston, 2004). In addition to the quantitative data, participants were asked 5 qualitative questions about their experiences during the pandemic. The questions included: 1) What were your main psychological feelings of school nursing care during the COVID pandemic; 2) How did you feel initially when you became involved in the COVID-19 response for your school and/or complex area; 3) What has changed in your life since the beginning of the pandemic; 4) How do you cope with changes in your work and life; and 5) What are your current thoughts and feelings about the COVID-19 response tasks assigned to you as a school nurse?

Data Analysis

Quantitative data was analyzed using SPSS 28.0. A $p \leq .05$ was considered to be statistically significant. Descriptive statistics were calculated using frequency and percentages for categorical variables. Age was categorized as 20–30 years, 31–40 years, and > 40 years. Highest degree of education was categorized as bachelor's degree, master's degree, and doctoral degree (all school nurses held at least a bachelor's degree). Years as a nurse was categorized as 1–4 years, 5–10 years, and > 10 years. Finally, years of school nursing experience was categorized as < 1 year, 1–4 years, 5–10 years, and > 10 years. Fisher's Exact Tests were calculated to assess associations between age, highest degree of education, years as a nurse, and years of experience as a school nurse and the BRCS scores.

Qualitative data were analyzed using conventional content analysis (Creswell & Clark, 2017; Hsieh & Shannon, 2005). Data was downloaded from the survey software and managed in Excel. Steps for analysis included: 1) independent review by two members of the research team to identify initial coding schemes, 2) team meetings to refine codes and review coding definitions to ensure accuracy across coders, and 3) meetings to combine codes into broader categories and identify major and subordinate themes. When divergent interpretations occurred, the original transcript was reviewed and discussion occurred until consensus was reached.

Results

Quantitative Results

A total of 30 school nurses completed the survey. The majority of participants were over 40 years of age (46.7%), had completed a master's degree (50%), had been a nurse more than 10 years (70%), and had been a school nurse for 1–4 years (56.7%) (see Table 1). One participant failed to respond to one question of the BRCS and was excluded from further quantitative analysis. The mean BRCS was 16 with a range from 13–20. For each question, between 80% to 90% of participants responded with 'the item describes me well' or 'the item describes me very well'. A total of 12 (41.4%), 15 (51.7%), and 2 (6.9%) participants scored at the high, medium, and low resilient/coping level (see Figure 1). We were unable to identify any significant association between coping level and participants' age ($p = .221$), highest educational degree ($p = .714$), years of nursing experience ($p = .150$), and years of school nurse experience ($p = .945$).

Qualitative Results

Three common themes were identified in the qualitative data which included: 1) School nurses are experiencing chronic negative emotions related to the pandemic, 2) School

nurses note attributes of resilience, and 3) School nurses utilize positive coping techniques/strategies. These themes were consistent across work and home settings. Themes and exemplar quotes are detailed in Table 2.

School Nurses are Experiencing Chronic Negative Emotions Related to the Pandemic

When asked about psychological feelings in the work setting during the start of the COVID-19 pandemic, participants largely described feeling: a) anxiety, fear, lack of control; b) overwhelmed, exhaustion, and stress; c) and frustration/anger. Participants clearly indicated that they felt anxious, one participant described "anxiety, feeling like you are in overdrive and distracted." Others noted feeling "constant uncertainty," a "lack of control," "helpless," and "anxious about doing the job well, I did not want to make any mistakes." Another described being in a "constant alert state."

Overwhelmingly participants described feeling strained, depleted, and exhausted related to the pandemic in the work setting. One participant noted feeling "stressed, overwhelmed, tired." Another said, "at times overwhelmed, and frequently exhausted." However, this participant also expressed hope to "[make] a difference in helping keep kids safe at school." Another noted that the new processes due to the pandemic were overwhelming, stating "it was overwhelming to keep up with all of the protocols and guidance", another concurred and stated, "with the frequent changes I hope that I can stay on top of all of the updates to truly be a resource for the schools." One believed that the expectations placed on schools and school nurses were unrealistic; "unrealistic expectations are placed on schools such as contact tracing, social distancing, and staffed [staffing] isolation areas [for students/staff]."

