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MAJOR EMPIRICAL CONTRIBUTION

Experiences of Workers with Chronic Health Conditions During the COVID-19 Pandemic: An Examination of Demands and Resources

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Abstract

Chronic health conditions are not uncommon among working adults; however, research on the unique challenges experienced by such workers is relatively limited. The present study investigated the experience of workers with a chronic health condition during the COVID-19 pandemic. Data were gathered via online survey from 116 workers with a chronic health condition, from various occupations and with various conditions. Results from analyzing qualitative data indicated that around half of workers were satisfied with their organization's response to the pandemic, but a substantial portion desired additional accommodations or felt some sense of stigma or being undervalued. Quantitative tests of study hypotheses indicated that job insecurity affected workers' psychological well-being, while perceptions of devaluation affected burnout. Resources of perceived organizational support and flexibility were beneficial for well-being, as evidenced by bivariate correlations, but did not show unique or moderating effects in more stringent regression models. Exploratory analyses suggested that some of the benefits of resources and impacts of demands could depend on the number of health problems being managed. Implications of our findings are discussed, along with recommendations for future research.

Keywords Chronic health conditions · Job insecurity · Devaluation · Flexibility · Pandemic · Organizational support

The COVID-19 pandemic brought about dramatic changes to daily living, including changing work arrangements, economic challenges and job loss, and heightened concern for contracting or spreading this illness. While pandemic-related concerns

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were felt by many, the potential consequences of the COVID-19 virus were particularly worrisome for those with existing health conditions (CDC, 2023a; Zhang et al., 2020). Having a pre-existing chronic health condition (CHC) or a family member with an existing health condition during the pandemic was related to higher reports of anxiety, depression, and traumatic stress (Smith et al., 2021).

Within this pandemic context, organizations had to (or at least should have) quickly respond and enact efforts to protect their employees, especially vulnerable workers (Mishra & Cousik, 2021; Shepard et al., 2021). However, there is little empirical research on how workers with CHCs were impacted during this evolving and challenging time. The purpose of the present study was to understand the experiences of workers with CHCs during the pandemic using a mixed methods survey study.

Given the uniqueness of the pandemic context and sample of workers with CHCs, we examined exploratory research questions that were investigated via qualitative remarks. Applying the Job Demands-Resources theory (Bakker & Demerouti, 2017), we also estimated relationships between demands (i.e., job insecurity, devaluation), resources (i.e., support, flexibility), and well-being outcomes for a sample of workers with CHCs during the pandemic. This study adds to the already limited literature on the experience of workers with CHCs and is especially novel in examining such experiences during this unique context of a pandemic. Our mixed methods approach allowed for holistic triangulation, in which we could better contextualize our quantitative analyses with the descriptive background provided in the qualitative experiences of our recruited sample (Turner et al., 2016). The background, theory, and rationale for our study research questions and hypotheses is provided in the following sections.

Workers with Chronic Health Conditions

The Centers for Disease Control and Prevention (CDC; 2020a) define a CHC as a condition that lasts a year or longer and requires ongoing medical attention and/or limits daily living activities. CHCs, which affect approximately 60% of adults in the United States (CDC, 2020b), can result in a variety of costs for individuals and societies (e.g., disability costs, health care expenditures, Buttorff et al., 2017; CDC, 2023b).

Research attention to workers with CHCs has been fairly limited in organizational psychology. Existing research suggests that CHCs can limit an individual's participation in the workforce (Rijken et al., 2013) and ability to produce quality work (Eisner et al., 2002; Armon et al., 2014; Munir et al., 2007). Further, some research has identified unique demands managed by workers with a CHC or disability. This can include complex social demands, such as managing perceived stigma around their condition (e.g., McGonagle & Barnes Farrell, 2014), as well as challenges carrying out some work tasks and reducing interference between their health condition and work performance (e.g., Lehmann et al., 2021; McGonagle et al., 2020; Ruston et al., 2013). Navigating the demands that may be directly or indirectly experienced because of CHCs could further impact an employee's well-being.

While existing literature provides some context on the challenges experienced by workers with CHCs, it is unknown how such workers feel in a context that may bring additional threats to their health and attention to their condition. The pandemic created a context in which workers with CHCs needed additional protections and accommodations for work. To understand workers' experiences during the pandemic, while managing a CHC, we examined three key research questions using qualitative data. These research questions provided for a richer, descriptive investigation of the experiences of our sample. Further, this qualitative data provides insight for employers, when faced with future scenarios that could be challenging for workers with CHCs.

Research Question 1 How did workers feel they were treated during the pandemic?

Research Question 2 Were workers satisfied with their organization's response?

Research Question 3 What resources did workers feel they lacked?

Theoretical Background

In addition to our descriptive qualitative research questions, we explored hypotheses relating job demands and resources to worker health. The Job Demands-Resources (JD-R) theory (Bakker & Demerouti, 2017; Bakker & Demerouti, 2007; Demerouti et al., 2001) is an established framework that connects job conditions to worker well-being. The JD-R theory has been applied to a wide range of occupations and contexts (Bakker & Demerouti, 2017). Being broadly applicable to many workplace settings, this theory can provide insight into the experience of workers with a CHC during the pandemic. Within this framework, job demands are the aspects of work that require mental or physical effort, while job resources represent aspects that are useful in meeting demands (Bakker & Demerouti, 2017). Various types of job demands relate to negative health states, including stress and burnout, which is characterized by mental exhaustion and disengagement (Demerouti et al., 2001). Job resources, both originating from the individual worker and the organization, relate to less burnout risk and buffer the impacts of job demands (Bakker & Demerouti, 2017; Demerouti et al., 2001; Demerouti, 2015). Further, job resources can promote positive states of well-being, such as a sense of engagement or motivation toward one's work (Bakker et al., 2014).

In the present study, we used this basic framework to understand how salient demands and resources were related to the well-being of workers with CHCs during the pandemic. There were countless factors affecting many of these workers during this time. However, considering key contextual factors, including the economic concerns associated with the pandemic and potential demands that could result from an increased discussion around one's health status, we focused on two primary demands (i.e., job insecurity and perceptions of devaluation). Regarding resources, both personal resources and organizational resources can be powerful in helping workers to

avoid burnout and experience positive motivational states (e.g., Demerouti, 2015; Bakker et al., 2014). To add practical value for organizations, we wanted to focus on organizationally-based resources of social support and flexibility, both of which could help to ease the impacts of demands created by the pandemic.

