



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



## “What will we do if we get infected?”: An interview-based study of the COVID-19 pandemic and its effects on the health and safety of sex workers in the United States



Denton Callander<sup>b,\*</sup>, Alicia Thilani Singham Goodwin<sup>a</sup>, Dustin T. Duncan<sup>a</sup>, Christian Grov<sup>c</sup>, Wafaa El-Sadr<sup>d</sup>, Mariah Grant<sup>e</sup>, R.J. Thompson<sup>e</sup>, Molly Simmons<sup>f</sup>, J. Leigh Oshiro-Brantly<sup>g,h,i</sup>, Krish J. Bhatt<sup>a</sup>, Étienne Meunier<sup>j</sup>

<sup>a</sup> Department of Epidemiology, Mailman School of Public Health, Columbia University, 722 W 168th Street, New York, NY, 10032, USA

<sup>b</sup> Kirby Institute, UNSW Sydney, Sydney, NSW, 2052, Australia

<sup>c</sup> Department of Community Health and Social Sciences, CUNY Graduate School of Public Health and Health Policy, City University of New York, 55 W 125th St, New York, NY, 10027, USA

<sup>d</sup> ICAP at Columbia University, Mailman School of Public Health, Columbia University, 722 W 168th Street, New York, NY, 10032, USA

<sup>e</sup> Sex Workers Project, Urban Justice Center, 40 Rector St, New York, NY, 10006, USA

<sup>f</sup> Sex Workers Outreach Project Brooklyn, 1167 President St, New York, NY, 11225, USA

<sup>g</sup> Decriminalize Sex Work, 360 Nueces Street, Austin, TX, 78701, USA

<sup>h</sup> New York Transgender Advocacy Group, 215 W 125th St, New York, NY, 10027, USA

<sup>i</sup> New York State Gender Diversity Coalition, 215 W 125th St, New York, NY, 10027, USA

<sup>j</sup> Sociomedical Sciences, Mailman School of Public Health, Columbia University, 722 W 168<sup>th</sup> Street, New York, NY, 10032, USA

### ARTICLE INFO

#### Keywords:

Prostitution  
SARS-CoV-2  
Conservation of resources  
Intersectionality  
Thematic analysis  
Decriminalization

### ABSTRACT

Emerging evidence suggests that sex workers face unique and profound risks arising from the COVID-19 pandemic. To illuminate the pandemic's effects on sex worker health and safety and identify intervention opportunities, from May–August 2020 in-depth interviews were conducted with a purposive sample of 15 sex workers, four service providers and two individuals who were both. Sampled sex workers included eight people of color, eight cisgender women, five cisgender men, three non-binary people, and one transgender woman. Using Conservation of Resources Theory to define impacts on sex worker resources and resulting health and safety implications, a deductive thematic analysis was conducted. Seven resources were threatened due to the pandemic: work opportunity, sex work venues, social support, health services, money, food, and housing. The loss of these resources was exacerbated by stigma – notably sex work criminalization – and significantly undermined health and safety by increasing food and housing instability, increasing risks of violence, and diminishing safer sex negotiation. Six resources were activated in response: social support, digital skills, health knowledge, non-sex work employment, money, and resilience. While social support had numerous benefits, investing digital skills and non-sex work employment were generally of limited impact. The pandemic's negative health and safety effects were most profound at the intersections of race, gender, class, and migration status. These findings suggest sex workers need urgent and ongoing support, with investments in social support and sex work decriminalization likely to have the greatest effects on health and safety relative to and beyond the COVID-19 pandemic.

### 1. Introduction

Globally, there are an estimated 42 million active sex workers who provide in-person sexual services, including over 1 million in the United States (U.S.) (The Scelles Foundation, 2016). In-person sex work –

sometimes referred to as ‘full service’ or ‘direct’ sex work – involves the explicit exchange of sexual services for a fee (Harcourt & Donovan, 2005) and has greater legal, health, and safety risks than indirect forms of sex work (Sawicki, Meffert, Read, & Heinz, 2019). As in-person sex work commonly involves intimate physical contact, it poses unique risks for

\* Corresponding author. UNSW Sydney, Wallace Wurth Building, Level 6, Sydney, NSW, 2050, Australia.

E-mail address: [d.callander@unsw.edu.au](mailto:d.callander@unsw.edu.au) (D. Callander).

<https://doi.org/10.1016/j.ssmqr.2021.100027>

Received 15 May 2021; Received in revised form 6 November 2021; Accepted 2 December 2021

Available online 8 December 2021

2667-3215/© 2021 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

SARS-CoV-2 transmission and, by extension, COVID-19 (ACON, 2020; New York City Health, 2020; The Scarlet Alliance, 2020). Further, public health measures to slow the spread of SARS-CoV-2 (e.g., lockdowns, physical distancing, venue closure) are likely to have impacted sex workers' professional and personal lives. Even prior to the pandemic, sex workers in the U.S. – especially those who experience intersectional oppressions of race, class, and gender – faced considerable health and social disparities in terms of HIV and other sexually transmitted infections, mental health, physical and sexual violence, stigma, and discrimination (Baral et al., 2014; Goldenberg, Duff, & Krusi, 2015; Harcourt & Donovan, 2005; Platt et al., 2018; Poteat et al., 2015; Rhodes et al., 2012; Scambler & Paoli, 2008; Shannon & Csete, 2010; Shannon et al., 2008, 2015; Vanwesenbeeck, 2017). These disparities have likely exacerbated the risks and consequences of the COVID-19 pandemic among sex work populations, leading numerous health bodies, researchers, and activists to urge for targeted support initiatives (Bromfield, Panichelli, & Capous-Desyllas, 2021; Jozaghi & Bird, 2020; Karamouzian, Johnson, & Kerr, 2020; Kawala, Kirui, & Cumber, 2020; Lam, 2020a; UNAIDS, 2020); as Platt and colleagues advocated in a 2020 editorial: “sex workers must not be forgotten in the COVID-19 response” (Platt et al., 2020). Unfortunately, there has been little research on the pandemic's health and other effects on sex workers, representing a considerable gap in current knowledge that impedes effective intervention efforts.

Although few studies have yet examined the pandemic's impacts on sex work, emerging evidence suggests that in-person work decreased dramatically in its early months. Notably, findings from a qualitative study with key stakeholders in Singapore suggested that the COVID-19 pandemic resulted in decreased sex work activity (Tan et al., 2020). Another study found that after a period of stability, active profiles and client engagement on the world's largest male sex work website fell significantly from March to May 2020, with some male sex workers pivoting to virtual services like erotic videos and web-camming (Callander, Meunier, et al., 2020a). Qualitative research with the clients of female sex workers in Israel also suggests the pandemic resulted in fewer in-person encounters (Prior, 2021), while researchers in the United Kingdom reported that some sex work websites encouraged their members to discontinue in-person work and offer virtual forms of sex work (Brouwers & Herrmann, 2020).

Reducing in-person contact has been a central feature of efforts to prevent the spread of SARS-CoV-2 and it is promising that many sex workers appear to have temporarily discontinued in-person work. Loss of work, however, is likely to have had financial implications for sex workers (Kimani et al., 2020). This contention is supported by numerous reports of considerable economic hardship among sex workers owing to the pandemic, complicated in the U.S. and many other countries by the exclusion of sex workers from some government-sponsored financial aid programs (Adebisi et al., 2020; Callander, 2021). Even in Australia, a country where sex workers (excluding migrant sex workers) were eligible for financial aid, a report from the country's peak sex work organization found that many nevertheless experienced considerable economic hardships because of the pandemic (The Scarlet Alliance, 2020). Financial considerations may have motivated some sex workers to continue providing in-person services during the pandemic (Callander, Meunier, et al., 2020a; Prior, 2021; Tan et al., 2020) and could also explain why male sex work globally began to increase from May 2020 after an initial period of decline (Callander, Meunier, et al., 2020b). Supporting the health and safety of sex workers who are continuing and returning to work, therefore, remains a pressing need in the context of COVID-19.

In addition to limiting in-person contact, there is some evidence that sex workers have been actively engaged in COVID-19 risk reduction, including through testing and status disclosure, limited travel, and enhanced client screening requirements (Callander, Meunier, et al., 2020a). In the absence of support from public health institutions and reflecting a long history of public health engagement, activists and community-led organizations have been at the forefront of supporting sex

workers during COVID-19 (Callander, Meunier, et al., 2020b). A content analysis of English-language COVID-19 guidelines published by sex work organizations in the U.S., Canada, Germany, and Australia found that all provided information for reducing infection risk, while several also promoted mental health and financial management (Callander, Meunier, et al., 2020b). In the U.S. and elsewhere, sex work organizations reacted to the pandemic's financial implications through cash-assistance programs funded mainly through small donations and mutual aid and other support initiatives (The Scarlet Alliance, 2020; Brouwers & Herrmann, 2020; Callander, Meunier, et al., 2020b; Platt et al., 2020). And reflecting the intersectional needs of sex workers during the pandemic, several organizations in the U.S. have worked to deliver programming and support to, among others, sex workers of color, migrant sex workers, and those who live in poverty (Bromfield et al., 2021).

Despite the efforts of sex work activists and organizations, there is some evidence that sex workers have struggled to access key health and support services during the pandemic (Adebisi et al., 2020; Bromfield et al., 2021; Howard, 2020; Kimani et al., 2020; The Scarlet Alliance, 2020; Tan et al., 2020). Particular attention has been paid to HIV prevention and management, as sex workers globally and in the U.S. bear a disproportionate burden of this infection (Kerrigan et al., 2013; Paz-Bailey, Noble, Salo, & Tregear, 2016). Troublingly, one large study of cisgender gay and bisexual men in the U.S., Brazil, France, Mexico, Russia, Turkey, Indonesia, Taiwan, United Kingdom, and Thailand found sex workers experienced decreased access to condoms and HIV treatment during the pandemic, including when compared with non-sex workers (Santos et al., 2020). Reports have also positioned the COVID-19 pandemic as detrimental to HIV prevention and management among sex workers in Kenya and Uganda (Kawala et al., 2020; Kimani et al., 2020). HIV, however, is only one aspect of sex workers' health likely impacted by the pandemic, with mental health care highlighted as a particularly pressing need in reports from Australia and the United Kingdom (National Ugly Mugs, 2020; The Scarlet Alliance, 2020). As several researchers have argued, the wealth of knowledge generated through efforts to combat HIV can also be meaningfully applied in response to COVID-19, especially the deployment of rigorous social research to engage with communities most impacted by this new virus (El-Sadr, 2020; Hargreaves et al., 2020; Logie, 2020; Logie & Turan, 2020).

To better understand the risks and consequences of the COVID-19 pandemic among sex workers, in 2020 we launched a longitudinal mixed methods study known as *Sex Work COVID-19 Project* ('SW-C19'). This paper reports the results of SW-C19's cross-sectional qualitative interviews with those providing in-person sex work and services to sex workers in the U.S. Overall, this study sought to identify needs arising from the pandemic and identify opportunities for interventions to effectively mitigate the pandemic's effects among sex work populations in the U.S. and internationally.

