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Child Welfare Workforce Health: Exploring Stress, Burnout, Depression, and Sleep During COVID-19

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Researchers identified high levels of perceived stress (PSS), burnout (OLBI), depression (PHQ-9), and a poor quality of sleep (B-PSQI) in a sample of frontline child welfare workers during COVID-19. Findings revealed significant relationships between perceived stress, burnout, and depression and lower levels of perceived stress levels for workers in rural (vs. urban) areas. Results from this study add to the growing body of literature on child welfare workforce health.

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The National Institute for Occupational Safety and Health (NIOSH) defines job-related stress as the negative physiological and psychological responses that occur when the requirements of a worker's job role do not align with the worker's abilities, resources, and needs (2014). Job-related stress can result in significant costs to employers and society and can negatively influence the health of the workforce (e.g., cardiovascular and musculoskeletal diseases, psychological disorders (Hassard et al., 2018; NIOSH, 2014). Child welfare (CW) workers are a focus when it comes to research related to occupational stress given the connection between how their job stressors create high rates of turnover that negatively impacts families and children (Cahalane & Sites, 2008; Lizano et al., 2021; Scannapieco & McConnell-Carrick, 2007).

Literature Review

Occupational Stress in Child Welfare

Decades of research have examined and identified factors that create stress in CW workers that lead to high rates of turnover. Stress and burnout have been identified as important factors influencing turnover (Kim & Kao, 2014). Organizational support, case severity, moral distress, public perception, limited time spent with clients, and long hours with limited resources have been identified as contributing to occupational stress of these professionals (Beer et al., 2021; Kim et al., 2011; Kothari et al., 2021; Lawrence et al., 2018; Stahlschmidt et al.; Zeitlin et al., 2019). The CW worker's location of service is important. While limited, research has identified rural workers reported lower levels of stress than their urban counterparts (Kim & Hopkins, 2017). Additionally, reports have identified CW workers in rural settings have higher levels of job satisfaction, greater intention to stay at their agencies, and CW workers in urban areas were 2.75 times more likely to leave (Griffiths et al., 2017; Barth et al., 2008; Yankeelov et al., 2009).

Research identifies a connection between increased stress in CW and negative implications for workers' lives. Examples include decreased time with family, isolation, issues with work-life balance, and detrimental coping strategies (Griffiths et al., 2018; Beer et al., 2021). Workers attributed the development of unhealthy habits (e.g., substance use, unhealthy eating) and negative self-reported health outcomes (e.g., obesity, depression, anxiety, fatigue) to the stress of their positions (Griffiths et al., 2018; Griffiths et al., 2019). Consequences of high stress are problematic in CW, and research is exploring the impact of its contribution to salient psychological (e.g., burnout, depression) and physical (e.g., sleep quality) dimensions of wellness (Griffiths et al., 2018; Griffiths et al., 2019; Kim et al., 2011).

Burnout

Burnout is a psychological response to chronic stress an individual experiences over time while working (Maslach & Leiter, 2016). Burnout includes three dimensions: exhaustion, becoming cynical and feeling detached, and feeling ineffective or not experiencing a sense of accomplishment in a job. If an individual becomes overworked, they might be at risk for burnout, due to not having adequate time to rest and recover from the demands of their workday. Burnout has been associated with negative health and work-related outcomes (Maslach & Leiter, 2016). In CW workers, burnout has been identified as a concern and is associated with higher rates of employee turnover and poor personal well-being (Beer et al., 2021; He et al., 2018; Hermon & Chalhla, 2019; Kim & Kao, 2014).

Depression

Depression is one of the most common mental illnesses individuals in the United States will experience (National Institute of Mental Health [NIMH], 2018). Depressive disorders include symptoms that

can significantly impact an individual's functioning (e.g., cognition, sleeping, etc.) and can impact their ability to perform at work (NIMH, 2018). Depression is associated with increased rates of unemployment and disability, higher estimated healthcare costs, and decreased cognitive performance of workers (CDC, 2019). Depression can also lead to physiological diseases, such as stroke, cardiac disease, chronic pain, and insomnia (Fang et al., 2018; Goodwin, 2022). Importantly, CW workers reported experiencing symptoms of depression related to their job role (Beer et al., 2021; Griffiths et al., 2018).