Demands

Within the economic context of the pandemic, financial concerns were prominent as U.S. unemployment rates peaked in April 2020 (14.8%; Congressional Research Service, 2021; U.S. Bureau of Labor Statistics, 2023). In large-scale surveys, over half of Americans reported that job stability was one of their biggest sources of stress; nearly 70% reported some change to their employment situation because of the pandemic (e.g., reduced hours, layoffs, or simply having to balance other role demands; American Psychological Association, 2020). Job insecurity occurs when employees do not perceive stability in their job situation (Probst, 2002) and is associated with poor mental health and sleep problems (Ganson et al., 2021; Burgard et al., 2012; Ferrie et al., 1998). During the pandemic, a study of workers in the hospitality industry found that the more workers perceived risks associated with COVID-19, the more concerns they had about job insecurity (Vo-Thanh et al., 2020). Given workers with CHCs experienced higher levels of concern about the risks associated with COVID-19 (Smith et al., 2021; Zhang et al., 2020), this created a context that could also heighten employment-related concerns. Indeed, a study of Canadian workers found that workers with CHCs experienced higher levels of job insecurity compared to those without (Maroto et al., 2021).

A second relevant demand for workers with CHCs was their perceived value during a time when their status as someone with a CHC was likely more salient. During the pandemic, there was persistent messaging around the increased risk for those with existing conditions, with guidance appealing to the motive to take precautions to protect others who were vulnerable (e.g., CDC, 2023c). While some workers may have felt more supported during this time, as many employers moved to make accommodations, it is possible that others may have been concerned about being viewed or treated negatively by some individuals in their workplace. Research prior to the pandemic explored the impacts of socially influenced stressors on workers with CHCs, such as stigma or anticipated discrimination. Stigma associated with visible (e.g., paraplegia) or invisible (e.g., irritable bowel syndrome) conditions can influence whether an employee will disclose their illness to others at work or ask for needed accommodations (Joachim & Acorn, 2000). Further, employees that anticipate experiencing discrimination related to their health condition can experience elevated strain and negative work attitudes (McGonagle et al., 2016). In the present study, we focused on an internalized concern about the views of others in the workplace. Specifically, perceptions of devaluation involve the belief that someone is negatively viewed for their illness (McGonagle & Barnes-Farrell, 2014). Individuals with higher perceptions of devaluation would believe that other people feel their illness affects their job performance and work abilities. These perceptions can threaten workers who strongly associate an illness with their identity and have been related to worker strain (McGonagle & Barnes-Farrell, 2014). With adequate accommodation becom-

ing more essential during the COVID-19 pandemic to offset higher risks for severe illness, employees may have been at a heightened risk for perceptions of devaluation if they disclosed conditions.

In sum, given the assumptions of the JD-R model and existing research that connects job insecurity to poor health, we expected job insecurity would positively relate to burnout and negatively relate to psychological well-being for workers with a CHC. Similarly, we expected perceived devaluation to operate as a demand, relating to more burnout and worse psychological health, consistent with prior findings on the negative effects of devaluation. Our study adds to research documenting the potential relevance of job insecurity and devaluation to workers with CHC, using indicators of work-related well-being, as well as broader psychological health. Further, to ensure that underlying physical health problems and one's general workload (as many may have been reduced or elevated during the pandemic) were not overly influential on these well-being outcomes, we tested our hypotheses with and without controlling for general health and quantitative work overload, among other demographic covariates.

Hypothesis 1 Job insecurity (1a) and devaluation (1b) are related to higher burnout and worse psychological health.

Resources

Resources are important to balancing the impact of job demands, particularly when stressors may be heightened. Workers with CHCs during the pandemic could benefit from a diverse set of personal and organizational resources; however, we focused on two organizational resources for our study purposes. First, such workers may benefit from having flexibility. Kossek and Van Dyne (2008) described flexibility in terms of time worked, timing of work tasks, and work location. These aspects of flexibility can be especially important for supporting those with CHCs, such as in allowing breaks for workers who may experience difficulty concentrating (Eisner et al., 2002) or helping to manage doctor appointments or medical treatments (Beatty & Joffe, 2006). Flexibility for workers with CHCs was especially important if workers wanted to change their working hours or work location to reduce their risk of exposure to COVID-19. Indeed, offering flexible options like tele-work was one recommendation of reasonable accommodations supported by the Equal Employment Opportunity Commission (EEOC) during pandemic situations for workers with a covered health condition (EEOC, 2023). We expected that more flexibility in work arrangement could be associated with better worker well-being because flexibility could reduce workers' exhaustion and anxiety about contracting COVID-19 (Smith et al., 2021).

Resources like workplace support and psychological safety have also been found to be broadly helpful in protecting employees with CHCs from demands (Gignac & Cao, 2009; Kirk-Brown & Van Dijk, 2015). These positive forms of social support can be offered from a variety of sources, including individuals at work (supervisors, co-workers) and the organization as a whole. In the present study, we focused on perceived organizational support (POS). POS is an employee's beliefs about whether an organization values their contributions and well-being (Eisenberger et al., 1986)

and has been found to relate to workers' subjective well-being (Kurtessis et al., 2015). Employees with CHCs who report supportive employers or supervisors tend to report better management of their symptoms (Munir et al., 2009). Workers who are potentially disconnected from their workplace due to a disability or health condition, if working remotely, may benefit from support, similar to studies that find benefits of supervisor support when workers are on illness leave (Buys et al., 2019). At a time when workers may feel vulnerable to concerns about negative treatment, as we described in our discussion of devaluation, feeling supported by their organization may be extremely important.

In sum, based on the JD-R Framework which proposes beneficial effects of resources, we expected that the organizational resources of flexibility and POS would relate to better well-being. This aligns with the general research that finds flexibility and support to be helpful to workers with CHC. We add to this literature by examining these resources in the pandemic context, when needs for flexibility and support may have been especially prominent. Further, our study is the first to our knowledge to examine these two resources among workers with CHCs in relation to both burnout, as a work-related outcome, and more general psychological health.

Hypothesis 2 POS (2a) and flexibility (2b) are related to less burnout and better psychological health.

Moderation Effects

A component of the JD-R theory, which has received support over numerous studies, is the prediction that resources can buffer the impacts of job demands on burnout and other forms of strain (Bakker & Demerouti, 2017). While some researchers theorize that resources should match the nature of the demand more directly in order to be an impactful moderator (De Jonge & Dorman, 2006), other studies find that resources can have a buffering effect for a variety of demands, suggesting resources can be broadly applicable in addressing demands (Xanthopoulou et al., 2007).

We expected flexibility to operate as a more broadly useful resource. While flexibility may not directly match the demands of insecurity or perceived devaluation, this general resource could still reduce the impacts of demands through decreasing strain and fatigue that may emerge from such stressors. Studies have found moderating effects of flexibility on demands-well-being relationships (e.g., Li et al., 2022; Maglalang et al., 2021); however, we know of no studies that have examined flexibility as a moderator of the impacts of devaluation or job insecurity. Thus, our study offers a novel test of these possible interactions for workers with CHCs to determine if flexibility is a broadly helpful resource in reducing the impacts of salient demands.

