Digital Divide and Marginalized Women During COVID-19: A Study of Women Recently

Released from Prison

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Abstract

The COVID-19 pandemic has underscored the urgency to bridge the digital divide, as those without reliable internet, adequate devices, and digital literacy skills were severely disadvantaged when most essential activities moved online. This study examines how the pandemic has affected women recently released from jail or prison, a group that was already at a disadvantage in terms of digital access and skills even before the pandemic. Our interviews with 45 women in transition show that their lack of stable access to the internet and digital devices during the pandemic influenced their post-incarceration supervision requirements, job applications, educational opportunities, and others. These women navigated the challenges by working with their social connections (e.g., friends and neighbors) and relying on emergency resources deployed by local institutions during the pandemic. Those staying in transitional houses before being fully released into communities indicated that they often depended on facility staff or family/friends in the community for pandemic-related information due to their limited access to the internet in those facilities. These and other findings from this research provide insights into the technological challenges and needs of marginalized women during the public health crisis.

Keywords: digital divide, technology, women in transition, pandemic, COVID-19

Introduction

Women transitioning from incarceration face a host of collateral consequences, or the repercussions felt by those convicted beyond the sentence itself (Bennett, 2017). These impacts and legal restrictions can affect their ability to find employment and housing, to vote, and to access public assistance programs or financial aid for higher education opportunities as they reintegrate into society (Goulette et al., 2014; Hoskins, 2018). As of 2020, the number of women in incarceration in the United States is seven times higher than that in 1980, and the growth in women's rate of imprisonment has been twice as high as that of men since 1980 (The Sentencing Project, 2020). In addition, women often face mental health challenges, substance abuse difficulties, and a history of physical abuse and sexual violence (Radcliffe & Hunter, 2016). Confounding this already difficult situation is a lack of access to the internet and affordances provided by digital technology while in prison, creating a type of *digital* collateral consequence: the sudden demands of a rapidly expanded tech-dependent world in which digital technology is paramount to success, yet access to and familiarity with technology is not a given (Reisdorf & Rkard, 2018).

Against international organizations' recommendations that prison resemble the outside world as much as possible (Council of Europe, 2006; Van De Steen & Knight, 2017), the availability of technology for U.S. prisoners is virtually non-existent (Reisdorf & Jewkes, 2016). Restrictions on internet usage while in prison have been accepted by prison officials as a necessary security measure, particularly for sex offenders involving the internet and "those convicted of hacking, terrorism-related charges, credit card fraud and other internet-related crimes" (Murphy, 2019). With more policymakers and activists calling on correctional facilities to allow inmates to have limited technology experience, some correctional facilities provide their

inmates restricted access to the internet or digital devices such as tablets (Branstetter, 2015; Kutner, 2015). However, extremely limited technology access in correctional facilities continues to pose challenges to providing relevant education to incarcerated populations (Tanaka, 2020).

For those serving time, even short periods of confinement (Jewkes & Johnston, 2009) may result in their being drastically behind others "in an era of speed-of-light technology" (Johnson, 2005, p. 263). In addition, educational programs within correctional facilities generally do not cover technological skills, as they prioritize basic life skills including stress and anger management, interpersonal skills, and individual responsibility (Abrams & Lea, 2016). Thus, the digital divide for formerly incarcerated women, or "the disparity in access and use of Information and Communication Technologies (ICTs)" (Scheerder et al., 2017, p. 1608), begins in confinement, exacerbates the difficulty of reentry, and may promote a greater rate of recidivism because of this technological form of "social exclusion" (Jewkes & Johnston, 2009, p. 137).

Amid such disparity, the COVID-19 pandemic exasperated social inequalities for marginalized populations who are unduly faced with negative health outcomes because of the virus (Chowkwanyun & Reed, 2020). Given the disproportionate impact of COVID-19, researchers are now grappling with the effect of the pandemic on the digital divide at large. Beyond health challenges such as increased anxiety disorder and depression (Marroquína et al., 2020), which overall foster a greater need for access to telemedicine and telehealth options (Bakhtiar et al., 2020), scholars and practitioners have predicted COVID-19 will decrease digital access and use among marginalized populations as public digital access options such as libraries are closed and quarantining complicates access to digital literacy support systems (Beaunoyer et al., 2020).