## 2. Conceptual and theoretical framing

### 2.1. Sex work and occupational health and safety

Starting in the mid-1900s, activists, theorists, and researchers have advanced an understanding of paid sexual encounters as a form of labor (Renegade & Pottenger, 2019; Vanwesenbeeck, 2001), an idea codified in the expression 'sex work' as an alternative to monikers like 'prostitution' (Carol, 1997). In this study, we explicitly conceived of sex work as a form of employment in order to investigate the effects of COVID-19 pandemic, including – as others have advocated – within the context of occupational health and safety (OHS) (Jiao, Bungay, & Jenkins, 2021; Ross, Crisp, Månsson, & Hawkes, 2012). Importantly, OHS in the context of sex work and other kinds of informal work is increasingly understood to encompass not only on-the-job considerations but also mental health implications, access to health care, education and skill-building opportunities, and public policy (Loewenson, 2002; Lund, Alfors, & Santana,

2016; Tsoutouras & Lund, 2016). OHS, therefore, offers an important perspective from which to examine the pandemic's effects on sex workers while providing a framework for future intervention opportunities.

2.2. Conversation of resources theory

In this study, the COVID-19 pandemic refers not only the spread of SARS-CoV-2 but also the public health measures implemented in response (e.g., lockdowns, physical distancing), which can be understood as a significant stressful event. To guide this study, we drew upon Hobfoll's Conservation of Resources (COR) Theory because it provides a framework for defining the causes and consequences of stressful events (Hobfoll, 1989, 2004). COR has been powerfully applied in studies of workplace stress with diverse populations and settings (Hobfoll & Shirom, 2001), suggesting its utility in the study of sex work. The theory posits that individuals are motivated to obtain and retain 'resources', which are defined as anything of potential value. Within COR, resources can be organized into four categories: objects (e.g., house), conditions (e.g., employment), personal characteristics (e.g., resilience), and energies (e.g., money, knowledge). COR proposes that an individual experiences stress when resources are threatened, lost, or when the activation of a resource fails to produce sufficient returns (Hobfoll, 1989). As resources are threatened or lost owing to external events, COR proposes that individuals activate other resources to limit potential losses, which means that those with fewer resources are more vulnerable to resource depletion and resulting stress. Further, loss of one resource as the direct result of exposure may produce a chain-reaction of indirect loss of others, especially in the absence of resources to mitigate the original direct effects (Hobfoll & Shirom, 2001).

We used COR as a model for organizing study data in terms of the resources threatened, lost, and activated by sex workers in response to the COVID-19 pandemic (Fig. 1). Although COR was originally conceived as a model for understanding stress as an outcome, in this study we applied it to characterize the effects on OHS as the primary outcomes. Some researchers have questioned COR's definition of what constitutes a 'resource' (Gorgievski, Halbesleben, & Bakker, 2011; Halbesleben & Wheeler, 2012; Hobfoll, 2011), contending that "nearly anything good can be considered a resource", positioning this as "confound[ing] the resource with its outcome", and raising questions about the subjective nature of resource 'value' (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014). Thus, we focused on a more narrow and clearly defined understanding of resources as anything capable of directly or indirectly affecting the health (physical and mental) and safety of sex workers.

2.3. Intersectionality

Intersectionality is another important theoretical frame for this study, which refers to the ways in which multiple social identities interact to produce experiences of empowerment or oppression (Crenshaw, 1991). While sex work is itself a disadvantaged social identity, intersectionality helps expand our focus to contend with the multiplicative effects that arise as sex work intersects with oppressions of race, gender, class, and other social strata (Ham, 2020). Some have explicitly advocated for an intersectional approach to understand and react to the impacts of COVID-19 on migrant sex workers and sex workers of color (Bromfield et al., 2021). Further, intersectionality has helped illuminate how disparities in COVID-19 infection rates, hospitalizations, and deaths result from intersecting racism, sexism, classism, and transphobia (Bowleg, 2020). In the context of COR, we conceived of intersectional oppression among sex workers as affecting resource threat, loss, and availability to avoid assuming homogeneity within the category of those broadly defined as sex workers (Fig. 1).

3. Materials and methods

From May to August 2020, in-depth, qualitative interviews were carried out with sex workers and those engaged with delivering services to sex workers. Participants had to be 18 years or older at the time of participation and, owing to the limitations of our interviewers and the scope of this study, able to converse in English. The sex worker subsample was restricted to those who reported at least one in-person sex work encounter from January 2020 onward, while the subsample of service providers was restricted to those who since January 2020 had worked on a paid or volunteer basis to provide health or social services to sex workers. These categories were not mutually exclusive as participants could have been both a sex worker and a service provider, although those represented in both were only interviewed once.

We aimed to recruit a purposive sample of 15 sex workers and 5 service providers, a target that reflected budgetary considerations and the exploratory study design. Recruitment of sex workers was conducted entirely online, with a digital study advertisement provided to prominent sex work organizations in the U.S. for distribution via existing social media networks. Participants were also encouraged to share the study with other sex workers in their social networks. To recruit service providers, a list of U.S.-based organizations known to provide services for sex workers was compiled based on our knowledge of the industry, consultation with community collaborators, and search engine queries. The study flyer was emailed to these organizations who were asked to

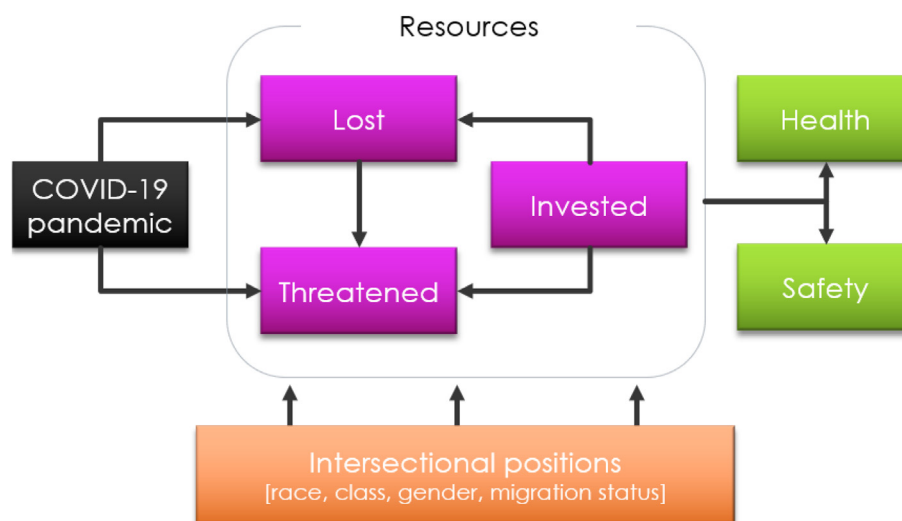


Fig. 1. Conceiving of the COVID-19 pandemic's effects on the health and safety of sex workers.

distribute to their staff. The flyer was also shared on the investigators' personal and institutional social media accounts. Prospective participants were directed to a dedicated study webpage, which included a digital survey that assessed eligibility, collected contact details, and obtained basic sociodemographic information. Those who did not satisfy the eligibility requirements were notified by an automated message; their responses were not retained. Eligible participants were contacted via email to set up an interview.

The scope of this study meant that not everyone who completed the eligibility survey could be included. For the sex worker subsample, the first eight people who completed the eligibility survey were invited to participate; after three unsuccessful contact attempts, participation was offered to the next person registered chronologically. After completing eight interviews with sex workers, the sample's racial and gender breakdown was reviewed to guide offers of participation to the remaining pool of prospective participants. For example, seven of the first eight initial interviews were with sex workers self-identified as white and so future offers of participation were sent primarily to those of other racial groups by chronological order of registration. This approach to purposive recruitment was designed from an intersectional perspective to foster sample diversity and, therefore, increase the likelihood of including a range of perspectives. Regarding recruitment of service providers, participation was offered to all who responded to recruitment materials until the target sample was met.

Interviews were conducted by three interviewers who held research posts or were graduate students at a large U.S.-based university, all of whom had experience selling sex or working with sex workers. The interviewers included two white cisgender men and one Latina cisgender woman. Interviews were carried out via telephone or videoconference software with advanced security and encryption compliant with federal requirements for the collection of health data in the U.S. To facilitate a conversational style and enable the exploration of unexpected and emerging topics, the interviews were guided by a semi-structured schedule and interviewers employed the 'funnel and probe' technique whereby broad, open-ended questions were followed with more specific, targeted inquiries (Minichiello, Aroni, & Hays, 2008). The interview schedules are included as a supplementary appendix. Interviews were audio recorded using either a dedicated digital recording device or the videoconference software's built-in recording function. The recordings were used to generate written transcripts, which were checked against the recordings and de-identified by removing any names of people or places. Audio recordings were then encrypted and stored on a secure server to which access was restricted. Participants were compensated 50USD for their time, which was distributed by electronic transfer. Identifiable information like participant contact details were stored in a password-protected file separate from the interview transcripts.

A thematic analysis was conducted (Braun & Clarke, 2006). To guide this process, the interviewers met several times during data collection to review and discuss transcripts, assess convergence and divergence of their perceptions, share initial impressions, and explore preliminary inferences. The outcomes of these meetings were compiled into short reports that were referred to throughout the analysis process and helped guide subsequent interviews. At the completion of data collection, interview transcripts were organized using software designed for managing and analyzing qualitative data (*nVivo*, QSR International, Melbourne, Australia) and preliminary inductive coding of all interviews was carried out as a collaborative process between the interviewers. This process focused on defining descriptive and semantic (i.e., self-apparent, relational) thematic categories and sub-categories.

Following the preliminary organizational and exploratory work, COR guided our attention to 'resources' implicated in sex worker OHS, provided structure for their organization by type and relevance, and dictated attention to the relationships between them. Thus, preliminary codes were revised, reshaped, and reorganized within the structure afforded by COR, a deductive approach to thematic analysis guided by our theoretical positionality but with sufficient flexibility so as to represent the diverse

range of experiences and perceptions shared by participants (Braun & Clarke, 2006; Nowell, Norris, White, & Moules, 2017). Visual representations of our analysis were created through several rounds of iterative revision to explore and articulate thematic relationality. Themes, definitions, and relationship structures were reviewed and revised several times by the entire investigative team to establish the final results.

The conduct of this study was reviewed and approved by the Institutional Review Board of the Columbia University Irving Medical Center (reference: AAAT0376). As data collection was conducted via telephone or videoconference to support physical distancing measures, in lieu of written consent participants were read a short script outlining their rights and were asked to consent verbally, which became part of the written transcript. A digital copy of the information and consent form was provided to participants via email. Recognizing the necessity of community collaboration, representatives from prominent sex work organizations in the U.S. and several active sex workers were engaged over the life of this study to guide the design, implementation, interpretation, and dissemination processes.

#### 4. Results and discussion

Sixty-three people completed the pre-study screener and met the eligibility requirements, of whom 21 participated in an interview. Interviews ranged in length from 22 to 69 min with a median of 40 min (interquartile range:32–55). The final sample included 15 sex workers, four service providers, and two participants who were both. The service provider subsample (inclusive of the two participants with dual roles) had 12–20 years' experience working with sex workers (median = 14, interquartile range:14–15) and included one chief executive officer of a peer-led sex work organization, one physician who specialized in sex worker sexual health, one registered nurse who managed a clinic for sex workers, one peer-support officer with a sex work organization, one health promotion officer at a community service with a portfolio of sex work outreach, and one board member of a sex work organization. Characteristics of the sex worker subsample is provided in Table 1.