We expected that POS would offer a more direct match for the demands of insecurity and devaluation. Because both demands are perceptual regarding an employee's future within an organization and perceived value among organizational members, the availability of support from the organization should counter, to some degree, the strain associated with these demands. Studies have found POS to moderate relationships between demands and burnout and other well-being outcomes (e.g., Dogan-

tekin et al., 2022; Jawahar et al., 2007). While most studies find a buffering benefit of POS, one study found that POS could actually strengthen the relationship between job insecurity and burnout (Chen & Eyoun, 2021). Proposed explanations are that job insecurity may actually feel more stressful and exhausting if it threatens the valuable resource of POS. It remains unclear whether POS may act as a potential resource to reduce the impact of devaluation or other stigma-related demands.

Despite possible nuances in the nature of moderated effects, we generally expected that both POS and flexibility would operate in the traditional sense of the JD-R theory. Specifically, we expected these resources to buffer the impacts of job demands on burnout and psychological well-being for our sample of workers with CHCs.

Hypothesis 3 POS (3a) and flexibility (3b) buffer the relationships between job demands and well-being, such that the impact of demands on well-being is weaker when resources are high.

Method

Participants and Procedure

Data were collected via internet survey from 167 adults with a CHC (specifically at least one physical condition). Participants with missing responses for key variables or incorrect attention check responses were removed ($n=51$), resulting in a final sample of 116. Data were collected in January 2022 when vaccines were widely available, but COVID-19 case counts were at an all-time high (peaking mid-January; New York Times, 2023). Participants were recruited through groups for individuals with CHCs on Facebook and Reddit[1]. Participants could enter an incentive drawing for one of 29, $20 Amazon.com gift cards.

Participants were predominantly females (81%; 15% male and 4% non-binary). Reported race was mostly White (91%), followed by Hispanic or Latino (3%), Asian (2%), American Indian (2%), and "Other" (2%). The average age was 34.21 ($SD=9.98$). Most participants (83%) worked full-time (16% worked part-time, 2% reported not currently working). The sample was generally well-educated (74% had at least a bachelor's degree). Participants reported being diagnosed with one (33%), two (31%), three (16%), or more than three (20%) CHCs. Common conditions were arthritis, asthma, irritable bowel syndrome, fibromyalgia, and hypermobility disorders.

[1] Data were collected on Amazon's Mechanical Turk as our initial sampling strategy, but there were concerns about the quality of the data and legitimacy of responses among a vast majority of responses gathered. Given these concerns, these participants were omitted and the authors pivoted to the recruiting strategy described.

Measures

Open-ended Questions

Participants were asked how their organization responded to the COVID-19 pandemic (i.e., accommodations provided), how satisfied they were with this response, and what accommodations they felt they lacked. We also asked whether participants felt connected and valued by their organization during the pandemic and whether they felt stigmatized because of their condition.

Job Demands

Job insecurity (α = 0.95) was measured with 18 phrases regarding the future of an employee's position in an organization (e.g., certain, stable, unknown; Probst, 2003). Yes or no responses were summed for a total score where higher scores signified higher insecurity.

Three items assessed *meta-perceptions of devaluation* (α = 0.82; McGonagle & Barnes-Farrell, 2014). Respondents rated the extent to which others feel that their illness negatively affects their job performance, work abilities, and absences from work using a four-point scale (1 = others do not think this at all to 4 = others think this a lot).

Job Resources

POS (α = 0.90) was measured with eight items (Eisenberger et al., 1986). Respondents rated their agreement with statements, such as "My organization really cares about my well-being", on a seven-point scale (0 = strongly disagree to 6 = strongly agree).

Seven items were written for the study to measure *flexibility* for this population and context (α = 0.89). Respondents were asked how much they agreed with statements such as, "I have flexibility with the location that I work," using a seven-point scale (1 = strongly disagree to 7 = strongly agree).

Well-Being

General *psychological well-being* (α = 0.83) was assessed with 5 items from the RAND Health Survey SF-36 (Ware & Sherbourne, 1992). Participants rated the frequency they experienced various emotional states over the past four weeks (e.g., nervous, calm and peaceful) on a six-point scale (1 = all of the time, 6 = none of the time). Though the RAND SF-36 does suggest converting scale scores to a 0 to 100 range, we used the 1–6 format to be more consistent with ranges of other variables in our analyses. Higher average scores indicated better well-being.

Burnout (α = 0.91) was measured with 14 items (Melamed et al., 1992). Respondents indicated whether they recently experienced states such as, "feel physically tired", using a seven-point scale (1 = strongly disagree to 7 = strongly agree). Scores were averaged across subcategories (emotional exhaustion, physical fatigue, and

cognitive weariness) for an overall burnout score, where higher scores represented more burnout.

Demographics and Control Variables

Demographic variables assessed included age, gender, race, education, marital status, dependent children, and basic work information (e.g., work status, hours worked, job title). Some of these demographic control variables were incorporated into our analyses, given some evidence that factors such as gender, age, race, and education may contribute to one's health and well-being (e.g., Adler, & Rehkopf, 2008; González Gutiérrez et al., 2005; Lee et al., 2022). To account for the general effects of their CHC on well-being and burnout, general health relative to others was measured with five items from the RAND SF-36 previously referenced ($\alpha = 0.73$). Quantitative workload was measured with five items rated on a five-point frequency scale (Spector & Jex, 1998; $\alpha = 0.87$) to account for differences in the pace and intensity of work, which can impact well-being (Ilies et al., 2010).

Results

Qualitative Data

The qualitative remarks were coded in two cycles, as suggested by Linneberg and Korsgaard (2019). First, the questions were coded in a general sense for simplicity using primarily a deductive approach. Specifically, satisfaction with the organization's response was categorized as generally satisfied or not and feelings of connection/value versus stigma were broadly categorized as experienced or not. Desired, but missing, accommodations were coded from a list of expected accommodations developed prior to analysis, as well as additions based on the data itself. This stage of coding was completed by two independent coders. Agreement rates exceeded 80% for all response categories. Specific reports of agreement are provided for each question. A third researcher resolved any disagreements to assign a final code. Frequencies were computed for these higher-level response categories to understand the general experiences of our sample during the pandemic. Once these initial codes were established, the first author conducted a second round of coding to identify more nuanced themes and extract exemplary quotes. This method allowed for holistic triangulation in which we were better able to understand our sample prior to quantitative analysis of hypotheses (Turner et al., 2016). A summary of the frequencies of themes for each question and sample quotations are provided in Table 1.