Women recently released from jail or prison are particularly marginalized in terms of digital access and use during the COVID-19 pandemic, given their isolation from digital technologies during incarceration and social and financial challenges they face after release. Research for this population and their digital technology use is limited in comparison to other topics, and the destabilizing effect of COVID-19 for this population has yet to be analyzed. Against this backdrop, the current study examines how the pandemic, as a factor of inequality, has affected the population's technology use and how their technology use during the pandemic has influenced other aspects of their lives. Based on interviews with 45 recently released women, our study offers scholarly and policy implications related to technology use by marginalized women during the public health crisis.

Literature Review

Understanding the Digital Divide

The term the "digital divide" emerged in the 1990s surrounding discourse on unequal computer access for students of differing races (Carlson & Isaacs, 2018); however, it isn't as simple as a case of the "haves" or the "have-nots" (Dewan & Riggins, 2005; Eubanks, 2011; Hargittai, Piper, & Morris, 2018), or of disparities that produce "winners and losers of the information society" (Bruno et al., 2011). Rather, a myriad of "complex, multifaceted and dynamic" social disparities feed into the digital divide (Goedhart et al., 2019), such as a lack of education and poverty (Mubarak et al., 2019), differences in outcomes for women compared with men (Serrano-Cinca et al., 2018) and minority groups (Jackson et al., 2008), that diminish access to information and communications technology (ICT) use and adoption. These determinants of the digital divide are shown to be important contributors in the expansion of digital divide research, highlighting a need for an intersectional approach in the articulation and explanation of digital divide inequities

that can better accommodate for the complexity of real-life situations (Fang et. al, 2019; Hargittai et al., 2018; Katz, Rice, & Aspden, 2001).

Further differentiation can also be seen in the varying levels for what encompasses the digital divide. For example, scholars have proposed three levels of digital divide to better articulate how different aspects of technology access and use may influence individuals' engagements in civic activities (e.g., Attewell, 2001; Ragnedda & Ruiu, 2017). Specifically, the first level, second level, and third level of the digital divide account for differences in terms of digital access, the ability to use digital technology, and outcomes of digital use, respectively. Early research on the digital divide focused heavily on the first level, or a simple access to technology (see historical overview from Hoffman et al., 2006). The "use" aspects of the second level can include many skill zones, with Van Deursen et al. (2016), for example, identifying five areas: operational skills in using the internet, the ability to navigate and evaluate online information, the ability to communicate with others online, the ability to create and share content, and the means to use mobile devices. This second-level digital divide helps explain the reality of what the "affluent" compared to the "disadvantaged" are able to do with technology once they have access (Attewell, 2001, p. 256). Yet, such outcomes are not assured and increasing research has focused on methods that acquire the beneficial outcomes of ICTs, such as increased "life chances and social inclusion" (Wei, 2012, p. 314). The third-level digital divide, the "digital outcome divide" (Wei et al., 2011, p. 171), asks a simple question, whether access or capability alone is the sole cause of disparity, and attempts to address the schism between expectations of success in mitigating the digital divide and the reality seen. Put differently, the third-level digital divide examines why ICTs, while initially thought to bridge social inequalities, may instead underpin social disparity (Goedhart et al., 2019). As Scheereder et al. (2017) note in

their overview of the digital divide, third-level studies continue to be under-researched when compared with level 1 and 2.