Lastly, a few participants expressed frustration and even anger. Participants reported a sense of "frustration with bureaucracy" and feeling "ineffectively utilized," and others noted that they believed there was "too much attention on COVID and not enough on 'normal' issues related to school age students' learning, growth, and emotional health." Similarly, one expressed anger and sadness for the students' loss of the traditional educational experience. This participant expressed feeling "angry and sad that students are continually sent home and I feel like they are not receiving quality education as there is no back-up plan." Another described "feeling like we have lost our overall sense of purpose. Our goal used to be to keep students in school so that they are better able to learn. While we continue to pursue our overarching goal to keep students safe, our roles have shifted to feel more like the gatekeepers of school and accessing education."

When asked about what had changed in their life since the beginning of the pandemic, participants described changes in

Table 1. Demographics and Basic Resilience and Coping Scale Score Distribution

	Demographics ^a	Basic Resilience and Coping Scale ^b			X ² p ^d
	n (%)	Low ^c n (%)	Medium ^c n(%)	High ^c n(%)	
Age					
20-30yrs	3 (10)	0 (0)	3 (20)	0 (0)	.221
31-40yrs	12 (40)	2 (100)	5 (33.3)	4 (33.3)	
>40yrs	14 (46.7)	0 (0)	6 (40)	8 (66.7)	
Prefer not to answer	1 (3.3)	0 (0)	1 (6.7)	0 (0)	
Highest Degree of Education					
Bachelor's Degree	13 (43.3)	2 (100)	6 (40)	5 (41.7)	.714
Master's Degree	15 (50)	0 (0)	1 (6.7)	1 (8.3)	
Doctorate Degree	2 (6.7)	0 (0)	8 (53.3)	6 (50)	
How long have you held a nursing license?					
1-4 years	5 (16.7)	1 (50)	1 (6.7)	2 (16.7)	.150
5-10 years	4 (13.3)	1 (50)	2 (13.3)	1 (8.3)	
>10 yrs	21 (70)	0 (0)	12 (80)	9 (75)	
How long have you been a school nurse?					
<1 year	6 (20)	0 (0)	4 (26.7)	2 (16.7)	.945
1-4 years	17 (56.7)	2 (100)	8 (53.3)	6 (50)	
5-10 years	5 (16.7)	0 (0)	2 (13.3)	3 (25)	
>10 years	2 (6.7)	0 (0)	1 (6.7)	1 (8.3)	

^an = 30

^bn = 29 after 1 participant was excluded for not completing BRCS

^cLow 4-13, Medium 14-16, High 17-20

^dFisher's Exact Test.