First, we examined whether participants were satisfied with their organization's response to COVID-19. Responses were coded as: satisfied or mostly satisfied, satisfied (but with clear indications that the organization could do more), not satisfied, and neutral responses. Agreement for these codes ranged from 95 to 100%. About half of participants were satisfied (52%) or mostly satisfied (an additional 2%). More detailed examination of the responses in the second coding cycle revealed that many satisfied workers appreciated remote work initiatives, increased health and time off

benefits, or having vaccine or mask requirements. Some employees (7%) did generally express that they were satisfied, but the organization could have done more, in terms of providing resources or additional protections. About 34% of participants were not satisfied for reasons such as feeling their organizations could have done more to prevent the spread of COVID-19 (e.g., providing masks, mask/testing policies) or frustration with coworkers' non-compliance with precautions. A single participant felt their organization did too much. Only 5% provided a more neutral or mixed (e.g., "yes and no") response.

Next, we analyzed what accommodations participants felt they lacked, using a broad list of expected accommodations (e.g., remote work, adjusted job roles, tangible resources). Rater agreement on the presence of the listed accommodations exceeded 89% for all response options. Less than half of participants (38%) did not feel they were lacking anything. The remaining responses did indicate missing a resource; more than one resource may have been mentioned by each participant. The most desired accommodations were more opportunities for fully remote or hybrid arrangements (21%) and flexible schedules (5%) and clear organizational policies to limit exposure to COVID-19 (18%). For example, one participant noted that they felt uncomfortable asking coworkers to mask or social distance when it was not a required policy. Other commonly mentioned accommodations were increased paid time off (15%), additional personal protective equipment (5%), health-supporting resources (2%), adjusted job roles (4%), and adjusted hours /breaks (3%). Many respondents (22%) mentioned one or more unique accommodations that did not fit cleanly into one category (e.g., different parking arrangements; more empathy).

We coded responses to the question on whether respondents felt stigma associated with their condition broadly as yes, no, or neutral/other. Agreement rates for the two coders on the three categories ranged from 92 to 97%. When asked whether they felt stigmatized due to their CHC, 59% reported no stigma. Upon more detailed examination of these responses, many workers provided more outright statements about support and appreciation from others. It is important to note that around 22% of the sample who reported no stigma indicated their condition was invisible, with several specifically indicating they had not disclosed, some purposefully not disclosing (e.g., "I don't tell anyone because I am concerned about stigma"). Around 31% did report stigma, such as feeling that their colleagues viewed them as weak or "less capable" than others due to their illness or feeling judged or not believed when they used accommodations. Some additional responses (11%) were more neutral responses and not clearly indicative of stigma. For instance, participants noted changes in their behavior (e.g., having to explain themselves more to others), but not whether they felt distinctly judged or treated differently for such behaviors.

Lastly, we coded responses to a question of value and connection with one's organization. These responses were coded as either expressing agreement that they were valued and/or connected or missing value or connection. While expressions of value and connection were initially coded separately (i.e., valued, not valued, connected, not connected), we combined the concepts in our reporting for simplicity. Rater agreement on these themes exceeded 87%. When asked whether participants felt connected to and/or valued by their organization, 42% felt connected or valued (only 22% clearly stating they felt both connected and valued). Many of these par-

Table 1 Summary of qualitative remarks on worker experiences

Theme	f	%	Sample quotation
Satisfaction with organization's response (n = 114)			
Satisfied	59	52%	"Yes, we are allowing employees to stay remote forever if they want. Also those who do go back to the office are required to be vaccinated. Benefits have also been increased to help ease the difficulties of this time."
Mostly satisfied	2	2%	"I appreciate the flexibility to continue working from home but do not feel that the environment would be safe for me, based on my medical history, if we were required to return to the office. I also feel that this is an issue with the State of Florida, in general. Our governor has threatened to cut funding if mandates are put in place which has left the university with making some difficult decisions."
Satisfied, but the organization could do more	8	7%	"I think my organization has abided by and maintained their response through the pandemic. I think more could have been done in terms of direct exposure in the offices. Since people have gone back and the CDC guidelines have changed, my organization like others is just letting people work if they are asymptomatic now."
Not satisfied	17	15%	"Absolutely not. I do not believe this institution did almost anything to protect us. Everything was self reported. They did nothing to enforce mask mandates or wearing masks incorrectly… Many senior administrators were routinely seen in meetings without masks and claimed it was fine because they were 6 feet apart indoors…"
Not satisfied, Organization needed to do more	21	18%	"No. Refusal to allow telework during the recent covid surge endangers staff and caused spread. No clear guidance on requirement of masks… Organization distributes only one kn 95 mask for a week per employee. Workers are expected to wear the same mask for the full week which is unsanitary, or provide their own PPE."
Not satisfied, Organization did too much	1	1%	"No, I don't think the operating room should have shut down and redeployed their staff. No reason to stop surgeries"
Neutral or Mixed Feelings	6	5%	"Yes and no. I like that masks are required for employees but I don't like that they're not for customers. I am neutral about the vaccines."
Additional desired accommodations (n = 107)			
None	41	38%	"I feel that they already do everything possible to accommodate anyone with any underlying health issues."
Other	24	22%	"Not sure if this is really a possible accommodation, but I think empathy counts. I've been told to my face that certain accommodations are okay and that everyone is understanding, but when it actually comes down to experiencing accommodations in action or needing the understanding of my colleagues it feels like my chronic illness is still a burden on their ability to continue business as usual…"
Fully Remote/ Telework	23	21%	"I would like the opportunity to work remotely, permanently or there would need to be strict rules in place for me to feel comfortable and able to return to the office…"
Implement Guidelines/ Restrictions	19	18%	"I wish there was a requirement for a mask at the off-site pharmacy, I feel uncomfortable bringing it up. If no one wants to be kind and compassionate on their own what are they going to feel when I (or any other immune compromised person) am the reason for it?"

Table 1 (continued)