How Women are Disadvantaged in the Digital Divide

For women, the digital divide is especially prominent. Multiple studies have demonstrated that, historically, women have been disadvantaged when it comes to the adoption and successful outcomes of digital technology in differing locations and populations around the world. Some examples include the perceived efficacy of internet and digital technology use in Singaporean women (Cheong, 2007), Pakistani female faculty members in higher educational settings (Soomoro et al., 2020), and minority mothers in the Netherlands (Goedhart et al., 2019). In the United States, in terms of the first-level digital divide, women's internet adoption rate was slightly lower than men's until 2012, but it has since become similar or even higher than men's in some recent years (Pew Research Center, 2021). As of 2021, the internet adoption rates among men and women are 94% and 93%, respectively. However, research shows that women of color remain disadvantaged, relative to their White counterparts, both in terms of first-level and second-level digital divide (Ong, 2011; Pew Research Center, 2021; Seo et al., 2020). For example, empirical studies have shown that women of color show lower levels of the attainment of computer science degrees (Ong, 2011). Low-income perinatal women were also shown marginalized in accessing online healthcare systems (Acquavita et al., 2019). However, these impacts, as described by Hilbert (2011), may be a product of "uncontrolled correlations" that mix multiple effects, highlighting that "underemployed, underpaid and undereducated women use ICT less than men" (p. 487). Thus, the causal factor for this disparity is not addressed within these studies but points to women being disadvantaged in several other socioeconomic areas that then influence ICT use. This relationship has been labeled by Hughes (1986) as "sociotechnical"

– neither explicitly social nor only technical, rather the relationship is a "seamless web" symbiotic interaction in which social and technical aspects of a marginalized group impact one another (Faulkner, 2001, p. 82).

However, concerning the relationship of technology and women, feminist scholarship has offered important theoretical contributions to better articulate the mechanisms behind the ongoing disparity in women's relationship with technology. According to Faulkner (2001), men are often key decision makers to the exclusion of women in tech construction, and are afforded a higher status regarding technical competence, especially in the "construction, maintenance, marketing and design of technologies" (p. 81). Thus, gender, at the onset of the creation of technology, "is embedded in technology itself" (Wajcman, 2010, p. 146) with designers of technology, many times male, not imagining tech use in the context of "underrepresented groups" (Pruchniewska, 2019, p. 1365). This limits, to a degree, the agency and impact that women have on tech, which is a criticism of second-wave feminism scholarship (Wajcman, 2010). Recent studies provide a more expansive and dynamic understanding of this relationship between gender and technology, conceptualizing it as a two-way street, "both a source and consequence of gender relations and vice versa" (Faulkner, 2001, p. 81).

This effect can be readily seen in one study concerning private Facebook groups for professional women who transformed an online arena into a place of community and change, fighting harassment and discrimination in their respective workplaces, and promoting each other's career advancement (Pruchniewska, 2019). A pointed criticism brought forth by the researcher of this work was the lack of diversity of the group studied, writing that the group analyzed upheld normative standards of "whiteness, heteronormativity, cisgender identity and middle-class values," the author reminding that "the benefits of private Facebook groups are not

equally available to all" (p. 1375-1376). Building on this notion, similar results are also seen in a study examining female digital entrepreneurs within three differing business occupations – social media experts, vintage-wear retailers, and fashion designers – and whether they were able to translate their entrepreneurial potential into actualized results (Martinez et al., 2018). The findings of this study point to socio-economic class and race as the primary contributing elements in constraining entrepreneurial success for these women. Thus, concerning terms of the digital divide, access was available to all yet the outcomes of the individuals in the three contrasted pairs differed significantly and correlated with issues of class and race. The authors stated that the "socially marginalized and resource-poor cannot be expected to find it (digital enterprise) an effective route out of marginality" (Martinez et al., 2018, p. 603). Thus, even when they have digital tools and skills (level 1 and 2 of the digital divide), the outcomes for marginalized women are not assured and may be limited by other inequalities.

Digital Technology Use for Women in Transition

Concerning equity for marginalized groups, women in transition may inhabit one of the most precarious positions in terms of the digital divide, frequently operating at the intersection of gender, class, race, and other determinants of social inequality. Studies regarding digital technology use for this specific population are few; however, we can extrapolate some of the potential uses and benefits of ICTs for this population through the examination of reentry and rehabilitation programs that incorporate digital technology. Reisdorf and Rikard (2018), in their work, point to the benefits of ICT use for those still serving time when reentering society in a host of areas, including economic, social, personal, cultural, and health spheres (Reisdorf & Rikard, 2018). Though a program for all genders, this would allow a woman, before her release, to look for work, find housing, and enroll in healthcare, easing the transition from the "small to

the large world" with digital technology (p. 1284). This, however, doesn't quite fit the population or time period needed for women in transition.