We defined 12 'resources' maintained by sex workers that were threatened, lost, or activated relative to the COVID-19 pandemic,

**Table 1**  
Characteristics of the SW-C19 interview study sex worker subsample (n = 17) <sup>a</sup>.

	Median (IQR)
Age years	23-54 (34; 30-37)
Sex work involvement years	1.5-22 (11; 4.5-14)
	n (%)
<b>Gender</b>	
Cisgender women	8 (47.0%)
Cisgender men	5 (29.4%)
Gender non-binary	3 (17.6%)
Transgender women	1 (5.9%)
<b>Racial background</b>	
White	9 (52.9%)
Multiracial	2 (11.8%)
Latino/Latina	2 (11.8%)
Asian	1 (5.9%)
Black/African American	1 (5.9%)
Indigenous	1 (5.9%)
<b>U.S. state of residence</b>	
New York	10 (58.8%)
Maryland	2 (11.8%)
Massachusetts	2 (11.8%)
Other states <sup>b</sup>	3 (17.6%)
<b>Channels for meeting clients <sup>c</sup></b>	
Online	13 (76.5%)
Venues	8 (47.1%)
Street/public places	2 (11.8%)

IQR = interquartile range; a. Includes two participants who were both sex workers and service providers; b. One each from Washington, California, and Arizona; c. Some participants (n = 6) reported sex work via multiple locations.

including four objects, three conditions, one personal characteristic, and four energies. Building on COR's focus on interactivity, our analysis delimited the pandemic's direct and indirect effects on sex workers' resources, which are presented in Fig. 2.

4.1. Resources threatened or lost due to the COVID-19 pandemic

We defined five resources that were directly threatened or lost due to the pandemic, including work opportunity (condition), sex work venues (object), health services (object), social support (condition), and housing (object). Opportunities for sex work were affected by the pandemic itself, as many participants reported discontinuing work to reduce transmission risks and comply with public health orders (e.g., "I didn't wanna be the person who like, you know, is asymptomatic and spreading it to a bunch of people" - 30 years old, Latina, cisgender woman). COVID-19 control measures impacted work opportunity for street-based sex workers in particular by increasing their visibility: "When COVID first started, there was nobody outside, so I guess it made it look even more suspicious. People driving around and then the girls walking around" (34 years old, Indigenous, cisgender woman). Relative to others, street-based sex workers are typically of lower socioeconomic status and are more likely to be racial minorities (Ellison, 2018; Lazarus et al., 2012; Li, Detels, & Lin, 2012), and sex work criminalization disproportionately affects street-based and sex workers of color (Bromfield et al., 2021; Hayes-Smith & Shekarkhar, 2010; Platt, 2019). Thus, while sex workers broadly experienced lost work opportunity during the pandemic, these losses appear most pronounced among those at the intersections of race and class.

Participants also described lost work opportunity as the result of decreased interest from prospective clients, which aligns with previous research that both sex work activity and client interest decreased in the pandemic's early months (Callander, Meunier, et al., 2020a; Prior, 2021). Work opportunity was also described by several participants as the indirect result of losing sex work venues as an object resource directly affected by the pandemic. "It has pretty much obliterated my work," shared one participant, "my dungeon was shut down back in March, so the physical space where I usually do my sex work is shut down because of COVID" (37 years old, multiracial, non-binary person). The direct and indirect losses to work opportunity described by our sample reflect earlier research (Callander, Meunier, et al., 2020a; Prior, 2021; Tan et al., 2020) along with considerable job losses in the U.S. generally, especially in the leisure and hospitality sectors (Lund, Hancock, Ellingrud, &

Manyika, 2020).

The pandemic impeded many participants' access to a diverse range of physical and mental health services. Early in the pandemic, many health services reduced hours of operation and limited what was deemed non-essential care, which decreased access among the general U.S. population (Berkowitz & Basu, 2021). While service access was, therefore, not an issue unique to sex workers, several participants described how access was impeded by sex work stigma preceding the pandemic. As one service provider outlined:

"There's all of this stuff right now going on around sex trafficking, and law enforcement and healthcare agencies cooperating. And so a lot of sex workers are really hesitant about getting health services, if they think someone's going to call the cops on them because they think they're a sex trafficking victim." - 36 years old, registered nurse, white, transgender woman

Training around and attention to human trafficking in the U.S. largely ignores the nuances of sex work (Persons, 2019; Global Network of Sex Work Projects, 2011) and, as this quotation suggests, the conflation of trafficking with sex work acted as a barrier for sex workers - migrant sex workers in particular. Although this and other forms of stigma were not specific to the COVID-19 pandemic, several participants described it as limiting access to culturally competent care during a time when health care was a pressing need. In this way, the pandemic can be understood to have exacerbated stigma as an already existing barrier to health services, resulting in what others have described as a 'sidelining' of sex workers' needs (Howard, 2020).

Owing to physical distancing recommendations and stay-at-home orders, participants often reported that the pandemic threatened their access to social support as a condition resource (e.g., "Most of my close sex-working friends don't live here, so I don't have a really close community of people here" - 42 years old, white, cisgender man). The COVID-19 pandemic was also characterized as directly threatening housing among sex workers as another important resource. Although housing insecurity was often the product of depletion of other resources (notably money), as one participant outlined there was also a direct connection to the pandemic:

"Many sex workers who were able to stay in motels or short-term rentals no longer have access to that. So we're seeing a huge increase of people being unhoused, in part because they're making less

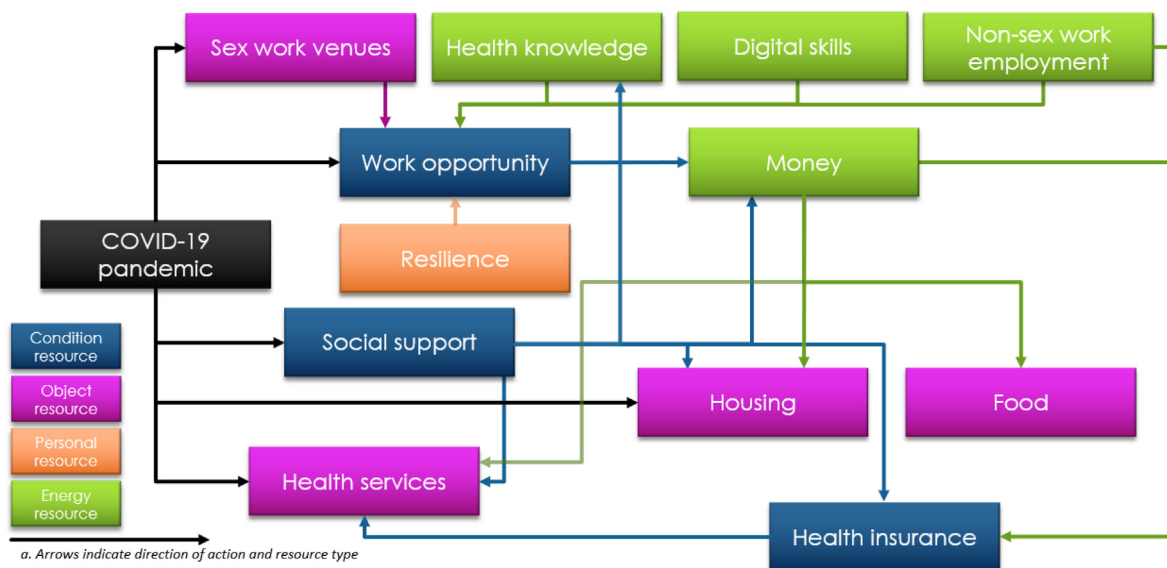


Fig. 2. Resources threatened, lost, and activated<sup>a</sup> in response to the COVID-19 pandemic among sex workers in the U.S., as defined by the Conservation of Resources Theory.

money, but also because those motels shut down.” - 33 years old, sex worker advocate, white, non-binary person

Those living in short-term rentals meet the U.S. definition of unstably housed or houseless (U.S. Office of the Assistant Secretary for Planning and Evaluation, 1998), and this quotation draws attention to these conditions prior to the pandemic. Thus, with an intersectional lens we can interpret the implications of housing loss due to the pandemic as the result of sex work intersecting with classicism, suggesting disproportionate effects on those of low socioeconomic status.

Beyond the direct loss of sex workers' resources owing to the COVID-19 pandemic, as shown in Fig. 2 our analysis defined several ways that, through cascading effects, the pandemic threatened or resulted in the loss of others: money (energy), food and housing (objects), and health insurance (condition). Most prominently, the loss of work opportunity owing to the pandemic resulted in significant financial losses, which were reported by all sex worker participants (e.g., “I made zero dollars from sex work since March” - 37 years old, multiracial, non-binary person). The loss of money as an energy resource impacted other resources, including to threaten food (e.g., “I'm not making ends meet here ... feeding myself is challenging” - 30 years old, Latina, cisgender woman) and housing. As one participant shared:

“You know, there are people who are literally bleeding out because they don't have enough money to pay rent ... they're trans, and they don't have a written agreement with their landlord. So, you know, the temporary rent protection does not apply to them. When you don't have any place to go if you're trans, you're gonna go to a, a shelter? Okay. Well, they can discriminate you, against you in that shelter, even though in New York State, you know, the law says they can't. They don't know where to put you, right? It's just a roll-on effect.” - 37 years old, multiracial, non-binary person

This quotation powerfully captures the cascading effects of resource loss and demonstrates how oppression of transgender people in terms of housing and support services complicated the pandemic's effects on sex workers, even in places with established anti-discrimination laws. Numerous studies have detailed health and social disparities that transgender female sex workers face including relative to their cisgender peers (Fitzgerald, Elspeth Patterson, & Hoickey, 2015; Nadal, Davidoff, & Fujii-Doe, 2014; Nemoto, Bödeker, & Iwamoto, 2011; Nuttbrock, 2018; Operario, Soma, & Underhill, 2008); while it is troubling to see this reflected in the COVID-19 context, it is also unsurprising.

Loss of money was characterized by participants as also endangering access to health services. “Sex workers, we don't get provided health insurance”, shared one, “what will we do if we get infected? That's a big financial risk and stress for us” (29 years old, white, cisgender woman). Another participant who was a migrant to the U.S. shared that she was not even able to access public forms of health insurance (“I'm not getting Medicaid” - 37 years old, Latina, cisgender woman), suggesting an intersectional consideration. These quotations highlight access to health insurance as a structural barrier to care among sex workers not produced but instead made more pressing by the COVID-19 pandemic. Indeed, there is evidence that the criminalized nature of sex work has long acted as a barrier to health insurance in the U.S. particularly among migrant workers (Aggarwal et al., 2021; Basu, Ketheeswaran, & Cusanno, 2020; Gerassi, 2015; Rekart, 2005; Underhill et al., 2014), suggesting the pandemic-specific implications of sex work stigma intersecting with immigration status.

#### 4.1.1. Health and safety implications of resources lost due to the COVID-19 pandemic

The sex workers in our sample experienced resource loss, which negatively impacted upon their health and safety. As noted, many losses were particularly prominent at intersections of gender, race, class, and immigration status, suggesting that resulting health and safety implications would reflect these intersectional considerations. The loss of sex

work venues was described as seriously undermining sex workers' capacity to work safely. As one participant who predominantly saw clients in a specialized venue described:

“[A dungeon] is a great way to screen your clients and vet them, because it's like you're meeting them and there's someone there in the building with you ... you just have access to a community. When all those places got shut down, it became like, okay, well, how am I going to do this safely? How am I going to meet a complete stranger for the first time in a safe way?” (30 years old, white, cisgender woman).