Theme	f	%	Sample quotation
Additional Sick Leave/ Paid Time Off	16	15%	"Before the pandemic, my employer combined all sick and vacation time into "personal" time. This is attractive to most people, however is extremely unfair to people with chronic illnesses because their inevitable sick time cuts into their vacation and other personal times. As a young entry level employee, I only have 120 h a year of PTO, in which I need to budget AT LEAST half of to sick time… now that we're required to be at the office, I am extremely concerned with running out of paid time off and having to come into the office feeling miserable."
Hybrid or Flexible Schedules	5	5%	"Ability for flexible scheduling… Flexible work hours to accommodate medical appointments and mass transit infrastructure issues caused by labor shortage."
Personal Protective Equipment	5	5%	"…appropriate masks and shields for all staff and students."
Adjusted Job Roles	4	4%	"I feel there should be options for where you will be working. My employer was accommodating when it came to my joint pain. If I was having difficulty walking they would allow me to work at register where I didn't have to walk much. But if I was feeling fine I was allowed to work at customer service or on the floor."
Adjusted Hours/ Breaks	3	3%	"Longer lunch break. I only get a half hour for lunch. With my fatigue, it can get difficult to make it through the day, and I often feel like I need to lie down. Since I'm the receptionist, you have to be here in person, but I wish I had more time to rest."
Health-Supporting Resources	2	2%	"I didn't have access to gluten free food (no nearby restaurants offered it, caterers refused to do it), and with the shared kitchen there was nowhere to safely prep or eat GF food I brought from home - instead they let me have an office beside the bathroom for WHEN my bowels would explode."
Stigma associated with health condition (n = 112)			
Yes	35	31%	"I feel that there is a level of frustration with my illness and the accommodations I have requested. I've heard many variations of 'But everyone else has to…' which I think is unfair, because not everyone else has to deal with a chronic illness…"
No	66	59%	"I do not. My co-workers are very understanding of my medical condition."
Other	16	14%	"I definitely feel like I need to explain myself a lot more. Most of my coworkers are very kind to my situation, and I don't believe they hold any animosity towards my, however because my accommodation, I feel a lot of guilt over utilizing when I know others are worried for their own safety."
Feeling valued and/or connected to the organization (n = 108)			
Valued and Connected	24	22%	"Very. We were declared essential personnel by our Governor, so we have been working together during an entire pandemic. Suggestions for accommodations based on my research were never dismissed by management."
Valued	15	14%	"I feel valued since I'm the first person to manage all the responsibilities of my role within a singular role…"
Connected	7	6%	"I've felt very connected to my coworkers on the floor…"

Table 1 (continued)

Theme	f	%	Sample quotation
Not Valued or Connected	35	32%	"It has truly been a disgusting experience. We get emails for whenever employees of our organization pass away. I immediately noticed in March 2020 an uptick in these emails as more and more employees were dying… So many of the employees of my work across the country have died from COVID which could have been prevented. I had to stop after over a year of looking up every employee who died during the pandemic because it was starting to wear me too thin."
Not Valued	6	6%	"Meh. To recognize our courageous service in a pandemic, they gave us a lip balm, a candle, and a mini succulent. Oh, and a generous $0.37/hour raise, can't forget that. The people in the business office have no clue what it's like to deal with patients who don't want to mask…"
Not Connected	6	6%	"I haven't felt connected at all. I rarely talk to most of my coworkers. Even some of them who are in the same department and used to be in the same room,. I've gone over a year without talking to some of them."
Neutral/Mixed	24	22%	"Mixed, direct management has been good and supportive. The executive and director level management has been focused on profits and shareholders over everything else."

ticipants reported that their employers made them feel supported in the workplace or that the challenging times had brought them closer to coworkers or clients. 44% expressed some level of feeling not connected and/or valued. These participants often cited remote work or social distancing as a reason for not feeling connected to their organization. Limited accommodation, lack of appreciation, or lack of pay increases were reasons workers did not feel valued. One worker said, "I'm not paid enough and they ask me to risk my life for it"; another remarked, "Unfortunately, it is not just a problem in the workplace. I have felt completely unvalued and disrespected by a significant portion of society." The remaining responses tended to be more mixed or neutral.

In sum, our sample was fairly split in their reactions to their employers during the pandemic. In most of our open-ended questions to gain contextual insight, around half of workers felt satisfied, connected, and not stigmatized. However, a non-trivial portion felt the opposite was true and felt that there were accommodations to be desired to have felt more supported within their work environment or work arrangement.

Hypothesis Testing

Initial correlations among study variables were computed (Table 2). Job demands were generally negatively correlated with resources (r range -0.06 to -0.37). Job insecurity significantly correlated to psychological well-being ($r=-.24$, $p<.01$) but not burnout; devaluation related to burnout ($r=.31$, $p<.01$) but not psychological well-being. Both resources correlated positively and significantly with well-being ($r=.27$, $p<.01$ for POS and flexibility) and negatively with burnout ($r=-.30$ $p<.01$ for POS; $r=-.19$, $p<.05$ for flexibility). These correlations provided partial support for Hypothesis 1, in that some relationships between the demands and well-being/burnout were significant. The correlations provided initial support for Hypothesis 2, in that both resources were correlated with burnout and psychological well-being.

Multiple regression and moderated regression analyses were conducted to provide additional evidence for Hypotheses 1 and 2, and to test Hypothesis 3. Applicable assumptions were checked and variables used for product terms were mean-centered. First, two multiple regression models were tested to examine the impacts of demands and resources on psychological well-being and burnout. To first examine the effects of our variables and then how those affects may vary when accounting for control variables, we used a multiple regression approach, which is one method suggested to better understand the potential influence of control variables (Spector & Brannick, 2010; Spector, 2020). We tested models by first looking at just the impacts of demands and resources, then added control variables in steps. Specifically, we entered job insecurity and devaluation in step 1, POS and flexibility in step 2, demographic controls in step 3, and controls for workload and general health in step 4.

First, considering psychological well-being as an outcome (Table 3), job insecurity exhibited a significant negative relationship with psychological well-being ($b=-0.05$, $p=.004$), in the first step of the regression model. The effect of job insecurity became weaker ($b=-0.03$) and marginally significant in the subsequent steps also accounting for resources ($p=.06$), demographic controls ($p=.07$), and job and condition-related controls ($p=.07$). Devaluation, POS, and flexibility were all non-

Table 2 Descriptive statistics and correlations among study variables

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	34.21	9.98	--											
2. Race	0.09	0.28	−0.03	--										
3. Gender	1.85	0.36	−0.25**	−0.13	--									
4. Education	4.92	1.26	0.07	−0.01	0.11	--								
5. General Health	2.22	0.73	0.12	−0.04	−0.15	−0.06	(0.73)							
6. Work overload	3.36	1.12	0.02	0.09	0.03	−0.01	0.08	(0.87)						
7. Job Insecurity	4.78	5.65	−0.08	0.10	−0.07	0.00	0.02	0.18	(0.95)					
8. Devaluation	1.97	0.73	−0.10	−0.11	0.09	−0.09	−0.31**	−0.04	0.23*	(0.82)				
9. POS	4.14	1.45	0.09	−0.05	0.01	0.05	−0.09	−0.18	−0.37**	−0.13	(0.90)			
10. Flexibility	4.37	1.61	0.15	−0.09	−0.07	0.10	−0.04	−0.38**	−0.25**	−0.06	0.59**	(0.89)		
11. PWB	3.63	0.99	0.29**	−0.11	0.01	0.08	0.08	−0.12	−0.24**	−0.05	0.27**	0.27**	(0.83)	
12. Burnout	4.74	1.16	−0.15	0.02	0.06	−0.13	−0.23*	0.10	0.15	0.31**	−0.30**	−0.19*	−0.46**	(0.91)

*$p<.05$. ** $p<.01$

Notes. N range = 111–116. POS = Perceived organizational support. PWB = Psychological well-being

Race coded 0 = white, 1 = non-white. Gender coded 1 = male, 2 = female. Education coded 1 = some high school, 2 = high school or GED, 3 = some college, 4 = Associate's degree, 5 = Bachelor's degree, 6 = Master's degree, 7 = professional degree, 8 = Doctorate