With regard to women recently released from incarceration, Seo et al. (2020) interviewed 75 women in transition on their digital technology use and found disconcerting barriers in access to digital technologies, skill challenges reflected in a lack of confidence for using ICTs (digital efficacy), and concerns regarding surveillance and privacy that stem from situations of abuse or unhealthy relationships, and instances of being financially misled online or having accounts hacked. However, in the face of many structural challenges, including substance abuse, a history of trauma and increased mental health challenges (Emerson, 2018), Seo et al. (2020) also found that women in transition used technology to connect with family and friends, to better manage previous relationships, to educate themselves on issues of privacy, and to safeguard their identities while online.

Another important aspect to consider is how technology access and use by women in transition is affected by the fact that they often have children to support once they are released. Over 60% of women in prison or jail have at least one child under the age of 18 (Glaze & Maruschak, 2009). When they are released, they need to access and use different communication technologies to support their children's educational, social, and cultural activities.

Given the effect of COVID-19 on digital inequality, the understanding of the digital divide in literature so far, and the historical disenfranchisement of women in relation to digital technology, this study investigates the following questions:

RQ1) How has the use of digital technologies changed for women in transition during the

COVID-19 pandemic?

RQ2) How do these changes in use affect the beneficial outcomes of women in transition during the COVID-19 pandemic?

Method

Empirical data for this study are based on 45 interviews with women transitioning from incarceration in the U.S. Midwest. All research materials and protocols described below were approved by the Institutional Review Board (IRB) of the authors' university. Interviews were conducted via phone or Zoom[1] between March and October 2020 by research team members with IRB training certificates. At the time of their interview, women were living in one of the three neighboring cities in the U.S. Midwest[2] and had been released from jail or prison less than three years prior. To recruit interview participants, we contacted nonprofit organizations working to support women's reentry and the Department of Corrections in the three cities. These organizations shared our recruitment materials with clients and either had clients contact the research team directly or forwarded to the research team email addresses or phone numbers of clients who expressed interest in participating in our research.

A semi-structured interview method was used to assess participants' use of digital communication technologies and related issues before and after the COVID-19 pandemic was declared. Specifically, each interview consisted of open-ended questions followed by a series of closed-ended ones. The open-ended portion of the interview covered how participants' access to and use of the internet and digital devices (e.g., computer, tablet, cellphone) have changed since the outbreak of the pandemic and how they have overcome any

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[1] Zoom was used only for four participants residing at a transitional house at the time of the interview. A staff member at the transitional house helped arrange a Zoom session between the researcher and the interviewee.
[2] Per university IRB guidelines on vulnerable populations, the names of the cities are not disclosed to protect privacy of the study participants. The stay-at-home order in each city was put in place in March 2020 and lifted in May 2021. During the interview period, public school classes were offered online and businesses also largely operated online.

challenges in using digital technologies during the public health crisis. In addition, participants were asked about online sites used in seeking information related to health and employment opportunities and how they go about evaluating the information found online. The close-ended questions were designed to gather demographic information including age, gender, education, and race/ethnicity. Each interview lasted from 30 minutes to an hour and was audio recorded with the participant's consent.

The research team transcribed interview recordings and utilized Dedoose 8.0.35, an analytics platform for qualitative or mixed-methods research, to analyze the transcripts. Based on grounded theory (Glaser & Strauss, 1967; Hesse-Biber & Leavy, 2010; Rubin & Rubin, 2011; Strauss and Corbin, 1994), we developed codes using a constant comparison technique. Specifically, using this inductive approach, we identified patterns in the transcripts related to themes of technology access and use, as well as new and emergent themes. Final codes are composed of both pre-existing codes drawn from interview and research topics and emergent codes during the open-coding or *in vivo* process (Charmaz, 2014; Emerson et al., 1995). After producing a stable categorization of codes, we coded the transcripts in a second round of focused coding. The Results section reports primarily on these focused codes and provides representative excerpts related to the codes. Table 1 summarizes participant responses to the closed-ended questionnaire.