Sleep

Sleep is necessary for an individual's overall health and survival (Worley, 2018). Obtaining adequate sleep allows the body and brain to recover from the effects being awake has on an individual's health (Munafo et al., 2018). Adults between the ages of 18 and 64 need approximately seven hours of sleep per night (CDC, 2017). Without sufficient sleep, individuals have higher rates of physiological diseases, including hypertension, diabetes, obesity, and cancer, which can result in higher rates of morbidity and mortality (Munafo et al., 2018). When an individual becomes sleep-deprived their cognitive abilities while awake begin to suffer, including a decreased ability to remain focused, attentive, and alert to the environment (Worley, 2018). A lack of adequate sleep can also affect an individual's psychological well-being, which can lead to increased levels of stress and low stress tolerance (Worley, 2018). Sleep deprivation has been associated with higher rates of psychological illnesses, with depressive and anxiety disorders being the most common (Munafo et al., 2018). High levels of work-related stress have been associated with increased chances of developing sleep difficulty, such as insomnia (Yang et al., 2018). Individuals at risk for sleep-related issues have been found to be less productive at work and have higher rates of absenteeism (Munafo et al., 2018).

The CW literature identifies sleep deprivation as a concern (Griffiths et al., 2018; Griffiths et al., 2019); however, studies examining relationships between stress and sleep quality have not been identified. One CW study used open-ended questions and identified the connection between high levels of stress and problematic sleep habits (e.g., night-mares, worries) (Griffiths et al., 2018). Another study with entry-level CW workers found sleep disturbances worsened during the first six months of employment; however, these disturbances stabilized after approximately 18 months (Wilke et al., 2020).

The COVID-19 Pandemic and Child Welfare

Limited research has explored the impact of the COVID-19 pandemic on the CW worker and the system itself. Researchers are investigating COVID-19's influence on allegations of maltreatment, substantiated reports, and placements, all known to rise during times of high stress (Brown et al., 2022; Metcalf et al., 2022; Nugyen 2021).

Shifting CW practice and trainings from a face-to-face modality to a remote and hybrid delivery system identified barriers and opportunities (Loria et al., 2021; Schwab-Reese et al., 2020; Seay & McRell, 2021). During the initial phase of the pandemic, CW workers faced concerns about maltreatment not being reported and realized those in rural areas had an imminent need for an enhanced technological infrastructure to engage with families (Gross et al. 2022; Merritt & Simmel, 2020). CW workers voiced privacy concerns while conducting virtual or telephone interviews with children, including the perpetrator being close enough to hear what was being said and preventing the child from disclosing abuse (Renov et al., 2022). CW workers had concerns about not being able to physically see the children and parents in their home environment like they typically can when working in the field. COVID-19 restrictions also caused increased challenges for CW workers when placing children into foster homes and in some cases no placement could be found (Renov et al., 2022).

COVID-19 impacted both the professional and personal lives of CW workers. While some workers found working from home to be more flexible and efficient, others identified that working from home caused them to experience increased stress, due to taking care of their own children who were unable to attend childcare or school (Renov et al., 2022). CW workers also discussed how stressful it was to have limited access to protective personal equipment as a front-line worker in the early stages of the pandemic before vaccines were available, which placed them at higher risk for contracting COVID-19 while working and potentially spreading it to their family. Workers reported attending counseling to deal with the stress of their job role during the pandemic (Renov et al., 2022).

As the country experienced historic levels of stress during the COVID-19 pandemic, CW workers levels of distress have increased and a need to collect evidence to inform different approaches for workforce development, prevention, and cross-sector collaboration in CW was identified (Herrenkohl et al., 2021; Miller et al., 2020; Witters & Harter, 2020). Interpersonal, intrapersonal, and work relationships have been recognized as important influences to CW worker well being and coping mechanisms such as staying present with friends and families have been show to be highly influential on workers intent to leave an agency (Magruder et al., 2022; Julien-Chinn et al., 2021). Pisani-Jaques (2020) argues that the CW system is now in crisis, and the effects are being felt on behalf of the workforce.