Cronbach's alpha is displayed along the diagonal for multi-items scales

Table 3 Multiple regression analyses with job demands and resources predicting psychological well-being

	Step 1			Step 2			Step 3			Step 4		
Variable	*B (SE)*	β	sr^2	*B (SE)*	β	*sr2*	*B (SE)*	β	*sr2*	*B (SE)*	β	*sr2*
Job Insecurity	-0.05* (0.02)	−0.27	0.07	-0.03 (0.02)	−0.19	0.03	-0.03 (0.02)	−0.18	0.02	-0.03 (0.02)	−0.18	0.03
Devaluation	-0.07 (0.13)	−0.05	0.002	-0.05 (0.13)	−0.03	0.001	-0.04 (0.12)	−0.03	0.001	0.01 (0.13)	0.01	0.000
POS				0.05 (0.08)	0.08	0.003	0.05 (0.08)	0.08	0.004	0.06 (0.08)	0.10	0.01
Flexibility				0.11 (0.07)	0.18	0.02	0.08 (0.07)	0.13	0.01	0.08 (0.08)	0.13	0.01
Age							0.03* (0.01)	0.29	0.07	0.03* (0.01)	0.28	0.07
Race							-0.23 (0.31)	−0.07	0.004	-0.19 (0.31)	−0.06	0.003
Gender							0.17 (0.25)	0.06	0.004	0.21 (0.25)	0.08	0.01
Education							0.02(0.07)	0.02	0.000	0.02 (0.07)	0.03	0.001
General Health										0.16 (0.13)	0.12	0.01
Workload										-0.002 (0.08)	0.00	0.000
Model R^2	0.08*			0.13*			0.21*			0.22*		
ΔR^2				0.05			0.08*			0.01		

N=111. *p<.05.

Note. POS=Perceived Organizational Support. Race coded 0=white, 1=non-white. Gender coded 1=male, 2=female. Education coded 1=some high school, 2=high school or GED, 3=some college, 4=Associate's degree, 5=Bachelor's degree, 6=Master's degree, 7=professional degree, 8=Doctorate.

significant predictors of psychological well-being in the multiple regression model. Effects were similar, with no difference in significance, when resources were entered in step 1 and demands in step 2 in an alternative model. Of the covariates included, only age significantly related to psychological well-being ($b=0.03$, $p<.01$).

In the second model assessing burnout (Table 4), two multivariate outliers were excluded based on high studentized deleted residual values. Devaluation was a significant predictor of burnout ($b=0.57$, $p<.001$). This significant effect remained in each subsequent step of the regression model, accounting for resources, demographic controls, and work and condition characteristics (b *range*$=0.41$ to 0.45, $p<.01$). The effects of job insecurity, POS, and flexibility were all non-significant at each step of the model. We note, the effect of POS was significant if we reversed the order of step 1 and step 2. When only entering POS and flexibility, POS was negatively related to burnout ($b=-0.19$, $p=.04$), but flexibility was not significant. This significant effect of POS did not remain in models with demands and other covariates. Of the covariates included, only general health was significantly related to burnout ($b=-0.36$, $p<.01$).

In sum, there was partial support for Hypothesis 1a and 1b in that job insecurity related to psychological well-being, while devaluation related to burnout, even after accounting for resources and other covariates. There was limited support for Hypothesis 2a and 2b. Although both POS and flexibility correlated with psychological well-being and burnout in bivariate correlations, these effects did not remain significant when accounting for the effects of demands and other covariates. Thus, the effects of demands on the selected well-being outcomes appear to be stronger than the effects of resources for this sample.

Moderated regression analyses tested whether POS and flexibility moderate the impacts of job demands on burnout or psychological well-being. Given the limited sample size and diminished statistical power for detecting interaction effects, separate models were conducted for each combination of job demand and job resource for each outcome, resulting in eight total models. These models were tested, first only including the demand and resource combination (step 1), then the interaction term (step 2), and then additional control variables to determine how the effects may have changed when accounting for demographic, condition, and work variables (step 3). There were no significant interactions for any combination of outcome, demand, and resource. Thus, Hypothesis 3 was not supported. However, there were main effects of some of the demands and resources that varied slightly from the previously described multiple regression model, which combined all demands and resources. We summarize the results for the last step of these models with all covariates, but full information can be found in Supplemental Tables 1 and 2. When pairing job insecurity and flexibility, job insecurity was significant in predicting both burnout ($b=0.05$, $p=.01$) and psychological well-being ($b=-0.04$, $p=04$); flexibility was not a significant predictor of burnout and was significant in predicting psychological well-being only prior to entering additional control variables. When pairing job insecurity and POS, job insecurity significantly predicted psychological well-being ($b=-0.04$, $p=.04$), but not burnout; the opposite was true for POS, which only predicted burnout ($b=-0.17$, $p=.03$). When pairing devaluation and flexibility, devaluation was significant in predicting burnout ($b=0.49$, $p<.001$), while flexibility was significant in

Table 4 Multiple regression analyses with job demands and resources predicting burnout

	Step 1			Step 2			Step 3			Step 4		
Variable	*B (SE)*	β	sr^2	*B (SE)*	β	sr^2	*B (SE)*	β	sr^2	*B (SE)*	β	sr^2
Job Insecurity	0.03 (0.02)	0.16	0.02	0.01 (0.02)	0.07	0.004	0.02 (0.02)	0.08	0.01	0.02 (0.02)	0.08	0.01
Devaluation	0.57* (0.14)	0.37	0.13	0.54* (0.14)	0.35	0.12	0.52* (0.14)	0.34	0.10	0.41* (0.14)	0.27	0.06
POS				-0.12 (0.09)	−0.16	0.01	-0.13 (0.09)	−0.17	0.02	-0.16 (0.09)	−0.21	0.02
Flexibility				-0.03 (0.08)	−0.04	0.001	-0.002 (0.08)	0.00	0.000	0.03 (0.08)	0.04	0.001
Age							-0.01 (0.01)	−0.13	0.02	-0.01 (0.01)	−0.12	0.01
Race							0.10 (0.34)	0.03	0.001	-0.01 (0.33)	0.00	0.000
Gender							0.13 (0.28)	0.04	0.002	0.04 (0.27)	0.01	0.000
Education							-0.06 (0.08)	−0.07	0.01	-0.08 (0.08)	−0.09	0.01
General Health										-0.36* (0.14)	−0.24	0.05
Workload										0.08 (0.09)	0.08	0.01
Model R^2	0.19*			0.22*			0.24*			0.30*		
ΔR^2				0.03			0.03			0.06*		

N=110. *p<.05. Note two cases were excluded because of a high studentized deleted residual value. POS=Perceived Organizational Support. Race coded 0=white, 1=non-white. Gender coded 1=male, 2=female. Education coded 1=some high school, 2=high school or GED, 3=some college, 4=Associate's degree, 5=Bachelor's degree, 6=Master's degree, 7=professional degree, 8=Doctorate.

predicting psychological well-being ($b=0.14$, $p=.003$). Finally, when pairing devaluation and POS, both significantly predicted burnout (devaluation $b=0.47$, $p=.001$; POS $b=-0.17$, $p=.009$), but only POS was a significant predictor of psychological well-being ($b=0.16$, $p=.01$).