Results

Participant Demographics

A total of 45 women transitioning from incarceration participated in our study. Demographic characteristics of the participants are shown in Table 1. The participants' ages ranged from 26 to 74 years old. Fifteen women were ages between 25 and 34 (33.3%); 14 women between 35 and

44 (31.1%); nine between 45 and 54 (20%); and seven were 55 or older (15.6%). In terms of

education, 18 said they had completed high school (40%); 12 some high school or less (26.7%);

10 some college (22.2%); four vocational training (8.9%); and one bachelor's degree (2.2%).

With regard to race and ethnicity, 18 said Black (40%); 14 White (31.2%); six Hispanic (13.3%);

six American Indian or White/American Indian (2.2%); and one other (2.2%). In terms of

employment before incarceration, 17 said working at a regular job (37.8%); 14 unemployed

(31.1%); 8 a part-time job (17.8%); 5 disabled and not being able to work (11.1%); and 1

preferred not to answer (2.2%).

Changes in Technology Use During Pandemic (RQ1)

Increased Reliance on Digital Technology. As COVID-19 cases increased across the United

States, stay-at-home orders were issued for much of the country, including the communities

where study respondents resided. About half of the participants reported owning multiple digital

devices by which they access the internet, including laptop computers, desktop computers,

smartphones, or tablets. The remaining half reported that they own one or no digital devices.

Specifically, seven women indicated that they had no device with internet access. Smartphones

were recorded as the most owned digital device with about two-thirds of the respondents

reporting that they own one. Of the respondents that do own a smartphone, most said that they

use their smartphone primarily for accessing the internet.

When stay-at-home orders were put in place, respondents found themselves adjusting to a

new normal. Some respondents reported that they did not feel there was an overall change to the

way they use the devices they owned. Others said they find themselves using their device more.

"I think I've been using my phone a lot more than I have before. Probably I'm on my phone

more…more than I should be on my phone," said a 27-year-old participant. Respondents gave

several reasons as to why their device usage increased, including to remain informed with COVID-19 related news, to combat boredom through streaming services and other types of entertainment, and to access resources that went online due to the pandemic such as doctor appointments and ordering food.

Respondents that have school-aged children in their household said that they had to balance sharing devices among the child and adult members of the family. A 41-year-old participant said that when her children's school district cancelled in-person learning in March 2010, the school provided one laptop which had to be shared among her three children. She added:

> They got them back in March and then they had to turn them in. Because, at that time, they just got one laptop because they had to get home early from school and it was crazy because I got three kids and one computer. So they got them in March and then we took them back in May, we took the computers back in May because we had to turn them in.

As having just one laptop provided by the school was not sufficient for her three children to share during the day, the 41-year-old participant sought support from other family members. She said, "Well, mostly they went to their grandparents' house who had a laptop. So, one would just use it there and the other would use the laptop and the other would just get on the phone. So, you just had to make it work. It was crazy but you had to make it work," the participant said. Having her children go to their grandparents' house concerned her in terms of spread of COVID-19, and she had to balance between safety and what's needed for her children's education during the pandemic.

A 26-year-old participant, who resides with her mother and two younger siblings, ages four and six, said the school provided tablets to her siblings. She was primarily responsible for

her siblings' remote learning during spring 2020 and a few weeks during fall 2020. Once her siblings returned to in-person learning, they were required to return the tablets as well. "I'm going to have to buy something for them because my brothers spend a lot of time on their tablets," the participant said. After turning in the school-provided tablets, the participant, her mother, and two siblings became reliant on the participant's smartphone and one shared tablet. In addition to wanting to purchase tablets for her siblings, she said she was also hoping to purchase a smartphone to replace her mother's broken one. As the sole income provider for her household, however, she said she has been unable to do so. "Because I'm still collecting unemployment and it's just, I'm just paying my bills right now at this point," the participant said.