The loss of sex work venues compounded by housing instability forced some sex workers to see clients in unfamiliar and unvetted spaces, despite an awareness of potential safety risks (e.g., “I've heard from people in the community that motels are not safe” - 30 years old, Latina, cisgender woman). This safety risk appeared particularly pressing for street-based and female (cisgender and transgender) sex workers, sub-populations that have long-faced disproportionate risks of violence (Goldenberg et al., 2015; Scambler & Paoli, 2008; Shannon et al., 2008). The loss of housing was also characterized as detrimental to the health of sex workers in non-specific ways with solutions impeded by stigma enacted as criminalization. “I understand under the current legal framework how challenging it is to provide housing to sex workers in that way” shared one service provider, “but it's literally killing people” (33 years old, peer-support worker, white, cisgender woman).

Lost work and its financial implications led some sex workers to charge lower rates for their services (e.g., “Lately my survival rate is telling people I'll do a session with you for up to 2 h for 400 [USD] ... normally I'll charge 600 [USD] minimum” - 60 years old, Latina, cisgender woman) and engage in potentially risky sexual practices they might have otherwise refused (e.g., “[Clients] can try to negotiate for higher risk activities ... whether that be [condomless sex] or any other service they wouldn't normally provide” - 33 years old, white, non-binary person). In reflecting on financial losses, one participant summarized the difficult choice that faced some sex workers: “if I have to eat or I don't have any lodging or any means of taking care of myself, that might be a chance I'm willing to take, even though it jeopardizes my safety” (42 years old, Black, transgender woman).

The loss of access to mental and physical health services also had implications for some sex workers. Mental health challenges were frequently characterized by participants as being exacerbated by the pandemic with few options for treatment (e.g., “I definitely have struggled with anxiety and depression for the vast majority of my life, so all of this is not helping” - 33 years old, multiracial, non-binary person). Loss of service access was also described by a couple participants as negatively affecting substance use. As one participant who described their use as problematic explained: “I think [I've been using more] because of isolation, and there's not as much support. Because normally there's [Alcoholics Anonymous] groups, [Narcotics Anonymous] groups, things like that, and now there's like nothing.” (34 years old, Indigenous, cisgender woman). It is important to note that research with general samples has documented the pandemic's negative effects on mental health and substance use (Czeisler et al., 2020; Limcaoco, Mateos, Fernandez, & Roncero, 2020; Wang, Kaelber, Xu, & Volkow, 2021; Wei & Shah, 2020), but for sex workers it appears that the ability to address these effects through treatment and support groups was challenged by fears of stigma and a lack of relevant referral options. As one participant described: “I always have sex work friends asking me where to find a therapist who won't freak out because they're a sex worker! I keep a bit of a list, but it's so hard to know for sure and always changing” (29 years old, white, cisgender woman).

#### 4.2. Resources activated in response to COVID-19

We identified six resources activated to mitigate losses of others, which is referred to within COR as ‘resource investment’ and included

social support (condition), digital skills, health knowledge, non-sex work employment, money (energies), and resilience (personal). Social support was one of the most common resources invested by our participants, which aligns with traditional COR understandings of it as primarily a means through which individuals can access otherwise unavailable resources (Hobfoll & Shirom, 2001). Indeed, social support as enacted through some participants' friends and family members helped minimize threats to money, food, housing, and health insurance, especially among those with long-term partners. As one participant described:

"I have a partner who's still employed and makes enough to support us. And we actually had a conversation and, you know, he said, 'I know it's uncomfortable for you but I can support us as long as we need to so that you can stay safe.' ... So I have stable housing. I have a network of friends that are very close to me. I have really strong emotional support from my family and my friends." – 42 years old, white, cisgender man

Other than these general forms of social support, many participants benefited from the support of other sex workers. For some, activating this resource helped offset monetary losses, namely through financial assistance programs operated by sex work organizations. Describing such a program, one peer-support worker shared: "We're just giving out small grants, some cash assistance and, you know, we're trying to setup a long-term program" (37 years old, multiracial, non-binary person). Investing social support from other sex workers also helped some participants access health services. In describing a regular support meeting offered by their local sex work organization, one participant shared: "They offer all sorts of information and advice. They help out with necessities like condoms, lubrication, all sorts of needles, drugs stuff, to keep you safe" (34 years old, Indigenous, cisgender woman). Interestingly, social support was characterized by several participants as a resource from which they benefited and also sought to contribute in financial and other ways. For example:

"When I get a donation, I set a portion of it aside, I have some co-workers who are in worse situations, and I'll send them a portion of my donation, share it with them, because 20 bucks to them means a lot more than it does to me ... and we have check-ins scheduled through the week, even if it's just a five-minute call just to know that we're there and that we're struggling, but at least we check-in regularly and we can look forward to that" – 36 years old, white, cisgender man

While recognizing the importance of social support during the pandemic, many service providers described this work as consuming resources. Describing their organization's challenges to administer a cash-assistance program, one participant shared: "Being a small staff ... it's not sustainable the way we're running now" (33 years old, sex work organization board member, white, non-binary person). Most sex work organizations in the U.S. are volunteer-based and operate on minimal funding, which has created challenging conditions for responding to the pandemic. While service provider participants universally perceived pandemic-focused support as important, it was noted that their organizations' other work – including advancing structural reforms – was sidelined. Thus, while social support from community-led sex work organizations had clear value during the pandemic, it appeared to come at a cost to wider efforts to support sex workers in the U.S.

Some participants also received social support in the form of government-sponsored financial aid. For the period during which this study took place, U.S. residents were eligible for a one-time 'stimulus payment' of up to 1,200USD issued in April 2020 and ongoing unemployment payments that were supplemented with an additional 600USD per week (Alpert, 2021). Although the stimulus payment was designed to be issued to all residents below a certain income threshold, it was received by only 10 sex worker participants in our sample of 17. One participant described the discrepancy thus:

"Many sex workers were not eligible for even the 1,200USD payout if they haven't paid their taxes. And many of our constituents are in such precarious situations that of course they're not paying their taxes, or they don't have any documentable income. So, even that bare minimum of an extension of support provided generally to the population was denied to many sex workers" (33 years old, white, non-binary person)

Several participants advised that they do not file taxes because they had no 'legal' income to report given sex work's criminalized status, and it was the case that stimulus payments were issued only to those with a recent tax filing. This barrier was perceived as particularly relevant to migrant sex workers, especially given the rise and dominance of anti-immigration discourse in the U.S. (Pitropakis et al., 2020; Safarik, 2020). Although four participants reported receiving ongoing unemployment payments, many were unable to access this form of social support because they were unable to prove their employment status. There was also a commonly reported perception that sex workers were ineligible for these payments, which precluded many from applying (e.g., "But if you're a sex worker you're really not eligible even with a legitimate business because they've got a clause in there that anything to do with adult entertainment or the industry or things like that are not eligible for these funds" – 60 years old, Hispanic/Latina, cisgender woman). Some financial aid for U.S. businesses during the pandemic sought to exclude those that provided "prurient sexual material" (Grigorian, Kennedy, Poronsky, & Tunca, 2020) and while that standard was not applied to individual payments the perception clearly lingered and may have discouraged sex workers from seeking out these forms of aid.

Digital skills were a prominent energy resource defined through our analysis, which participants often invested to increase work opportunity and offset monetary losses from discontinuing or reducing in-person services during the pandemic. Several participants described deploying skills in the realms of social media advertising and videography to provide virtual sex work services like "private videos, hypnosis, erotic storytelling, and sometimes just paid [online] company" (36 years old, white, cisgender man). This participant went on to say, however, that monetarily this work produced "only a fraction of what [he was] used to taking in, but it's better than nothing". Echoing journalistic reports, this point demonstrates a commonly shared sentiment that investment of digital skills produced minimal returns in a market commonly characterized as oversaturated (Friedman, 2021).

While digital skills were an effective resource investment for some sex workers, others reported simply not having this resource upon which to draw (e.g., "It's not a skillset I have" - 50 years old, white, cisgender man). It was also noted that finding work through virtual channels was often more difficult for sex workers of color (e.g., "So sex workers of color can and have always had to, they're at the margins, it's hard to break in more because the niche is more for more white women, white males" – 30 years old, Latina, cisgender woman). Further, several participants explained how recent laws enacted in the U.S. known as 'SESTA-FOSTA' (*Stop Enabling Sex Traffickers Act* and the *Fight Online Sex Trafficking Act*) (U.S. United States Congress, 2017; U.S. United States Senate, 2017) affected their ability to receive payment for online services. As one participant shared:

"Some online work with clients that I see regularly is complicated because of SESTA-FOSTA. I've been using *Gift Rocket* for years to get payments because there were already problems with PayPal on these kinds of things due to SESTA-FOSTA but now *Gift Rocket* is down for me ... they decided that I was a sex worker ... I mean there's multiple layers to how this COVID virus is compounding our ability to do our work" (37 years old, multiracial, non-binary person).

SESTA-FOSTA has been criticized for conflating trafficking with sex work and for creating more dangerous working conditions for sex workers (Jackson & Heineman, 2018; Tripp, 2019). These laws also appear to have implications in the context of the COVID-19 pandemic,



suggesting another way in which structural stigma limited sex workers' ability to invest resources and offset losses. Overall, while our findings align with earlier research that virtual sex work afforded opportunities for some during the pandemic (Brouwers & Herrmann, 2020; Callander, Meunier, et al., 2020a), for many it appears that this investment was unavailable, had limited returns, and was impeded by pre-existing sex work stigma enacted in the form of anti-trafficking laws.

Four participants reported being able to somewhat offset losses to work opportunity and income by drawing upon their non-sex work employment as an energy resource. "I know that, in as far as I have been 'good' - in quotes, you know, - it's only because of my day-job salary," described one sex worker who had a separate full-time job. He went on to reflect, however, the limited return of this resource investment: "Does it actually cover my expenses? It certainly doesn't cover my debt. But, you know, at least I won't starve" (31 years old, white, cisgender man). Unfortunately, several participants reported not being able to find work in fields where they had skills (e.g., nursing, personal training) while the majority reported no alternative employment options upon which to draw. It is also important to note that participants with financial reserves prior to the pandemic were able to activate them as an energy resource to offset the pandemic's effects (e.g., "I have the luck that I put a lot of money also on the side" - 54 years old, white, cisgender woman), which aligns with COR in that those with greater baseline resources are generally able to prevent cascading losses (Hobfoll & Shirom, 2001).