Exploratory Analyses

We conducted exploratory analyses to see whether the impacts of demands or resources could depend on the number of CHCs an individual was managing or the condition visibility. Using PROCESS in SPSS (Hayes, 2018), we tested for two- and three-way interactions among demands, resources, and condition characteristics. There were no significant moderating effects involving condition visibility. There were only two significant or marginal two-way interactions involving CHC number. First, the flexibility and CHC number interaction on burnout was marginal, $b=0.13$, $p=.05$. Flexibility was related to less burnout for those with a low number of CHCs, equating to around one condition ($b=-0.26$, $p=.008$), but the slope was non-significant for average ($M=2.23$, $b=-0.09$, $p=.16$) and above average number of CHCs, equating to around 3 conditions ($b=.08$, $p=.37$). This interaction is depicted in Fig. 1. We also found a significant interaction between job insecurity and CHC number in relation to psychological well-being, $b=-0.03$, $p=.04$. Job insecurity had a significant negative effect on well-being for those with average ($b=-0.04$, $p=.02$) and above average numbers of CHCs ($b=-0.08$, $p=.001$), but the slope was non-significant for those with fewer CHCs ($b=0.001$, $p=.97$). This interaction is displayed in Fig. 2. Supplemental Table 3 provides the results of these two models; results for all exploratory models can be requested from the second author. Overall, these results suggested there could be some nuances of the impacts of demands and resources depending on the number of conditions an individual is managing. However, our limited sample size warrants caution in interpreting and applying these findings.

Discussion

The COVID-19 pandemic brought many challenges for workers, especially those also balancing health risks associated with a CHC. Our mixed-methods study addressed a need to understand the experience of workers with CHCs in a context that amplified concerns or demands faced by this population. Qualitative remarks helped to frame the participants' experience in their work environment during the pandemic. Our research questions guiding this portion of our study surrounded how workers felt they were treated by their organization and resources they felt they lacked. Around half of our sample was satisfied with their organization's response during the pandemic and around 40% felt they were not lacking any desired accommodations. However, the other half of our sample was either indifferent or unsatisfied. Many of the desires of our respondents paralleled important resources outlined in recent literature (Teng-Calleja et al., 2020), such as flexible work arrangements and implementation of organization-wide restrictions/guidelines. Flexible work was particularly important to participants to reduce their risk of infection and more generally in managing their

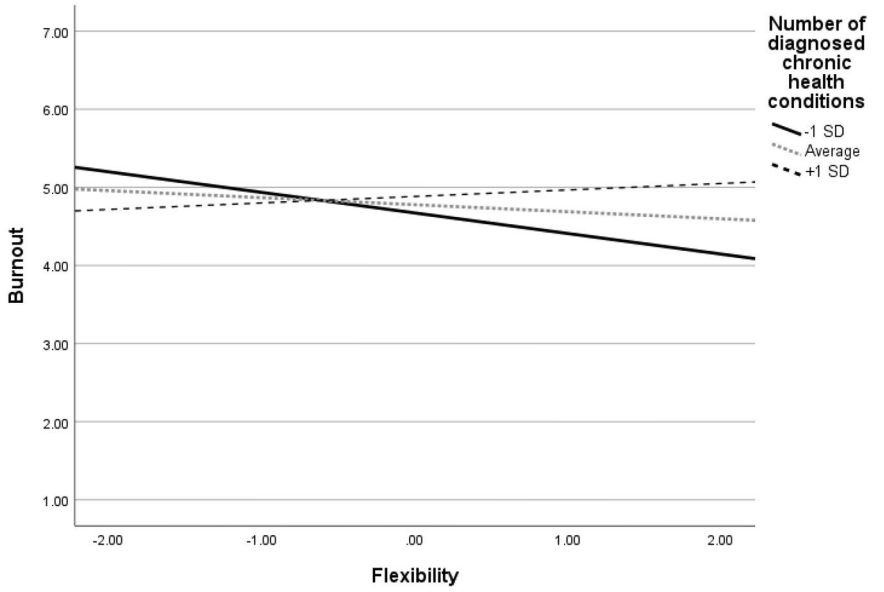

Fig. 1 Interaction between flexibility and number of health conditions in relation to burnout

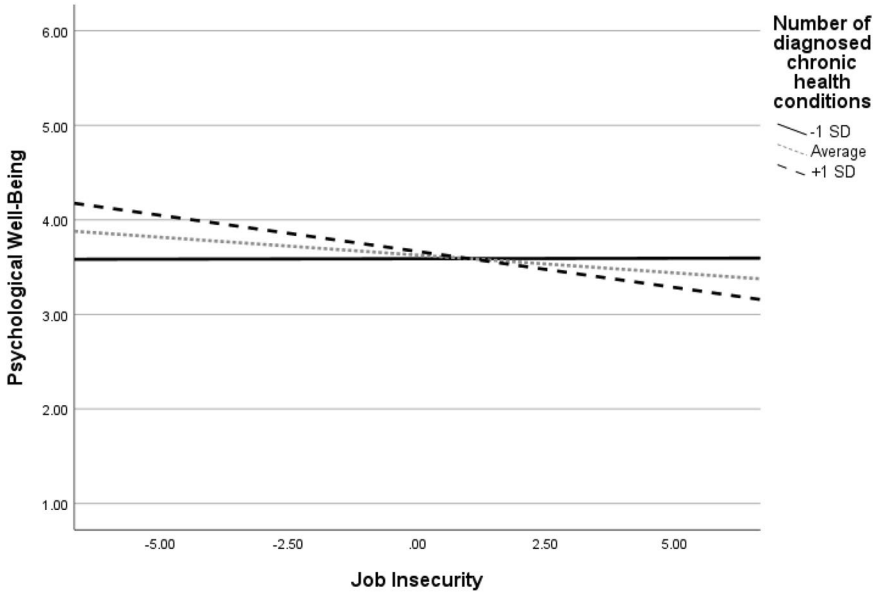

Fig. 2 Interaction between job insecurity and number of health conditions in relation to psychological well-being

condition. However, given some of the feelings of disconnection that were noted within our sample and can more generally come with remote work (Becker et al., 2022), we urge organizations to ensure resources are available to optimize remote or hybrid work situations.