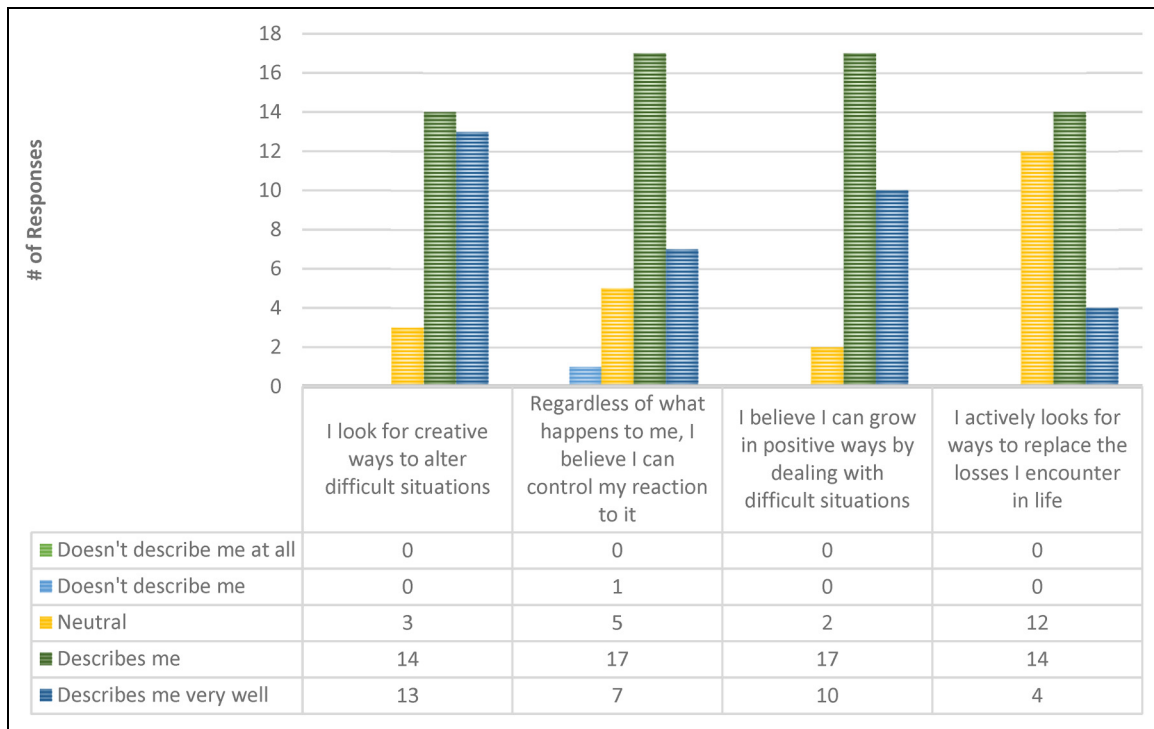


Figure 1. Distribution of participants' responses to each question.

their home environment. They described feelings of isolation, and an increase of stressors (finances, caregiving, need to protect loved ones). Participants noted a diminished

“social calendar,” feeling “very restricted,” and “much less social interactions.” Stressors included concerns for the safety of their family and friends and increased financial

Table 2. Additional Illustrative Quotes

Themes	Exemplar Quotes
<i>Nurses are experiencing chronic negative emotions</i>	
Work Setting	<p>“Anxiety and depression”</p> <p>“Dealing with families, teacher and students frustration on policies and school guidance set forth...”</p> <p>“Exhaustion, depletion, dissatisfaction, despair, lack of recognition or appreciation, underpaid and undervalued”</p> <p>“Constant uncertainty”</p> <p>“Strain. You can only help so much because the kids are in school for such a short period. You cannot control what goes on outside the school”</p> <p>“Overwhelmed, frustrated, concerned, drained”</p> <p>“It’s overwhelming, frustrating, and problematic when school guidance changes and not clear”</p> <p>“Worry”</p> <p>“Fatigue, frustration, confusion”</p> <p>“Frustration with policy not in sync with evolving science; competing with media misinformation; scope of school nursing practice from one school to multiple schools”</p> <p>“That I could not do enough. Not enough support staff/systems in place. DOE [Department of Education] staff should not have the responsibility of tracking/following up on COVID cases and close contacts. That is an entirely separate job best suited for medical personnel. DOE staff should focus on educating our Keiki, that alone is a big enough job. Unrealistic expectations are placed on schools such as contact tracing, social distancing, and staffed isolation areas. I wish I could do more”</p> <p>“Dealing with families, teacher and students frustration on policies and school guidance set forth with the DOE and DOH [Department of Health]”</p> <p>“I am doing all that I can but that is still not enough”</p>
Home Setting	<p>“I am much more careful about who I hang out with and where I hang out with them”</p> <p>“I am still the same person but dealing and adapting with a much more greater problem, the pandemic”</p> <p>“Not too much in my personal life besides preschool closures and childcare issues with two working parents. It is mostly my job and role that has been affected”</p> <p>“My rent has increased, I have separated from my partner, cost of living has increased”</p> <p>“My daily workflow is mainly COVID focused. My perspective is different. There’s so much more to consider now. I want to help others but have to also keep myself healthy and protected”</p> <p>“Nothing but state requirements and mandates”</p> <p>“New job, new child care stressors, limited social life”</p> <p>“Feel very restricted”</p> <p>“[When describing changes] My ability to compartmentalize and anxiety levels”</p> <p>“Family stress. Balance of work and home has become harder. Work enters the off hours much more than it did before”</p>
<i>Nurses note attributes of resilience</i>	
Work setting	<p>“I try to be positive and accept change but change is hard and re-learning and doing things differently takes time and goes slowly and you usually make mistakes”</p> <p>“Try to make the best of it. Focus on the contributions you are making. The appreciation you get from helping to make others jobs easier and the ability to be a resource to the school community. Holding on to the hope that one day we will be able to return to the work and roles we used to have”</p> <p>“It is fortunate that HK [Hawaii Keiki] has a good and supportive admin so it helped a lot and I did not feel alone. It pushed me to do more for the schools and to turn negative experiences into positive encounters with the patients and their families, understanding that we are all in this together. We just have to push on forward, one day at a time”</p> <p>“I pretty much just allow myself to digest the changes and roll with it”</p> <p>“I stress at first and then I move forward and do what I have to do”</p> <p>“[Take work situations] Day by day”</p> <p>“Very large question. I put my head down and keep moving forward. Look for ways to balance myself, since that is all I have control over”</p> <p>“[She feels] Helpful”</p> <p>“Helpful, knowledgeable and happy to be doing something!”</p> <p>“[Feeling] Important and fulfilled”</p> <p>“Excited to be part of it and excited to help carry some of the weight”</p> <p>“Glad to be part of a team, ready for the challenge”</p>
Home setting	<p>“[Find the] Humor”</p> <p>“I searched for answers and reflected in my mistakes and pushed on forward”</p> <p>“Enjoy our long breaks”</p>

(continued)

Table 2. Continued.