Health knowledge was an additional energy resource activated by some sex workers to increase work opportunities while reducing COVID-19 infection risks, something found in earlier research (Callander, Meunier, et al., 2020a; Prior, 2021). Reported strategies included conducting temperature checks, asking about COVID-19 testing, and other forms of client screening (e.g., "I would ask them if they were sick, if anybody around them was sick" - 34 years old, Indigenous, cisgender woman). Others reported implementing enhanced hygiene measures (e.g., "I put a lot of new protocols in place ... masks for both me and them. Showers before under all circumstances" - 35 years old, white, cisgender woman) and limiting or spacing client encounters (e.g., "I agreed to sort of try to put at least a week in-between client, again, just to give it a week for symptoms to appear" - 31 years old, white, cisgender man). Interestingly, some participants activated their public health knowledge around COVID-19 risk by increasing their standard fee. For example, describing their plans to resume in-person services one participant shared:

"I am considering raising my rates actually when I go back, especially for shorter sessions, because of all the extra work and equipment that I'm going to be putting in and also to discourage someone from just doing a short quick little thing and see me every week. I would rather they see me once a month for a longer thing, so this way there is less contamination and such" - 35 years old, white, cisgender woman

This quotation demonstrates an investment of public health knowledge to earn an income while minimizing potential risks of infection, which was shared by several other participants. This approach is somewhat reminiscent of an earlier study with male sex workers, which found that some charge higher fees to engage in condomless sex in case they are required to take time off and treat a resulting sexually transmitted infection (Callander et al., 2019). It was observed in our sample that increasing fees was a strategy mainly employed by online and venue-based sex workers, especially those with established client bases and higher financial reserves. Conversely and as noted, some sex workers decreased their fees in an effort to increase work opportunity, which was more common among street-based sex workers, those of lower socioeconomic status, and those who faced housing and food insecurity.

Resilience was the only personal resource defined by our analysis, which borrowing from previous conceptualizations we define as the capacity for adaptability and transformability (Folke et al., 2010). Although resilience was never named as such by our participants, evidence of its investment could be found among those who adapted their perceptions of

the pandemic to focus on potentially positive effects (e.g., "One of the benefits that's come out of this time is that being forced to stay home has allowed me to get back in touch with myself" - 36 years old, white, cisgender man). Resilience also appeared to be a part of investments to increase work opportunities, as evident in the digital and others forms of adaptation and transformation of sex work practices described earlier.

#### 4.2.1. Health and safety implications of resources activated due to the COVID-19 pandemic

Our analysis suggests that in addition to the effects of resource loss owing to the COVID-19 pandemic, those activated also had both positive and negative implications for sex workers' OHS. It is promising that we observed evidence of resilience activated among some sex workers, especially given research suggesting it has a central role to play in supporting health and well-being during and after the pandemic (Lupe, Keefer, & Szigethy, 2020). It is also promising that investments in social support appeared to produce numerous health benefits for those to whom it was available. Mental health challenges during the pandemic were described by several participants, but many also found that receiving and providing social support could help mitigate those challenges. As one participant described: "I've really found a sense of community and really have formed a lot of really close bonds, so that part's been amazing and definitely helped me deal with anxiety and stress" (33 years old, multi-racial, non-binary person).

Another positive role that social support played was the access it provided to financial resources, which allowed some to discontinue in-person work without fear of cascading losses into housing and food insecurity. It is likely that this investment reduced the risk of SARS-CoV-2 transmission among sex workers, including the subset who were able to access social support in the form of government-sponsored financial aid. Social support also benefited sex worker health by facilitating access to health services and risk reduction equipment (e.g., condoms) while fostering increased health knowledge. Several participants reported receiving information on COVID-19 risk reduction from sex work organizations (e.g., "They try and teach the girls different ways to be safer ... pretty much just washing your hands and using hand and mouthwash, things like that" - 34 years old, Indigenous, cisgender woman). While it remains unclear the degree to which 'safer sex work' practices can reduce the risks of SARS-CoV-2 transmission and acquisition, it is promising that these channels for disseminating health knowledge were active and, as described, that many sex workers invested this knowledge to enact risk reduction practices as part of their work.

Although our findings suggest that social support between sex workers largely benefited health and safety during the COVID-19 pandemic, it is important to note that the sex work community was not universally viewed as a positive force. Some participants described tensions and arguments between sex workers directed at those who continued to offer in-person services (e.g., "There's been a lot of bullying on *Twitter* lately about how people are changing their business" - 35 years old, white, cisgender woman). Several participants described a hierarchy of power among sex workers - labelled the 'whorearchy' - that reproduced and reinforced classicism and racism. More affluent sex workers able to discontinue in-person services were perceived as enacting stigma against those who could not, with one participant specifically evoking race in their critique: "The people I've been seeing be the most problematic are some of the white sex workers who have this whole attitude that really centers themselves and is not based on community" (33 years old, multi-racial, non-binary person). From an intersectional perspective, while social support may have had positive effects for some, intersecting racism and classism suggests that sex workers of color and those of lower socioeconomic status may not have enjoyed such benefits and even experienced harms.

Digital skill investment appears to have fostered 'working from home' opportunities for some sex workers, which by reducing in-person contact is likely to have lowered COVID-19 risk. As noted, however, virtual sex work options were viewed as relatively poor returns on investment and

were not universally available. Further, some participants perceived that virtual sex work introduced other OHS risks, centered on the fear that online content is public and ungovernable. The enduring specter of sex work stigma led some to worry about how such content could be used, including as one participant described:

“The other issue towards the internet is a lot of ladies still want to remain anonymous. They have kids or they have whatever ... there's more sex workers that don't want to be on the internet than there are on the internet” - 28 years old, white, cisgender woman

This quotation highlights a very real fear, and there are several documented cases where virtual sex work activities have been used to discriminate against and otherwise harass sex workers (e.g., [Aggeler, 2021](#); [Stranger, 2020](#)). Thus, while investing digital skills was an effective and reasonable response to the pandemic for some, for others it risked introducing new threats to their health and safety.

## 5. Conclusions

The findings of this research strongly suggest that sex workers in the U.S. have faced profound and ongoing challenges owing to the COVID-19 pandemic, many of which have directly and indirectly endangered their health and safety. Our findings indicate that many sex workers were forced to make a difficult decision between maintaining an income or working under conditions with increased risks of SARS-CoV-2, mental health challenges, violence, and HIV and other sexually transmitted infections. We found evidence that these risks were particularly prominent at the intersections of race, class, gender, and immigration status, as sex workers with few resources prior to the pandemic faced significant, cascading losses of others. Reflecting the central theses of COR and intersectionality, cascading losses due to intersecting oppression forced some sex workers to operate from a primarily defensive position focused on securing immediate and essential needs like housing and food often at the expense of health and safety ([Renegade & Pottenger, 2019](#); [Vanwesenbeeck, 2001](#)).

Our findings show that the criminalization of sex work has endangered sex worker OHS during the pandemic, including by limiting access to physical and mental health care, health insurance, and government-sponsored financial aid. While we observed that some sex workers were engaged in COVID-19 risk reduction, criminalization prevented many from discontinuing in-person work even during the height of the pandemic, which created avoidable health risks and unnecessary burdens of stress and anxiety. Further, we found that the OHS effects of criminalization disproportionately affected sex workers at the intersections of race, class, and gender. These findings align with the considerable body of work from the U.S. and internationally, which finds that the criminalization and policing of sex work undermine individual and public health especially in the context of HIV ([Albright & D'Adamo, 2017](#); [Bruckert & Hannem, 2013](#); [Erasquin, 2019](#); [Harcourt et al., 2010](#); [Jackson & Heineman, 2018](#); [Mgbako, Bass, Bundra, & Jamil, 2012](#); [Minichiello, Scott, & Callander, 2013](#); [Minichiello, Scott, & Cox, 2018](#); [World Health Organization WHO, 2013](#); [Rekart, 2005](#); [Sullivan, 2010](#)), and they suggest the need for sex work decriminalization work in the U.S. and globally as one way of significantly improving the health and safety of sex workers relative to and beyond COVID-19.

Responding to these results, we join the long and growing list of scholars and activists advocating for sex work decriminalization in response to the COVID-19 pandemic (e.g., [Bromfield et al., 2021](#); [Brooks-Gordon, Morris, & Sanders, 2021](#); [Janyam et al., 2020](#); [Platt et al., 2020](#); [Shareck et al., 2021](#)). Although there is as-yet little research on how public policy has shaped the pandemic for sex workers around the world, anecdotal evidence from New Zealand and some parts of Australia suggests that decriminalization has helped mitigate many of the OHS risks observed in our study ([Armstrong & Abel, 2020](#); [The Scarlet Alliance, 2020](#)). Importantly, from an intersectional perspective it has been

pointed out that decriminalization is not a cure-all for the pandemic and other challenges facing particularly the most marginalized sex workers ([Armstrong & Abel, 2020](#); [Brooks-Gordon et al., 2021](#)). Nevertheless, considering our research within the larger international context, decriminalization appears to represent the greatest single action that should be taken to improve sex work OHS in relation to and beyond COVID-19.

A positive and prominent finding of this study is that social support ameliorates many of the pandemic's worst effects on sex workers' health and safety, especially social support from within sex work communities. Sex work communities have a long and successful history of responding to public health crises, especially in the context of HIV ([Rekart, 2005](#)), and our findings suggest that greater investment in community-based, peer-led forms of social support for sex workers is vital in the face of this new pandemic. It was observed, however, that effective social support must attend to intersectionality within sex work communities. Given that sex work comprises a diverse range of practices and populations ([Harcourt & Donovan, 2005](#)), any attempt to activate social support as a positive force must attend to these within group distinctions in terms of socioeconomic status, gender, race, immigration status, and others. Promisingly, many organizations – including those working specifically with intersectional populations in terms of race, gender, and class – have already taken the lead in producing and disseminating safer sex work guidelines, providing financial assistance, and supporting access to health services ([Bromfield et al., 2021](#); [Callander, Meunier, et al., 2020b](#); [Lam, 2020b](#)). Targeted funding is needed to sustain and expand this important community-based COVID-19 work, tailor it to the intersectional needs of sex work communities and evaluate impacts on OHS.

This study reinforces the need for ongoing efforts to reduce sex work stigma and discrimination within the health sector and to support sex worker's access to culturally competent and relevant care. As part of this need, training around human trafficking for health and other service providers must be amended to reflect the realities of consensual sex work more accurately, which would help de-stigmatize health settings and increase sex workers' willingness to engage in care. Indeed, this issue raises broader questions about trafficking as a focus of U.S. policy and funding: over 24 million USD in public funds is provided annually to combat human trafficking through programs that largely fail to prosecute traffickers and instead target sex workers (an estimated 90% of human trafficking arrests in 2018 were of consenting sex workers) ([Federal Bureau of Investigation FBI, 2019](#)), while virtually no funding from federal, state, or local governments supports programming for sex workers. Human trafficking is an important and serious issue, one that investing in sex work communities can actually help address ([Albright & D'Adamo, 2017](#)) not to mention that these investments can improve the overall health and safety of sex workers ([World Health Organization WHO, 2012](#); [Callander et al., 2020](#); [The Scarlet Alliance, 2020](#)). Although we found that many sex work organizations rose to the task of supporting sex workers during the COVID-19 pandemic, this consumed their limited resources to the detriment of other important programs. Future research on the negative effects of anti-trafficking initiatives on sex workers' health and safety is warranted. Ultimately, shifting the disproportionate focus on human trafficking through greater investment of public funds in sex work communities has exciting generative potential relative to and well beyond the COVID-19 pandemic.