Some of the accommodations that were lacking, but desired by workers in our sample could be expensive (e.g., equipment for remote work, paid time off), but other accommodations can be made at little to no cost. For instance, having clear policy in place to help manage risks for workers with CHC or simply encouraging empathy when workers must use an accommodation are easily implementable. Cultural changes could address the feelings of stigma and underappreciation that were not uncommon to these workers. Many workers in our sample directly reported feelings of stigma and a sizeable portion who did not feel stigma had not actually disclosed their condition. A more supportive environment may encourage workers to be more open about their condition and utilize accommodations (Joachim & Acorn, 2000). More supportive and open cultures can further improve retention of workers with CHC (Kirk-Brown & Van Dijk, 2015). Demonstrating clear support for accommodating workers with CHC, along with clear discouragement of negative remarks that may make such workers feel undervalued, is especially critical in a context where a worker's health status is salient, such the pandemic.

In our quantitative analyses, different job demands affected different aspects of well-being, providing partial support for Hypothesis 1a and 1b. Job insecurity affected psychological well-being, consistent with the impacts of insecurity on psychological health for other populations during the pandemic (Ganson et al., 2021). Devaluation affected burnout, but not psychological well-being. Other studies have connected work-health management and anticipated discrimination demands for workers with CHC with burnout (McGonagle et al., 2020; McGonagle & Barnes-Farrelle, 2014); our study adds devaluation as a demand that may impact burnout. Both stressors were significant or approaching significance with covariates, including workload, which is traditionally strongly linked to well-being. In sum, insecurity may take a toll on the psychological health of workers with CHC, particularly during a time when unemployment rates were high and quality alternatives may have felt limited. Alternatively, devaluation, which was more related to interpersonal work experiences, seems to be more impactful for work-related well-being, measured as burnout. Given many workers in our sample qualitatively reported some feelings of being under-valued and stigmatized, this demand warrants additional attention among workers with CHC.

While the resources of POS and flexibility related to well-being outcomes at the bivariate level and in simple models, pairing each resource with each demand, the effects were not significant in the more stringent multiple regression model including both demands, both resources, and controls. Therefore, Hypothesis 2 received limited support. This was somewhat surprising, given the importance of these types of resources often being mentioned in qualitative remarks. Also, counter to Hypothesis 3, there was no evidence of moderating effects consistent with the JD-R model (Demerouti et al., 2001). Our lack of significant unique and moderating effects of resources could be due to our relatively small sample size, as well as the larger variance explained by demands in this sample and context. Alternatively, like theories on optimal matching of social support to stressors (e.g., Cutrona, 1990; De Jonge &

Dorman, 2006), it could be that flexibility and POS were not the right resource match for the demands investigated. Resources like co-worker support or self-efficacy could better match demands such as job insecurity and devaluation. In addition, flexibility may have been more or less of a resource depending on if it was desired or mandated. Nonetheless, given the general positive connections between POS and flexibility with well-being outcomes, these resources are certainly not harmful for organizations to provide and likely still have some benefit for well-being and other desirable outcomes. Indeed, efforts to improve the climate around health and safety more generally may be helpful in reducing fatigue and burnout (e.g., Sawhney et al., 2018). Efforts to specifically encourage a positive culture and availability of social support, along with helpful programs and policies, may encourage continued participation in the workforce from workers with a CHC or disability (e.g., Jansen et al., 2021).

Exploratory analyses suggested that some resource and demand impacts may depend on the number of conditions managed. Although we encourage caution in interpreting these exploratory analyses, for which our sample size was relatively small, the trends suggest that workers managing multiple CHCs may be less helped by resources and more harmed by demands. Thus, organizations would be encouraged to consider benefit options that are most important for a worker's specific needs (e.g., remote work for some; paid leave for others). Importantly, we view these exploratory findings as a starting point for future studies to probe nuances in demand and resource impacts based on condition and severity.

Limitations and Future Directions

Our study had several limitations that offer directions for continued research. Our study was cross-sectional during a unique societal context of the pandemic. We were not able to compare changes in worker demands, resources, or well-being prior to the pandemic to determine what was unique to the pandemic context. Our sample was also not large enough to have adequate statistical power for detecting interactions that are moderate to small in magnitude. For instance, Cohen et al. (2014) suggests sample sizes upwards of 1000 may be necessary to detect small interaction effects, which is what is suggested by the effect sizes found in our sample. Countering the limitations of our smaller sample, our study used a mixed-methods design in which we used qualitative data to provide context on the experiences of our participants, while also testing hypothesized relationships with quantitative data. Our design, however, was a questionnaire-variant of a mixed methods study where qualitative data were gathered as an add-on to a survey design (Creswell & Clark, 2017). Our qualitative data were more contextual and did not allow for tests of convergence for our hypothesized relationships. Future studies could use alternative qualitative designs, such as focus groups or interviews that provide for acquisition of richer data with opportunities for probing and elaboration.

Lastly, our sample did not represent a very diverse group, with a large majority being white, female, educated, and younger to middle-aged. Our sample characteristics do not mirror the characteristics of the broader population of individuals with a CHC in the United States, which tends to be more diverse with similar rates of CHCs among males and females and other demographic groups and more CHCs experi-

enced among older adults (Boersma et al., 2020). The biased sample could be in part due to our recruiting strategy, where we posted in Reddit forums devoted to discussions around particular conditions, some of which are more commonly experienced among females (e.g., fibromyalgia; CDC, 2020a). While we did try to find forums for a broad range of conditions, including those with few sex differences in population-level prevalence, females may have still been more likely to be participating in such forums, given general tendencies of females to be more comfortable seeking help for health-related concerns (Thompson et al., 2016). Future research could use additional recruitment methods to obtain a more diverse sample and further explore intersectional impacts of those with marginalized identities in managing a CHC.

Conclusion

Employees with CHCs make up a prevalent, yet understudied, population that experienced unique challenges during the pandemic. Though there were nuances to our results, we generally found that feeling undervalued and insecure in one's work can be harmful to worker health. Alternatively, flexibility and POS may have some benefits. Exploratory analyses prompted consideration that the benefits of some resources and impacts of some demands may depend on a worker's specific health conditions; however, these connections warrant further research scrutiny. We hope that these findings inform efforts to support workers with CHC broadly, and especially in times of major world events like the pandemic.

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Author Contributions Stephanie Penpek and Kristen Black contributed to the study conception and design. Stephanie Penpek conducted extensive literature reviews, managed the data collection process, and completed the initial analysis and reporting of all results. Kristen Black edited all sections of the manuscript and completed and reported supplemental analyses. Emma Beck assisted with literature review and consolidation and reporting of qualitative data. All authors read and approved the final manuscript.

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Data Availability The data that support the findings of this study are available from the corresponding author, Kristen Black, upon request.

Declarations

Conflict of Interest The authors have no conflict of interest to disclose.

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