Purpose of the Study

As posited by Lizano and colleagues (2021), child welfare workers "have a fundamental right to workplace well-being and opportunities to develop their job-related capacities" (p. 281). Lizano and colleagues (2021) proposed a "holistic framework of worker well-being" for child welfare workers after recognizing its absence in the literature. This newly developed biopsychosocial framework includes three dimensions

(e.g., physical, psychological, and social) and is an appropriate lens to utilize when developing new inquiries in this area, especially during the time of social distancing and remote work during COVID-19. The purpose of this study was to utilize credible screening instruments with a sample of frontline CW workers to explore multiple dimensions of their health (e.g., perceived stress, burnout, depression, quality of sleep) and the influence of their location of service (urban or rural) during COVID-19. No published studies were found that collectively examined these dimensions with frontline CW workers and only one study was found that measures sleep quality in CW. However, Wilke and colleagues (2020) used a single four-item measure that primarily focused on sleep disturbances with a sample of newly hired CW workers before COVID-19.

Research Questions

Research question 1: How do CW workers perceive their stress, burnout, depression, and quality of sleep during COVID-19?

Research question 2: Are there relationships between perceived stress and burnout, depression, and quality of sleep for CW workers during COVID-19?

Research question 3: Are there differences in CW worker levels of perceived stress, burnout, depression, and quality of sleep, with respect to working in an urban or rural area during COVID-19?

Methodology

Results from this manuscript reflect a segment of a larger two-year effort, the Kentucky Child Welfare Workforce Wellness Initiative (KCWWWI) The KCWWWI is a Medicaid-funded collaboration between three partnering agencies, Kentucky's Cabinet for Health and Family Services, LifeSkills, Inc., and Western Kentucky University.

Table 1Sample Characteristics of Cohort 1 Frontline Child Welfare Workforce (n = 32)

Worker Characteristics	F (Valid%)	Range	M (SD)
Age		22-60	37.82 (9.96)
Years Worked for the Agency		1-27	9.06 (7.81)
Gender			
Female	31 (96.1)		
Male	1 (3.1)		
Racial/Ethnic Identity			
White	22 (68.8)		
African American	5 (15.6)		
Biracial or Multiracial	4 (12.5)		
Hispanic or Latino	1 (3.1)		
Marital Status			
Married	15 (46.9)		
Never Married	15 (46.9)		
Divorced	2 (6.3)		
Current Sexual Orientation			
Heterosexual/Straight	27 (84.4)		
Lesbian	2 (6.3)		
Prefer Not to Respond	2 (6.3)		
Other	1 (3.1)		
Highest Degree Earned			
Undergraduate Degree, Social Work	13 (40.6)		
Undergraduate Degree, Other (Not Social Work)	12 (37.5)		
Graduate Degree, Social Work	6 (18.8)		
Graduate Degree, Other (Not Social Work)	1 (3.1)		

Table 1 (Continued)

Worker Characteristics	F (Valid%)	Range	M (SD)
*In general, would you say your health is:			
Poor	0 (0.0)		
Fair	9 (29.0)		
Good	18 (58.1)		
Very Good	3 (9.7)		
Excellent	1 (3.2)		
**Working Remotely Due to COVID-19			
Yes	28 (87.5)		
No	4 (12.5)		
Workplace Location			
Urban	11 (36.7)		
Rural	19 (63.3)		
Currently Taking Psychotropic Medication			
Yes	13 (40.6)		
No	19 (59.4)		

Note. *Item taken from the PROMIS (Hays et al., 2009). **Collected during May of 2021.