This study provides much-needed nuance and depth to the literature on COVID-19 among sex workers, aligning with and building upon inferences derived from other samples and in other countries ([Callander, Meunier, et al., 2020a](#); [Prior, 2021](#); [Tan et al., 2020](#)). The novel application of COR is a considerable strength of this study, which helps shed light on the multifaceted and reflexive ways in which the pandemic has impacted OHS among sex workers. It should be noted that this study is limited by its sample size of 21, which precludes extrapolation of our findings to the general population of sex workers in the U.S. The diversity of our sample, however, suggest that this study captured many important perspectives including at the intersections of race, class, and gender. It is

notable, however, that the majority of our sample was white and only one was Black. Research findings that the COVID-19 pandemic has disproportionately affected Black and African American people (Vasquez Reyes, 2020), a more thorough account of which among sex workers cannot be provided by this sample. Future research must delve more deeply into the intersectional effects of the pandemic on Black and other racial minority groups in the U.S. It is also notable that only two participants reported street-based sex work, a limitation that reflects that our recruitment efforts focused predominantly on digital forms of engagement and that street-based sex workers may have been less able to participate in an hour-long research interview. Given that street-based sex workers are disproportionately exposed to criminalization and homelessness along with higher rates of substance use and mental health challenges (Ellison, 2018; Lazarus et al., 2012; Li et al., 2012), future research should focus especially on identifying and responding to the needs of street-based sex workers in this COVID-19 era.

Our findings must be understood in the U.S. context, which is especially relevant given the diverse array of sex work policies implemented in other parts of the world (Harcourt, Egger, & Donovan, 2005) and the considerable differences in how countries have responded to COVID-19. Further, data collection occurred prior to the availability of several effective options for COVID-19 vaccination. Given the unique and intersectional vulnerabilities highlighted by our analysis, future work should focus on equitable and rapid vaccine delivery to in-person sex workers. Building upon advocacy for an intersectional approach to COVID-19 vaccine distribution (Sekalala et al., 2021), our findings suggest that care must be taken to ensure access to street-based, transgender, and migrant sex workers, sex worker of color, and other subpopulations most in-need.

Given the centrality of lived experience and intersectionality to this study, it is important to contend with our research teams' own positionalities, including as they relate our analysis and interpretation. The *SW-C19* team includes those with street-based and other forms of sex work experience, and this representation has proven invaluable for motivating and contextualizing this research. Similarly, our team represents a diverse array of gender, racial, class, and immigration backgrounds, which help focus attention to these intersectional positions in particular. While recognizing this positionality, however, we must also contend with the power and privilege our positions as scholars, activists, and advocates provides; we make no claims to represent the totality of sex work experience in the U.S. Indeed, there are undoubtedly some spots to which we and the results presented here remain blind. Instead of retreating behind claims of diversity and representation, we wish to highlight the ongoing need for research that meaningfully creates and sustains space for sex workers - especially those most marginalized by our societies - to lead and shape scholarship.

Overall, this study presents compelling evidence that sex workers require urgent and ongoing support to address the negative effects of the COVID-19 pandemic. Funding to advance the work of community-based sex work organizations, decriminalize sex work, address the effects of anti-trafficking efforts, and reduce stigma and discrimination within the health sector are among the most likely interventions to achieve immediate and long-term benefits. Although the sex workers in our sample reflected considerable strength and solidarity by working together to address many of the pandemic's implications, it is unjust and inequitable that these communities should be forced to 'go it alone' without the governmental support afforded to so many others. Further, while vaccines are likely to help minimize many of the risks and consequences of COVID-19, some - especially those related to mental health - are unlikely to be so easily resolved. The interventions suggested by this study should be complemented but not supplanted by vaccination efforts, a holistic approach that will help intersectional communities of sex workers contend with the COVID-19 pandemic while empowering communities themselves to respond to other existing public health crises as well as those that have yet to emerge.

## 7. Contributions

This study was conceived by DC and EM with guidance from DD, CG and WS. Interviews and coding were conducted by DC, EM, and ASG. Representing important sex work organizations and the perspective of sex workers, MS, MG, RT, and JLOB provided input on all aspects of this study's design, analysis, and interpretation. All authors contributed to the creation of this manuscript and reviewed it prior to submission.

## 9. Funding

This study was partially supported by funding received as a Rapid-Response Grant on COVID-19 from the Social Sciences from the Social Sciences Research Council and the Columbia University Public Health Innovation Fund. The funding sources were not involved with any aspect of this study's design, implementation, or dissemination.

## Ethical statement

The conduct of this study was reviewed and approved by the Institutional Review Board of the Columbia University Irving Medical Center (reference: AAAT0376). As data collection was conducted via telephone or videoconference to support physical distancing measures, in lieu of written consent participants were read a short script outlining their rights and were asked to consent verbally, which because part of the written transcript. A digital copy of the information and consent form was provided via email. Recognizing the necessity of community collaboration in support of relevant and respectful research, representatives from prominent sex work organizations in the U.S. and several active sex workers were engaged over the life of this study to guide the design, implementation, interpretation, and dissemination processes.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Acknowledgements

The authors wish to thank participants who so generously shared their time and energy. We also wish to thank organizations that supported recruitment and consulted on study design, including the U.S. and Brooklyn chapters of Sex Workers Outreach Project (SWOP), Callen-Lorde Community Health Center, the Sex Workers Project of the Urban Justice Center, Decriminalize Sex Work, and the New York Transgender Advocacy Group. Transcription of participant interviews was provided by Jodie Fitzsimmons and [Rev.com](https://www.rev.com).

## ABBREVIATIONS

COR – Conservation of Resources Theory  
 COVID-19 – Coronavirus Disease 2019  
 HIV – Human Immunodeficiency Virus  
 OHS – Occupational Health and Safety  
 PEP – Post-exposure prophylaxis  
 SESTA-FOSTA – Stop Enabling Sex Traffickers Act-Fight Online Sex Trafficking Act.

## Appendix A. Supplementary information

The interview schedules used for this study can be found online at <https://doi.org/10.1016/j.ssmqr.2021.100027>.