Themes	Exemplar Quotes
<i>Nurses utilize positive coping techniques/strategies</i>	"Finding different ways of stress relief, learning to take breaks when I need them, I value different things"
	"I try to focus on the positives"
	"I rely on my friends and family for support"
	"I try to find the positives and silver linings"
	"I leave work at work. I focus on me and my family when I get home"
	"Meditation, rest"
	"I journal, meditate, hibernate when needed"
	"Work through one situation at a time"
	"Coffee and my team"
	"Study, time, conversations with trusted family and friends"
	"Talking with my spouse"
	"Exercise"
	"[Turn to] My spirituality"
	"I have healthy outdoor outlets such as exercising or walking my dog or walking on the beach"
"I changed a lot of my activities. More activities outside where there is less chance of Covid exposure"	

burdens. One noted "I want to help others [at work] but have to also keep myself healthy and protected". Others noted "the need to protect our family and loved ones" and that the "balance of work and home has become harder." Lastly, several reported issues with childcare and an increase in cost of living.

School Nurses Note Attributes of Resilience

Despite the challenges and negative emotions expressed, the participants described attributes of resiliency and pride in their work. Several described themselves as "overwhelmed but hopeful," or "I'm feeling overwhelmed with all the information provided but it is nice to have so many resources," and "well-prepared from lots of preparation and research [provided by their nursing leadership]." The participants, despite their fear or fatigue tried to maintain positive attitudes. Specifically, they felt excited, ready to meet challenges, eager to help, and trust in their team. One noted feeling "anxious initially followed by a determination to finish [all the needed work] and make sure everyone involved is safe." Another noted, "throughout all of this, administrators and teachers have been beyond grateful for my contributions and that makes it feel worth it." The participants described their work as being meaningful. For example, feeling "productive, like I could start to do something that would be helpful in getting our students back on campus safely." Lastly, participants expressed "empathy towards the students who want to stay in school, and towards the parents who want to keep their children in school" and excitement (e.g., "excited to be an important player in a major medical crisis").

In their personal lives many participants noted having time to reflect. Some described an increase in gratitude: "I

have become more thankful and grateful for the positive and negative things that have happened in my work and personal life. I appreciated life, family, and friends more" and "I am more appreciative of my life, family, friends, job, etc." Others described personal growth: "more at ease with the ever-evolving changes;" "I have gained a lot of confidence... and have become confident in my role [as a nurse];" and "I learned I can handle more stressors than I realized I could."

School Nurses Utilize Positive Coping Techniques/Strategies

Largely the participants reported positive coping techniques/strategies when asked how they coped with the changes in their work and personal life. The participants described meditation, exercise, and open communication with friends and family. For example, "I use apps to meditate and breathing techniques to relax," "exercise and communicating with my spouse," and "I found creative outlets to deal with the stress of change, connected with friends." Other coping techniques reported included journaling, outdoor activities, rest/long breaks, and coffee with a friend. Only two outliers noted negative strategies, which included alcohol and overeating.

Several found comfort through their spirituality and cultivating an inner positive spirit/attitude. This was evident via the following quotes: "I searched for answers and reflected in my mistakes and pushed forward;" "I focus on having a positive attitude;" "I try my best to adapt to changes. Additionally, I like to pray and read the scripture for peace and comfort;" and "I go with the flow. Life in general is in constant flux and you either adapt or drown." One participant eloquently summarized her coping strategy as "My goal is always to be less reactive and more proactive. Change is

how we grow and evolve. Resisting change leads to discontent and unhappiness.”

Discussion

This study explored the work- and home-life experiences of school nurses in Hawaii during the COVID-19 pandemic. The participants clearly valued their primary work commitment to supporting the health and wellbeing of the student/school community as well as recognized their personal responsibilities to keep themselves and their family healthy and safe. It was apparent that these work/home obligations were in conflict at times and created stress. Despite verbalizing the negative psychological impact of the pandemic (e.g., feelings of anxiety, stress, and exhaustion) results highlighted relatively moderate to high levels of coping quantitatively as well as rich description of attributes of resilience and effective coping strategies qualitatively.