Design and Data Collection

The KCWWWI was led by a team of social work and nursing faculty who are employed by the university. The agency supported the mission of the initiative and agreed to provide work time for their staff to participate in the program. This two-year initiative utilized an exploratory longitudinal design and integrated a series of sequential subjective and objective assessments focused on occupational stress and health indicators associated with working in CW (e.g., job satisfaction, depression, stress, sleep, etc.). The research team selected subjective measures for this initiative based on several factors: reliability, validity, and parsimony, and alignment with the Substance Abuse and Mental Health

Service Administration's (SAMHSA) Eight Dimensions of Wellness (2017). After IRB approval of the protocol, chosen measures were electronically distributed. Data from this manuscript only includes subjective baseline measures related to occupational stress collected from Cohort 1 in May of 2021.

Sample

Recruitment began in the spring of 2021. Of the 81 CW workers and supervisors in the selected region of the state's public CW agency who met criteria for the study (e.g., frontline CW workers with client contact who did not work in an administrative or auxiliary support role), 32 enrolled in Cohort 1. The demographic characteristics of Cohort 1 are shown in Table 1.

Participants primarily identified as female (96.9%). Ages ranged from 22-60, averaging 37.82 years. Participants averaged 9.06 years of service at the agency, with a range of 1-27 years. Related to racial composition, the majority of participants were 68.8% white or 15.6% African American. Regarding marital status, the majority were married or never married (93.8%). Most participants identified as heterosexual (84.4%). Regarding workplace location, 36.7% participants reported working in an urban county and 63.3% reported working in a rural county. Approximately 88% of participants worked remotely due to the COVID-19 pandemic. Regarding an individual item associated with participants perceived general health (Hays et al., 2009), most reported "good", "very good", or "excellent" health (71%), while some reported "fair" health (29.0%). When asked about current use of psychotropic medications, 40.6 % of participants stated they were currently taking one or more of the following types of medications: antidepressants, anxiolytics, mood stabilizers, stimulants, and sleep aids.

Measures

Perceived Stress Scale (PSS)

The PSS is a frequently used, valid and reliable tool, that measures an individual's perception of stressful life situations (Cohen et al., 1983). The PSS consists of 10 items and individuals are instructed to rate their agreement with stress provoking situations over the past month on a Likert scale (0 = never, 1 = almost never, 2 = sometimes, 3 = fairly often, 4 = very often). Scores on the instrument can range from zero to 40 (0-13 = low perceived stress, 14-26 = moderate perceived stress, and 27-40 = high perceived stress).

Oldenburg Burnout Inventory (OLBI)

While the Maslach's Burnout Inventory has been identified as the "gold standard" for measuring burnout, concerns exist about its theoretical and psychometric aspects. Similar to other studies (Tipa et al., 2019), the research team chose the Oldenburg Burnout Inventory (OLBI). The OLBI is a self-reported, valid, and reliable tool that measures two primary dimensions of burnout, which are exhaustion and disengagement from one's work (Demerouti et al., 2001). The OLBI consists of 16 statements and individuals are instructed to rate their level of agreement or disagreement on a Likert scale (1 = strongly agree, 2 = agree, 3 = disagree, 4 = strongly disagree). Scores on the instrument range from 16 to 64, with a higher score indicating a greater level of burnout.

Patient Health Quesitonnaire-9 (PHQ-9)

The Patient Health Questionnaire-9 (PHQ-9) is a self-reported, valid, and reliable tool created to detect the severity of depression (Kroenke et al., 2001). The tool consists of nine items that assess for the presence of major depression. Participants are asked if they have experienced any problems associated with major depression within the past two weeks

on a Likert scale (0 = not at all, 1= several days, 2 = more than half the days, 3 = nearly every day). Scores on the instrument range from one to 27, with the following depression severity ranges: 1-4 = minimal depression, 5-9 = mild depression, 10-14 = moderate depression, 15-19 = moderately severe depression, 20-27 = severe depression.