## References

- ACON. (2020). *Sex in the era of COVID-19*. Sydney, NSW: ACON Retrieved from. [https://www.aconhealth.org.au/sex\\_and\\_covid\\_19](https://www.aconhealth.org.au/sex_and_covid_19).
- Adebisi, Y. A., Alaran, A. J., Akinokun, R. T., Micheal, A. I., Ilesanmi, E. B., & Lucero-Priso, D. E. (2020). Sex workers should not be forgotten in Africa's COVID-19 response. *The American Journal of Tropical Medicine and Hygiene*, 103(5), 1780–1782. <https://doi.org/10.4269/ajtmh.20-1045>
- Aggarwal, N. K., Consavage, K. E., Dhanuka, I., Clement, K. W., Shahbazian, K., & Bouey, J. H. (2021). Health care access barriers among transgender women engaged in sex work: A synthesis of U.S.-Based studies published 2005–2019. *LGBT Health*, 8(1), 11–25. <https://doi.org/10.1089/lgbt.2019.0243>
- Aggeler, M. (2021). School expels kids because of their mom's OnlyFans account. *New York magazine*: The cut. <https://www.thecut.com/2021/02/school-expels-kids-because-of-their-moms-onlyfans-account.html>.
- Albright, E., & D'Adamo, K. (2017). Decreasing human trafficking through sex work decriminalization. *AMA Journal of Ethics*, 19(1), 122–126.
- Alpert, G. (2021). U.S. COVID-19 stimulus and relief. <https://www.investopedia.com/government-stimulus-efforts-to-fight-the-covid-19-crisis-4799723>.
- Armstrong, L., & Abel, G. (2020). *Why legal rights and respect for sex workers are paramount during times of crisis*. Transforming Society. <https://www.transformingsociety.co.uk/2020/07/22/why-legal-rights-and-respect-for-sex-workers-are-paramount-during-times-of-crisis/>.
- Baral, S. D., Friedman, M. R., Geibel, S., Rebe, K., Bozhinov, B., Diouf, D., et al. (2014). Male sex workers: Practices, contexts, and vulnerabilities for HIV acquisition and transmission. *The Lancet*.
- Basu, A., Ketheeswaran, N., & Cusanno, B. R. (2020). Localcentricity, mental health and medical poverty in communication about sex work, HIV and AIDS among trans women engaged in sex work. *Culture, Health & Sexuality*, 1–13. <https://doi.org/10.1080/13691058.2020.1817562>
- Berkowitz, S. A., & Basu, S. (2021). Unemployment insurance, health-related social needs, health care access, and mental health during the COVID-19 pandemic. *JAMA Internal Medicine*, 181(5), 699–702.
- Bowleg, L. (2020). We're not all in this together: On COVID-19, intersectionality, and structural inequality. *American Journal of Public Health*, 110(7). <https://doi.org/10.2105/AJPH.2020.305766>, 917–917.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp0630a>
- Bromfield, N. F., Panichelli, M., & Capous-Desyllas, M. (2021). At the intersection of COVID-19 and sex work in the United States: A call for social work action. *Affilia*, 36(2), 140–148. <https://doi.org/10.1177/0886109920985131>
- Brooks-Gordon, B., Morris, M., & Sanders, T. (2021). *Harm reduction and decriminalization of sex work: Introduction of the special edition*. *Sexuality Research & Social Policy*. online first.
- Brouwers, L., & Herrmann, T. (2020). "We have advised sex workers to simply choose other options"—the response of adult service websites to COVID-19. *Social Sciences*, 9(10), 181. <https://www.mdpi.com/2076-0760/9/10/181>.
- Bruckert, C., & Hannem, S. (2013). Rethinking the prostitution debates: Transcending structural stigma in systemic responses to sex work. *The Canadian Journal of Sociology*, 28, 43.
- Callander, D. (2021). English-language publications related to sex work & COVID-19 in mainstream media, February–May 2020. <https://doi.org/10.6084/m9.figshare.12654545>.
- Callander, D., Bell, S., Minichiello, V., Deveau, R., Prestage, G., & Donovan, B. (2019). "You need a cash buffer": Male sex work and condom use in the era of HIV pre-exposure prophylaxis. *Sexually Transmitted Infections*, 95(Suppl 1), A309–A310. <https://doi.org/10.1136/sextrans-2019-sti.776>
- Callander, D., Meunier, É., DeVeau, R., Grov, C., Donovan, B., Minichiello, V., et al. (2020a). *Investigating the effects of COVID-19 on global male sex work populations: A longitudinal study of digital data Sexually Transmitted Infections online first*.
- Callander, D., Meunier, É., DeVeau, R., Grov, C., Donovan, B., Minichiello, V., et al. (2020b). Sex workers are returning to work and require support in the face of COVID-19: A longitudinal analysis of digital data and a content analysis of sex work support guidelines. *Sexual Health, online first*.
- Callander, D., Prestage, G., Richters, J., Santana, P., Cox, C., & Donovan, B. (2020). Male sex work in Australia. In V. Minichiello, J. Scott, C. Grov, & D. Bimbi (Eds.), *Male Sex Work, Society and Culture*. Harrington Park Press.
- Carol, L. (1997). Inventing sex work. In J. Nagle (Ed.), *Whores and Other Feminists* (pp. 223–231). Routledge.
- Crenshaw, K. (1991). *Mapping the margins: Intersectionality, identity politics, and violence against women of color* (pp. 1241–1299). Stanford law review.
- Czeisler, M.E., Lane, R. I., Petrosky, E., Wiley, J. F., Christensen, A., Njai, R., et al. (2020). Mental health, substance use, and suicidal ideation during the COVID-19 pandemic—United States, June 24–30, 2020. *Morbidity and Mortality Weekly Report*, 69(32), 1049.
- El-Sadr, W. M. (2020). What one pandemic can teach us in facing another. *AIDS*. Publish Ahead of Print. [https://journals.lww.com/aidsonline/Fulltext/9000/What\\_one\\_pandemic\\_can\\_teach\\_us\\_in\\_facing\\_another.96668.aspx](https://journals.lww.com/aidsonline/Fulltext/9000/What_one_pandemic_can_teach_us_in_facing_another.96668.aspx).
- Ellison, G. (2018). Drifters, party boys and incumbents: The life patterns of male street-based sex workers. *Journal of Sociology*, 52(2), 367–383.
- Erausquin, J. T. (2019). Sex work and policing practice in the United States. *American Journal of Public Health*, 109(2), 186.
- Federal Bureau of Investigation (FBI). (2019). *Human Trafficking, 2018*. Washington, DC: United States FBI. Retrieved from <https://ucr.fbi.gov/crime-in-the-u.s/2018/crime-in-the-u.s.-2018/additional-data-collections/human-trafficking#:~:text=Human%20trafficking%2C%202018%2C%20marks%20the,an%20increase%20in%20data%20submissions>.
- Fitzgerald, E., Elspeth Patterson, S., & Hoickey, D. (2015). *Meaningful work: Transgender experiences with the sex trade*.
- Folke, C., Carpenter, S. R., Walker, B., Scheffer, M., Chapin, T., & Rockstrom, J. (2010). Resilience thinking: Integrating resilience, adaptability and transformability. *Ecology and Society*, 15(4), 20.
- Friedman, G. (2021). Jobless, selling nudes online and still struggling. *New York times*. <https://www.nytimes.com/2021/01/13/business/onlyfans-pandemic-users.html>.
- Gerassi, L. (2015). A heated debate: Theoretical perspectives of sexual exploitation and sex work. *Journal of Sociology and Social Welfare*, 42(4), 79–100.
- Global Network of Sex Work Projects. (2011). *Sex work is not trafficking*.
- Goldenberg, S. M., Duff, P., & Krusi, A. (2015). Work environments and HIV prevention: A qualitative review and meta-synthesis of sex worker narratives. *BMC Public Health*, 15(1), 1241. <https://doi.org/10.1186/s12889-015-2491-x>
- Gorgievski, M. J., Halbesleben, J. R., & Bakker, A. B. (2011). *Expanding the boundaries of psychological resource theories*. Wiley Online Library.
- Grigorian, C., Kennedy, C., Poronsky, B., & Tunca, G. (2020). *Federal Courts Side With Strip Clubs in Opposing the SBA's Ineligibility Rules for the Paycheck Protection Program, Possibly Signaling a Broader Trend, XI*. National Law Review.
- Halbesleben, J. R. B., Neveu, J.-P., Paustian-Underdahl, S. C., & Westman, M. (2014). Getting to the "COR": Understanding the role of resources in conservation of resources theory. *Journal of Management*, 40(5), 1334–1364. <https://doi.org/10.1177/0149206314527130>
- Halbesleben, J. R. B., & Wheeler, A. R. (2012). To invest or not? The role of coworker support and trust in daily reciprocal gain spirals of helping behavior. *Journal of Management*, 41(6), 1628–1650. <https://doi.org/10.1177/0149206312455246>
- Ham, J. (2020). Using difference in intersectional research with im/migrant and racialized sex workers. *Theoretical Criminology*, 24(4), 551–567. <https://doi.org/10.1177/1362480618819807>
- Harcourt, C., & Donovan, B. (2005). The many faces of sex work. *Sexually Transmitted Infections*, 81(3), 201–206.
- Harcourt, C., Egger, S., & Donovan, B. (2005). Sex work and the law. *Sexual Health*, 2(3), 121–128. <https://doi.org/10.1071/SH04042>
- Harcourt, C., O'Connor, J., Egger, S., Fairley, C. K., Wand, H., Chen, M. Y., et al. (2010). The decriminalisation of prostitution is associated with better coverage of health promotion programs for sex workers. *Australian & New Zealand Journal of Public Health*, 34(5), 482–486. <https://doi.org/10.1111/j.1753-6405.2010.00594.x>
- Hargreaves, J., Davey, C., Hargreaves, J., Davey, C., Auerbach, J., Blanchard, J., et al. (2020). Three lessons for the COVID-19 response from pandemic HIV. *The Lancet HIV*, 7(5), e309–e311. [https://doi.org/10.1016/S2352-3018\(20\)30110-7](https://doi.org/10.1016/S2352-3018(20)30110-7)
- Hayes-Smith, R., & Shekarkhar, Z. (2010). Why is prostitution criminalized? An alternative viewpoint on the construction of sex work. *Contemporary Justice Review*, 13(1), 43–55. <https://doi.org/10.1080/10282580903549201>
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44(3), 513.
- Hobfoll, S. E. (2004). *Stress, culture, and community: The psychology and philosophy of stress*. Springer Science & Business Media.
- Hobfoll, S. E. (2011). *Conservation of resources theory: Its implication for stress, health, and resilience*.
- Hobfoll, S., & Shirom, A. (2001). Conservation of resources theory: Applications to stress and management in the workplace. In R. Golembiewski (Ed.), *Handbook of Organizational Behavior* (2nd ed.). Revised and Expanded. Marcel Dekker Inc.
- Howard, S. (2020). Covid-19: Health needs of sex workers are being sidelined. *Warn Agencies*, 369. <https://doi.org/10.1136/bmj.m1867> %J BMJ. m1867.
- Jackson, C. A., & Heineman, J. (2018). Repeal FOSTA and decriminalize sex work. *Contexts*, 17(3), 74–75. <https://doi.org/10.1177/1536504218792534>
- Janyam, S., Phuengsamran, D., Pangnongyang, J., Saripra, W., Jitwattanapataya, L., Songsamphan, C., et al. (2020). Protecting sex workers in Thailand during the COVID-19 pandemic: Opportunities to build back better. *WHO South-East Asia Journal of Public Health*, 9(2), 100–103.
- Jiao, S., Bungay, V., & Jenkins, E. (2021). Information and communication technologies in commercial sex work: A double-edged sword for occupational health and safety. *Social Sciences*, 10(1), 23. <https://www.mdpi.com/2076-0760/10/1/23>.
- Jozaghi, E., & Bird, L. (2020). COVID-19 and sex workers: Human rights, the struggle for safety and minimum income. *Canadian Journal of Public Health*, 1.
- Karamouzian, M., Johnson, C., & Kerr, T. (2020). Public health messaging and harm reduction in the time of COVID-19. *The Lancet Psychiatry*, 7(5), 390–391. [https://doi.org/10.1016/S2215-0366\(20\)30144-9](https://doi.org/10.1016/S2215-0366(20)30144-9)
- Kawala, B. A., Kirui, B. K., & Cumber, S. N. (2020). Why policy action should focus on the vulnerable commercial sex workers in Uganda during COVID-19 fight. *The Pan African Medical Journal*, 35(102).
- Kerrigan, D., Wirtz, A., Baral, S., Decker, M., Murray, L., Poteat, T., et al. (2013). *The Global HIV Epidemics among Sex Workers*.
- Kimani, J., Adhiambo, J., Kasiba, R., Mwangi, P., Were, V., Mathenge, J., et al. (2020). The effects of COVID-19 on the health and socio-economic security of sex workers in Nairobi, Kenya: Emerging intersections with HIV. *Global Public Health*, 15(7), 1073–1082. <https://doi.org/10.1080/17441692.2020.1770831>
- Lam, E. (2020a). Migrant sex workers left behind during COVID-19 pandemic. *Canadian Journal of Public Health*. <https://doi.org/10.12769/s41997-020-00377-4>
- Lam, E. (2020b). Pandemic sex workers' resilience: COVID-19 crisis met with rapid responses by sex worker communities. *International Social Work*, 63(6), 777–781.
- Lazarus, L., Deering, K. N., Nabess, R., Gibson, K., Tyndall, M. W., & Shannon, K. (2012). Occupational stigma as a primary barrier to health care for street-based sex workers in Canada. *Culture, Health & Sexuality*, 14(2), 139–150.