Published reports on the experiences of nurses in general during the pandemic have noted increased stressors and increased mental health concerns nationally and internationally. Nationally, the 2021 ANF *Mental Health and Wellness Survey* highlighted that 34% of nurses reported they were not emotionally healthy and 42% experienced trauma as a result of the pandemic. Of greater concern, 10–20% of nurses indicated extreme difficulty concentrating, feeling distanced or cut off from other people, or irritable or having angry outbursts (ANF, 2021). Additionally, chronic negative emotions such as fear, general anxiety, and high levels of depressive symptoms have been reported by healthcare professionals’ during the pandemic (Pearman, Hughes, Smith, & Neupert, 2020).

Early in the pandemic inadequate PPE supply was noted as a main source of stress and feelings of lack of safety reported by nurses in general (American Nurses Association, n.d.; Chan et al., 2021; Combe, 2020; Grano et al., 2021; Henderson, 2020). Safety attitudes are defined as including net causes (e.g., working conditions, safety climate subscales, and teamwork) and net effects (e.g., perception of management, job satisfaction, and stress recognition; Denning et al., 2021). In our study, fear of being exposed/infected with COVID-19, new, uncertain, and changing work roles/responsibilities, and home life stressors all caused significant stress among the school nurses. These findings are consistent with other reports and highlight ongoing concerns among nurses in general and school nurses specifically related to their physical and psychological well-being (Arnetz et al., 2020; Fauteux, 2021; Hurt 2021; Moore et al., 2021; Scherr et al., 2021). Internationally, both a lack of access to clear and consistent information relating to COVID-19 and a lack of support from administrators were noted as added stressors among school nurses (Lee et al., 2020; Martinsson et al., 2021).

Despite these stressors and negative emotions, nurses in general nationally, similar to the school nurses in this study, have reported utilizing effective coping techniques/

strategies to deal with the stressors related to the pandemic. National reports indicate coping strategies utilized by nurses (in general) as spending time with friends, engaging in entertainment/leisure activities (e.g., exercise, art, spiritual direction, reading), and spending time in nature (ANF, 2021). Additionally, school nurses specifically have demonstrated strength and resilience. This is evidenced by providing emotional support to the students and school teachers, school administrative staff, parents, and the community (Lee et al., 2020), as well as creatively adapting working methods to support students during the changing circumstances associated with the pandemic while also being pragmatic (Martinsson et al., 2021).

Application to School Nursing Practice

The participants in this study were likely supported by the unique structure and function of the Hawaii Keiki Program itself. The program is nurse-run and in partnership between the Hawaii Department of Education and a school of nursing. The unique nurse-run structure and access to university (school of nursing resources) facilitated setting up early supports for the school nurses during the pandemic. Supports included: weekly staff meetings to problem solve challenges, foster teamwork, and discuss stressors; dissemination of educational materials; and policy development for preventing viral transmission. School nurses were also provided personal protective equipment (e.g., cleaning materials, hand sanitizer, masks). Program leadership also had routine meetings with school administrators where they could advocate for the role of and the safety of the school nurses. Participants in this study noted feeling prepared to engage at work, having information and resources needed, and feeling appreciated by the program administration. Despite congruence with other national reports related to resiliency, the supportive nursing structure of the Hawaii Keiki Program likely influenced the relatively moderate to high BRCS scores related to coping/resilience in this study. However, other states and schools (e.g., private schools, charter schools, and even other public schools) may hire nurses directly or run the programs through federally qualified health programs (Willgerodt, 2018); therefore, evaluation of support structures and experiences of these school nurses is still needed.

Nationally, organizations in general that employ school nurses, and nurses in general, need to evaluate ways in which they are supporting their staff, as many nurses in general across the country have reported either contemplating or leaving the profession (Fontenot et al., 2022; Moore et al., 2021). The 2021 ANF report revealed that intent to leave the profession or current position was driven by staffing and organizational issues, and mental health. In this report 9% of nurses who intended to leave their positions in the next six months were school nurses which may continue to contribute to the nation’s nursing shortage. Specifically, school nurses

who feel supported and respected have higher levels of job satisfaction and in turn, increased work-place resilience (Lee et al., 2020). In developing programs, it is important that institutions not only advocate for nurses' mental health supports but go one step further by developing action plans to increase access to care as well as encourage nurses to accept care; thereby, reducing stigma related to obtaining mental health supports (ANF, 2021).