Brief-Pittsburgh Sleep Quality Index (B-PSQI)

The Pittsburgh Sleep Quality Index (PSQI) is a self-reported, reliable, and valid tool that assesses individuals' sleep quality and disturbances within the past 30 days (Buysse et al., 1988) and is one of the most widely used tools to assess sleep quality in both practice and research (Sancho-Domingo et al., 2021). A brief version of the PSQI (B-PSQI) was developed as a valid and reliable tool to improve upon the efficiency and applicability of the original PSQI (Sancho-Domingo et al, 2021). The B-PSQI contains a total of six questions, which generates five scored items. The B-PSQI includes questions that assess sleep efficiency where participants are asked about when they go to bed and when they wake up, which provides one scored item. The scale also includes items that assess sleep latency (i.e., how long it took for the individual to fall asleep), hours of sleep per night, times awakening during the night, and overall sleep quality. A scoring guide is provided to calculate total scores, which can range from 0 to 15, with lower scores (0-5) indicating good sleep quality and higher scores (6-15) indicating poor sleep quality.

Data Analysis Process

Descriptive analysis of mean scores were used to assess for CW workers' perceptions of stress, burnout, depression, and quality of sleep. A series of bivariate correlations were used to assess for relationships among participants' perceptions of stress, and their reported levels of burnout, depression, and quality of sleep. Finally, a series of independent samples

t-tests were conducted to assess for mean differences by location of service (urban or rural) across all variables (e.g., stress, burnout, depression, quality of sleep).

Results

Univariate Analysis

Subjective Reports of Stress

PSS scores ranged from 10 to 32, while the mean score for participants was 21.93. Most participants (93.3%) had PSS scores of 14 or above, indicating moderate to severe levels of perceived stress within the previous 30 days. Only 6.7% of participants had low perceived stress scores.

Subjective Reports of Burnout

OLBI scores for participants ranged from 32 to 60, with a mean score of 48.29. The OLBI has no standard ranges, and to better contextualize the levels of reported burnout on behalf of the sample, the potential overall score distribution of 16-64 was split into thirds (low = 16 - 32; medium = 33-48; high = 49-64). One child welfare worker was in the "low" range (3%), 14 were in the "medium" range (45%), and over half were in the "high" range (n = 16, 52%).

Subjective Reports of Depression

PHQ-9 scores ranged from one to 18, with a mean participant score of 9.19. Approximately 16% of participants had minimal symptoms of depression. However, 41.9% of participants had mild symptoms of depression and 32.3% had moderate symptoms of depression. Approximately 10% of participants scored in the moderately severe range of depressive symptoms.

Table 2Descriptive Results from Sample Related to PSS, OLBI, PHQ-9, B-PSQI (n = 32)

				= 01 H 16 ()
Variable	Mean	Range	SD	F (Valid %)
PSS	21.93	10.0-32.0	5.42	
OLBI	48.29	32.0-60.0	7.42	
PHQ-9	9.19	1.0-18.0	4.38	
B-PSQI	7.26	2.0-13.0	2.83	
*During the past month:				
*How long (in minutes) has it taken you to fall asleep each night?	43.87	5.0-180.0	36.85	
*How many hours of actual sleep did you get at night?	6.44	5.0-10.0	1.31	
*How often have you had trouble sleeping because you wake up in the middle of the night or early morning?				
o Not During the Past Month				0 (0%)
o Less than Once a Week				4 (12.5%)
o Once or Twice a Week				10 (31.3%)
 Three or More Times a Week 				18 (56.3%)
*How would you rate your sleep quality overall?				
 Very Good 				0 (0%)
o Fairly Good				18 (56.3%)
o Fairly Bad				11 (34.4%)
o Very Bad				3 (9.4%)

Note. PSS = Perceived Stress Scale, OLBI = Oldenburg Burnout Inventory, PHQ-9 = Patient Health Questionnaire-9, B-PSQI = Brief-Pittsburgh Sleep Quality Index. *Individual items from the B-PSQI.

Subjective Reports of Sleep Quality

On average, participants reported sleeping 6.4 hours per night within the previous 30 days. Approximately 68% of participants slept less than 7 hours per night and 56.3% reported waking up three or more times per night. The average amount of time it took for participants to fall asleep was 43.9 minutes, with 29% reporting it took them 30-60 minutes and 12.9% reporting it took 90 minutes or more to fall asleep. Regarding the single item assessing sleep quality within the past 30 days, no participants chose "very good," while 43.8% chose "fairly bad" or "very bad". Most participants (71%) had total B-PSQI scores that indicated poor sleep quality. See Table 2 for additional details of univariate analyses results.