- Li, Y., Detels, R., & Lin, P. (2012). Difference in risk behaviors and STD prevalence between street-based and establishment-based FSWs in Guangdong Province, China. *AIDS and Behavior*, 16. <https://doi.org/10.1007/s10461-011-0102-0>
- Limcaoco, R. S. G., Mateos, E. M., Fernandez, J. M., & Roncero, C. (2020). *Anxiety, worry and perceived stress in the world due to the COVID-19 pandemic, March 2020. Preliminary results.* medRxiv.
- Loewenson, R. (2002). Occupational hazards in the informal sector—a global perspective. In *Health effects of the new labour market* (pp. 329–342). Springer.
- Logie, C. H. (2020). Lessons learned from HIV can inform our approach to COVID-19 stigma. *Journal of the International AIDS Society*, 23(5), Article e25504. <https://doi.org/10.1002/jia2.25504>
- Logie, C. H., & Turan, J. M. (2020). How do we balance tensions between COVID-19 public health responses and stigma mitigation? Learning from HIV research. *AIDS and Behavior*, 24(7), 2003–2006. <https://doi.org/10.1007/s10461-020-02856-8>
- Lund, F., Alfors, L., & Santana, V. (2016). Towards an inclusive occupational health and safety for informal workers. *New Solutions: A Journal of Environmental and Occupational Health Policy*, 26(2), 190–207.
- Lund, S., Hancock, B., Ellingrud, K., & Manyika, J. (2020). *COVID-19 and jobs: Monitoring the US impact on people and places.* <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-jobs-monitoring-the-us-impact-on-people-and-places#>
- Lupe, S. E., Keefer, L., & Szigethy, E. (2020). Gaining resilience and reducing stress in the age of COVID-19. *Current Opinion in Gastroenterology*, 36(4). [https://journals.lww.com/co-gastroenterology/Fulltext/2020/07000/Gaining\\_resilience\\_and\\_reducing\\_stress\\_in\\_the\\_age.8.aspx](https://journals.lww.com/co-gastroenterology/Fulltext/2020/07000/Gaining_resilience_and_reducing_stress_in_the_age.8.aspx)
- Mgbako, C. A., Bass, K. G., Bundra, E., & Jamil, M. (2012). The case for decriminalization of sex work in South Africa. *Geo. J. Int'l L.*, 44, 1423.
- Minichiello, V., Aroni, R., & Hays, T. N. (2008). In *Depth Interviewing: Principles, Techniques, Analysis*. Pearson Education Australia. <http://books.google.com.au/books?id=7IL3AQAACAAJ>
- Minichiello, V., Scott, J., & Callander, D. (2013). New pleasures and old dangers: Reinventing male sex work. *The Journal of Sex Research*, 50(3–4), 263–275.
- Minichiello, V., Scott, J., & Cox, C. (2018). Commentary: Reversing the agenda of sex work stigmatization and criminalization: Signs of a progressive society. *Sexualities*, 21(5–6), 730–735.
- Nadal, K. L., Davidoff, K. C., & Fujii-Doe, W. (2014). Transgender women and the sex work industry: Roots in systemic, institutional, and interpersonal discrimination. *Journal of Trauma & Dissociation*, 15(2), 169–183. <https://doi.org/10.1080/15299732.2014.867572>
- National Ugly Mugs. (2020). *COVID-19 Emergency Response Project for UK Sex Workers.* London, UK: National Ugly Mugs.
- Nemoto, T., Bödeker, B., & Iwamoto, M. (2011). Social support, exposure to violence and transphobia, and correlates of depression among male-to-female transgender women with a history of sex work. *American Journal of Public Health*, 101(10), 1980–1988. <https://doi.org/10.2105/AJPH.2010.197285>
- New York City Health. (2020). *Sex and coronavirus Disease 2019 (COVID-19).* New York City, New York: Department of Health and Mental Hygiene. <https://hivpreventioncoalition.unaids.org/resource/nyc-health-sex-and-coronavirus-disease-2019-covid-19-march-2020/>
- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthy criteria. *International Journal of Qualitative Methods*, 16(1), 1–13.
- Nuttbrock, L. (2018). *Transgender Sex Work and Society.* Harrington Park Press, LLC. <http://books.google.com/books?id=sqyLDwAAQBAJ>
- Office of the Assistant Secretary for Planning and Evaluation. (1998). Ancillary services to support welfare to work. Housing instability. Washington, DC: U.S. Department of health & human services. Retrieved from <https://aspe.hhs.gov/report/ancillary-services-support-welfare-work/housing-instability>
- Operario, D., Soma, T., & Underhill, K. (2008). Sex work and HIV status among transgender women: Systematic review and meta-analysis. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, 48(1). [https://journals.lww.com/jaids/Fulltext/2008/05010/Sex\\_Work\\_and\\_HIV\\_Status\\_Among\\_Transgender\\_Women\\_13.aspx](https://journals.lww.com/jaids/Fulltext/2008/05010/Sex_Work_and_HIV_Status_Among_Transgender_Women_13.aspx)
- Paz-Bailey, G., Noble, M., Salo, K., & Tregear, S. J. (2016). Prevalence of HIV among U.S. Female sex workers: Systematic review and meta-analysis. *AIDS and Behavior*, 20(10), 2318–2331. <https://doi.org/10.1007/s10461-016-1332-y>
- Persons, O. o. T. i. (2019). *SOAR to Health and Wellness Training.* <https://www.acf.hhs.gov/otip/training/soar-health-and-wellness-training>
- Pitropakis, N., Kokot, K., Gkatzia, D., Ludwiniak, R., Mylonas, A., & Kandias, M. (2020). Monitoring users' behavior: Anti-immigration speech detection on twitter. *Machine Learning and Knowledge Extraction*, 2(3), 192–215.
- Platt, L. (2019). *S20. 3 The health impacts of sex work criminalization: a review of the evidence.* BMJ Publishing Group Ltd.
- Platt, L., Elmes, J., Stevenson, L., Holt, V., Rolles, S., & Stuart, R. J. L. (2020). *Sex workers must not be forgotten in the COVID-19 response.*
- Platt, L., Grenfell, P., Meiksin, R., Elmes, J., Sherman, S. G., Sanders, T., et al. (2018). Associations between sex work laws and sex workers' health: A systematic review and meta-analysis of quantitative and qualitative studies. *PLoS Medicine*, 15(12), Article e1002680.
- Poteat, T., Wirtz, A. L., Radix, A., Borquez, A., Silva-Santisteban, A., Deutsch, M. B., et al. (2015). HIV risk and preventive interventions in transgender women sex workers. *The Lancet*, 385(9964), 274–286. [https://doi.org/10.1016/S0140-6736\(14\)60833-3](https://doi.org/10.1016/S0140-6736(14)60833-3)
- Prior, A. (2021). Paying for sex during COVID-19 pandemic: The experiences of Israeli men. *Sexuality Research and Social Policy*. <https://doi.org/10.1007/s13178-020-00524-z>
- Rekart, M. L. (2005). Sex-work harm reduction. *The Lancet*, 366(9503), 2123–2134. [https://doi.org/10.1016/S0140-6736\(05\)67732-X](https://doi.org/10.1016/S0140-6736(05)67732-X)
- Renegade, R., & Pottenger, K. (2019). Sex work is work. *New Labor Forum*, 28(1), 98–102. <https://doi.org/10.1177/1095796018819463>
- Rhodes, S. D., Tanner, A., Duck, S., Aronson, R. E., Alonzo, J., Garcia, M., et al. (2012). Female sex work within the rural immigrant latino community in the southeast United States: An exploratory qualitative community-based participatory research study. *Progress in Community Health Partnerships: Research, Education, Action*, 6(4), 417.
- Ross, M. W., Crisp, B. R., Månsson, S. A., & Hawkes, S. (2012). Occupational health and safety among commercial sex workers. *Scandinavian Journal of Work, Environment & Health*, 38(2), 105–119. <https://doi.org/10.5271/sjweh.3184>
- Safarik, B. (2020). *When the melting pot spills over: The contemporary populist backlash of perceived immigration pressures in Brazil and the United States.* Diálogos. Paraná, Brasil: Universidade Estadual de Maringá.
- Santos, G.-M., Ackerman, B., Rao, A., Wallach, S., Ayala, G., Lamontage, E., et al. (2020). Economic, mental health, HIV prevention and HIV treatment impacts of COVID-19 and the COVID-19 response on a global sample of cisgender gay men and other men who have sex with men. *AIDS and Behavior*, 1–11. <https://doi.org/10.1007/s10461-020-02969-0>
- Sawicki, D. A., Meffert, B. N., Read, K., & Heinz, A. J. (2019). Culturally competent health care for sex workers: An examination of myths that stigmatize sex-work and hinder access to care. *Sexual and Relationship Therapy: Journal of the British Association for Sexual and Relationship Therapy*, 34(3), 355–371. <https://doi.org/10.1080/14681994.2019.1574970>
- Scambler, G., & Paoli, F. (2008). Health work, female sex workers and HIV/AIDS: Global and local dimensions of stigma and deviance as barriers to effective interventions. *Social Science & Medicine*, 66(8), 1848–1862. <https://doi.org/10.1016/j.socscimed.2008.01.002>
- Sekalala, S., Perehudoff, K., Parker, M., Forman, L., Rawson, B., & Smith, M. (2021). An intersectional human rights approach to prioritising access to COVID-19 vaccines. *BMJ Global Health*, 6(2), Article e004462. <https://doi.org/10.1136/bmjgh-2020-004462>
- Shannon, K., & Csete, J. (2010). Violence, condom negotiation, and HIV/STI risk among sex workers. *Journal of the American Medical Association*, 304(5), 573–574.
- Shannon, K., Kerr, T., Allinott, S., Chettiar, J., Shoveller, J., & Tyndall, M. W. (2008). Social and structural violence and power relations in mitigating HIV risk of drug-using women in survival sex work. *Social Science & Medicine*, 66(4), 911–921.
- Shannon, K., Strathdee, S. A., Goldenberg, S. M., Duff, P., Mwangi, P., Rusakova, M., et al. (2015). Global epidemiology of HIV among female sex workers: Influence of structural determinants. *The Lancet*, 385(9962), 55–71.
- Shareck, M., Hassan, M., Buhariwala, P., Perri, M., Balla, E., & O'Campo, P. (2021). Double jeopardy: Maintaining livelihoods or preserving health? The tough choices sex workers faced during the COVID-19 pandemic. *Journal of Primary Care & Community Health*. online first.
- Stranger, E. (2020). The New York post outed A paramedic as a sex worker. *Here's What They Didn't Tell You.* [HuffPost. https://www.huffpost.com/entry/lauren-kwei-new-york-post-only-fans-paramedic\\_n\\_5fdb5a9dc5b6aa861e5c55f6](https://www.huffpost.com/entry/lauren-kwei-new-york-post-only-fans-paramedic_n_5fdb5a9dc5b6aa861e5c55f6)
- Sullivan, B. (2010). When (some) prostitution is legal: The impact of law reform on sex work in Australia. *Journal of Law and Society*, 37(1), 85–104.
- Tan, R. K. J., Lo, J. J.-M., Teo, A. K. J., Hui, A., Ho, V., Hsu, L. Y., et al. (2020). *Impact of the Coronavirus Disease (COVID-19) on the sex work industry in Singapore: Recommendations for policymakers.* Singapore: National University of Singapore.
- The Scarlet Alliance. (2020). *COVID-19 and Sex Work in Australia.*
- The Scelles Foundation. (2016). *Prostitution: Exploitation, persecution, repression* (4th global report).
- Tripp, H. (2019). All sex workers deserve protection: How FOSTA/SESTA overlooks consensual sex workers in an attempt to protect sex trafficking victims. *Penn State Law Review*, 124, 219.
- Tsoutouras, D., & Lund, F. (2016). Extending health and safety to informal workers: A photo essay. *New Solutions: A Journal of Environmental and Occupational Health Policy*, 26(2), 326–336. <https://doi.org/10.1177/1048291116652826>
- UNAIDS. (2020). *Sex workers must not be left behind in the response to COVID-19.* Geneva, Switzerland: UNAIDS Retrieved from. [https://www.unaids.org/en/resources/press-centre/pressreleaseandstatementarchive/2020/april/20200408\\_sex-workers-covid-19](https://www.unaids.org/en/resources/press-centre/pressreleaseandstatementarchive/2020/april/20200408_sex-workers-covid-19)
- Underhill, K., Morrow, K. M., Collier, C. M., Holcomb, R., Operario, D., Calabrese, S. K., et al. (2014). Access to healthcare, HIV/STI testing, and preferred pre-exposure prophylaxis providers among men who have sex with men and men who engage in street-based sex work in the US. *PLoS One*, 9(11), Article e112425. <https://doi.org/10.1371/journal.pone.0112425>
- United States Congress. (2017). H.R.1865 - allow states and victims to fight online sex trafficking Act of 2017. Retrieved from <https://www.congress.gov/bill/115th-congress/house-bill/1865/text>
- United States Senate. (2017). S.1693 - Stop enabling sex traffickers Act of 2017. Retrieved from <https://www.congress.gov/bill/115th-congress/senate-bill/1693/text>
- Vanwesenbeeck, I. (2001). Another decade of social scientific work on sex work: A review of research 1990–2000. *Annual Review of Sex Research*, 12(1), 242–289.
- Vanwesenbeeck, I. (2017). Sex work criminalization is barking up the wrong tree. *Archives of Sexual Behavior*, 46(6), 1631–1640. <https://doi.org/10.1007/s10508-017-1008-3>
- Vasquez Reyes, M. (2020). The disproportional impact of COVID-19 on african Americans. *Health and human rights*, 22(2), 299–307. <https://pubmed.ncbi.nlm.nih.gov/33390715>
- Wang, Q. Q., Kaelber, D. C., Xu, R., & Volkow, N. D. (2021). COVID-19 risk and outcomes in patients with substance use disorders: Analyses from electronic health records in the United States. *Molecular Psychiatry*, 26(1), 30–39.

Wei, Y., & Shah, R. (2020). Substance use disorder in the COVID-19 pandemic: A systematic review of vulnerabilities and complications. *Pharmaceuticals*, 13(7), 155.

World Health Organization [WHO]. (2012). *Prevention and treatment of HIV and other sexually transmitted infections for sex workers in low- and middle-income countries*.

Geneva, Switzerland: WHO Retrieved from. [https://www.who.int/hiv/pub/guidelines/sex\\_worker/en/](https://www.who.int/hiv/pub/guidelines/sex_worker/en/).

World Health Organization [WHO]. (2013). *Implementing comprehensive HIV/STI programmes with sex workers: Practical approaches from collaborative interventions*. Switzerland, Geneva: WHO.