In this study, school nurse burnout was not specifically assessed, but nurses in general have reported feelings commonly associated with burnout, such as exhaustion, depression, anxiety, and feeling overwhelmed (Centers for Disease Control and Prevention, 2021). Strategies specific to mitigating burnout/distress among health care providers during the pandemic include: engaging in open discussions about anger or fear related to the pandemic; engaging in acts of kindness (e.g., asking about family, expressing appreciation); celebrating small victories; limiting exposure to conflicting and distressing news reports; attending to self-care rather than adopting a stoic demeanor; promoting activism (e.g., involvement with agency leadership); and engaging in prayer (Frierson & Lippmann, 2021) or meditation/mindfulness. The ANF (2021) recommended organization leadership to reinforce work-life balance and encourage all nurses in need of support to seek professional mental health services. Additionally, organizations, governments, and communities must raise greater awareness and recognition of nurses' contributions as well as develop/implement proactive initiatives to solve the nursing shortage (ANF, 2021). Strategies targeting institutional resilience and, as a result, personal resilience, include: ensuring employees feel safe, valued, and cared for at all times; building trust and ensuring access to accurate information; build new staff models that emphasize nurse well-being; build human connection; and emphasize/prioritize mental health (ANF, 2021; Riess, 2021).

Our results suggest that strategies to promote open lines of communication between school nurses, other school-based stakeholders (e.g., systems, administrators, faculty/staff, parents), and other community-based providers (e.g., pediatric providers) is vital. The AAP (2016) recognizes school nurses as a vital component of the health care team and recommends communication/collaboration among pediatric primary care providers, school administration/staff, school-based health providers, and families. Inconsistent and unreliable information about COVID-19 has caused frustration and helplessness among nurses in general and among other healthcare providers (Frierson & Lippmann, 2021). It is likely that others, including school-based health providers are also frustrated. Therefore, next steps should consider building interventions to promote direct, clear, and succinct communication. Inter-professional collaborative initiatives between all stakeholders in a larger system with focused efforts on ensuring clear communication have had a positive effect on psychological well-being (Wu et al., 2020). Lastly, policies and procedures are needed to

ensure access to personal protective equipment, adequate rest, and psychosocial support for all school nurses as well as other health providers which will have a positive effect on well-being (Wu et al., 2020).

Study Limitations and Recommendations for the Future

The results of this study must be viewed in terms of its limitations. Although the response rate was over 50% and qualitative data saturation was achieved, the overall size of the sample limits our analysis. Additionally, we limited the sample to only school nurses in the Hawaii Keiki Program, which limits generalizability of the findings. While the online design allowed us to capture school nurses' experiences in a safe manner during the pandemic, the open-ended question format limited probing and further qualitative interaction between the participant and the study staff. Finally, while participants reported stressors and various coping strategies, findings are limited by potential respondent bias of those who were willing to engage in the study, particularly because responses skewed towards a moderate to high degree of coping. Despite these limitations, the study shed light on rich insights related to mental health, ongoing challenges, and coping strategies among school nurses during the pandemic. Future longitudinal research is needed to capture the impact of the pandemic on long term mental health as well as impact of interventions to mitigate stressors and build resilience among school nurses and nurses in general. Further practice/policy interventions should focus on improving pandemic preparedness, as well as other emergency preparedness (a goal of Healthy People 2030 [Office of Disease Prevention and Health Promotion, n.d.]) among school nurses and school-based key stakeholders.

Conclusion

Throughout the pandemic, school nurses have been an invaluable asset to schools facilitating the safety and well-being of students and the larger communities. However, the prolonged nature of the pandemic and ongoing challenges has taken a toll on the school nurses' overall well-being. Understanding these burdens for school nurses is important to guide both future research, intervention efforts, and policy development to support nurses in the school settings during times of emergency, as well as prepare for the future. Despite the national shortage of nurses in general and school nurses, this study highlights the need to develop structures to support nurses in the school setting so that they can thrive under challenging circumstances and ultimately care for the students whom as a result of the pandemic have increasing physical and mental health needs. Results from this study help to provide

foundational knowledge necessary to begin building resilience interventions specifically for school nurses.


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