Bivariate Analyses: Correlations

A series of bivariate correlation analyses were conducted to explore relationships between CW workers' perceived stress and burnout, depression, and sleep quality. A significant relationship was found between perceived stress and burnout (p = .001). As perceived stress scores increased, so did burnout scores. Given the correlation coefficient of .687, a moderate positive linear relationship was identified. A significant relationship was also found between perceived stress and depression (p = .001). As perceived stress scores increased, so did depression scores. With a correlation coefficient of .619, a moderate positive linear relationship was established. While a weak inverse relationship was identified between stress and B-PSQI scores, the analysis did not indicate a significant relationship (p = .408). Additional details can be found in Table 3.

Table 3Bivariate Correlations with Perceived Stress (PSS) (n = 32)

Variable	Coefficient	р	
Burnout (OLBI)	.687	.001**	
Depression (PHQ-9)	.619	.001**	
Sleep Quality (B-PSQI)	160	.408	

Note. OLBI = Oldenburg Burnout Inventory, PHQ-9 = Patient Health Questionnaire-9, B-PSQI = Brief-Pittsburgh Sleep Quality Index. p < .05, p < .01.

Bivariate Analyses: T-tests

A series of independent samples t-tests were conducted to explore differences in mean scores of CW worker perceived stress, burnout, depression, and quality of sleep, based on their location of service (urban or rural). Participants located in an urban area reported higher levels of stress, burnout, and depression, but not all relationships were significant. Specifically, urban participants reported a significantly higher level of stress (M = 24.18, SD = 4.19) than their rural colleagues (M = 20.63, SD = 5.72; t = -1.794, p = 0.042). While not quite significant (t = -1.321, p = 0.098), urban participants also reported higher levels of burnout (M = 50.64, SD = 7.08) than their rural-based colleagues (M = 47.00, SD = 7.46). Close to the significance level as well (t = -1.246, p = 0.111), urban participants reported higher levels of depression (M = 10.60, SD = 4.72) than their colleagues who worked in rural areas (M = 8.52, SD = 4.16). Related to sleep quality, results were close. Urban participants reported a mean score on the B-PSQI of (M = 7.09, SD = 3.11) and their rural-based colleagues identified a marginal and insignificant decline at (M = 7.35, SD = 2.74; t = .240,p = .406). Additional details can be found in Table 4.

 Table 4

 Independent Samples t-tests Comparing Location of Service During

 COVID (Urban vs. Rural)

Variable	Urban	Rural	t	р
Perceived Stress (PSS)	24.18 (4.19)	20.63 (5.72)	-1.794	.042*
Burnout (OLBI)	50.64 (7.08)	47.00 (7.46)	-1.321	.098
Depression (PHQ-9)	10.60 (4.72)	8.52 (4.16)	-1.246	.111
Sleep Quality (B-PSQI)	7.09 (3.11)	7.35 (2.74)	.240	.406

Note. * p < .05.

Discussion

Almost the entire sample was working remotely due to COVID-19 at the time of data collection, and the results from this study highlight the potential intersection of attempting to manage a position in frontline child welfare and the responsibilities of personal lives during the pandemic. Prior research has identified that CW workers face profound stress (Beer et al., 2021; Griffiths et al., 2018; Hermon & Chahla, 2019). Findings from this study add to this literature, as 93.3% of the sample reported moderate to severe levels of stress on the PSS. Further, these professionals reported significant symptoms related to depression as 41.9% of the participants were in the moderate or moderately severe range on the PHQ-9. While prior research has made the connection between stress and depression in CW (Beer et al., 2021; Griffiths et al., 2018), obtaining data on the reputable PHQ-9 will enhance the body of knowledge by documenting the prevalence and gravity of this condition in frontline workers. Approximately 41% of participants reported taking psychotropic medications, with some of these medications being indicated for the treatment of depression. The significant relationship between perceived stress and depression is concerning. Depression can have negative effects on an individual's overall health, along with their

daily functioning and ability to adequately perform at work (CDC, 2019; NIMH, 2018) and can be costly to organizations (CDC, 2019). A proactive approach is needed, as the CDC (2019) recommends employers offer free or subsidized screenings for depression by trained professionals, along with referral to accessible and affordable mental health care options. Employers can also offer workshops that provide education on depression prevention and stress-management methods and can create an environment that promotes the recognition of increased stress and depression in the workplace (CDC, 2019).

New to the literature is an assessment of CW worker sleep with the B-PSQI, where 71% of participants indicated poor sleep quality. Results support and improve upon previous concerning sleep trends on behalf of CW workers (Griffiths et al., 2018; Griffiths et al., 2019; Wilke et al., 2020) and integrate the utilization of reputable measures for assessment and evaluation. Sleep deprivation was a concern, as participants averaged less than the recommend seven hours of sleep per night (CDC, 2017). The majority reported waking up at least three times per night, averaging 44 minutes to fall asleep. Without obtaining enough sleep to allow the body and brain to recover, CW workers may have difficulty focusing and being alert while performing vital duties to protect children and families. Workers who are not sleeping well may be at higher risk of abseentism and may be less productive on the job, which may lead to increased demands and stress on co-workers. Given the negative consequences of poor sleep on overall health and work performance (Munafo et al., 2018; Worley, 2018), agencies should prioritize the rest and recovery of their workforce. Future research should integrate sleep measurements and consider both subjective and objective assessment techniques such as using wearable devices to collect physiological data. Asking a professional faced with chronic stress to recall details about their sleep habits over the last 30 days is valuable, although may not be the best way to obtain an accurate representation of their sleep habits or quality. Maybe this is partially responsible for the relationships (or lack thereof) between the B-PSQI and the related variables?

Participants reported high levels of burnout on the OLBI, as 45% were in the medium range and 52% were in the high range. Burnout in CW workers has previously been identified (Beer et al., 2021; He et al., 2018; Hermon & Chalhla, 2019), and the associations with perceived stress are concerning. As described by Maslach and Leiter (2016), burnout increases the risk of negative work-related outcomes, including less job satisfaction, decreased commitment to the organization, absenteeism, and plans to leave their job. With child welfare already experiencing high rates of turnover before the pandemic, burnout may be compounded by the increased stress of COVID-19.

Based on findings from this study, child welfare employers need to be aware that workers in urban settings may have significantly higher levels of stress when compared to workers in rural settings. Although the findings did not reach significance, urban workers may also be experiencing increased rates of depression and worsened sleep quality than their urban counterparts. Future research should actively enhance efforts to investigate the relevant aspects of how working in different service domains is impacting the health of the practitioner. Qualitative explorations may be beneficial in shedding light on the more nuanced contributors that could inform efforts for systematic change. These findings are a call to action.

Limitations

Limitations of this study include the sample size, geographical region, and the inability to generalize the results. There was limited diversity in the sample, self-report measures were used, and participants may have considered providing responses that were socially acceptable. This highlights the need for including objective measures in future studies when assessing workforce health and wellbeing. Future studies may also want to consider gathering more demographic data from participants that may impact stress, depression, sleep quality, and burnout, such as, whether the worker had a history of mental illness and/or taking

psychotropic medications before being employed in child welfare, and if the individual has children at home or is a single parent.

Conclusions

New contributions from this study will assist agencies, community partners, and legislators in several ways to improve the overall health and wellness of CW workers. First, this study adds to the limited literature examining the presence of stress on the CW workforce and has identified linkages with elevated levels of depression and burnout. Second, results indicate CW workers might not be obtaining quality sleep and future research should explore this vital aspect and its connection with service delivery and worker health. The utilization of biometric devices and objective measures may be vital tools when enhancing this work and obtaining more accurate evidence. Third, urban CW workers may have a different experience altogether. While the sample size and geographical region are noted limitations of this study, a continued effort to explore both challenges and successes for which to build upon related to working in either of these practice domains is vital. Findings from this study should serve as a call to action. As Bowman (2022) states, child welfare worker wellness is an "ethical imperative in the service of children."

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