Inability to Access Computers During Stay-at-Home Orders. While most participants indicated that they prefer to use their smartphones when they need to access the internet, there are several tasks that participants said they need to use a computer for. A 28-year-old participant said that when she is filling out applications for benefits, such as unemployment or housing, some applications are not compatible with mobile devices. Other applications that are compatible with mobile devices can be frustrating to complete from a smartphone. "Sometimes like filling out certain applications, alone, when I'm not getting what they are saying, or when it will kick me off my phone and go back to the home page and I have to start all over," the participant said. For participants who experienced unstable living arrangements during the pandemic, accessing computers to search for important resources proved to be difficult. A 50-year-old participant said that she relied on her manager to allow her to use the computer while working at a fast-food restaurant that remained open during the pandemic. At that time, she was experiencing homelessness and was dependent on using a computer in order to find information regarding

assistance resources. Since public libraries were closed, she was not able to use computers there as she had done before the pandemic. She said:

> Like homeless resources, places where I could go get some food because I was starving all the time, um, just you know, like I really just wanted a place to stay, and that was my, my thing is I just wanted some place to go.

COVID-19 Information from Mediated Sources. In addition to reporting spending more time using digital devices for entertainment purposes, respondents said that they notice an increase in the amount of time that they spent on online activities. Many respondents said that the reason they have been spending more time online is to stay informed with news and updates related to COVID-19. "Well, yeah, I was online a lot more looking that up, more than I wanted to (inaudible) I spent a lot more time reading about the COVID-19 than I should've," said a 31-year-old participant. Several respondents reported that they heavily relied on local news and radio stations for information regarding COVID-19 rather than seeking out information on the internet. "I prefer honestly just to watch the news when it comes to something like that, really, just looking it up on the internet is not ideal for me," another 31-year-old participant said.

Some respondents were in incarceration during the start of the COVID-19 pandemic in spring 2020. These respondents relied heavily on the prison guards and corrections departments to receive information related to COVID-19. A 33-year-old participant said that inmates at her facility received information regarding COVID-19 through JPay, a system where inmates can communicate with friends and family electronically, as well as phone calls, in-person visits, and newsletters from the Department of Corrections. In particular, she said it was helpful to read newsletters from the Department of Corrections and call her husband every night for COVID-19 updates. "Every night, my husband would tell me, 'Okay, [state name redacted] is number 26th

on the list of,' you know, 'most highest cases,' and '[state name redacted] is at,' you know, '23','" the participant said.

A 74-year-old who was also incarcerated during the outbreak of COVID-19 relied on verbal communication with the guards and watching the news as much as she could.

> We did have a TV and I would watch the news as much as I could because we had to share the TV with several others, and one person would hog it, so the guard says 'This is the community TV and you all have to agree on what you want to watch. So most of us wanted to watch the news when it came on. After that, I didn't care really what they watched but I was interested in the news and how the COVID was doing and all of that. So I kind of worry about it because I'm at the age where I'm more susceptible to catching it, catching it than other people are, because the older you are, the more likely you could catch it.

At the time of the interview, the 74-year-old participant was living in a residential facility after her release from a jail. As the residential facility was managed by the Department of Corrections, she said still relied on verbal communication with staff members for information regarding COVID-19. She added that while she is allowed to use a computer with internet access for 30 minutes each day at the facility, she prefers to utilize that time searching for jobs online rather than looking up pandemic-related information.

Implications for Reentry (RQ2)

As needs for digital skills as well as access to digital devices significantly increased during the COVID-19 pandemic, women transitioning from incarceration faced a set of unexpected challenges in addition to a myriad of barriers to successfully reentering society. Our interviews show that the participants' lack of stable access to the internet and digital devices during the

pandemic influenced their post-incarceration supervision requirements, job applications, educational opportunities, among others. Some of the participants with no laptop or desktop computer in their place of residence often relied on public computers at libraries or resource centers in their community to perform certain tasks such as applying for jobs, completing class work, printing of applications for various benefits, and completing paperwork related to their parole. Stay-at-home orders during the pandemic resulted in closure of the public libraries and resource centers that respondents are dependent on.

Post-Incarceration Supervision. Before the outbreak of the COVID-19 pandemic, a 38-year-old participant relied on printing services provided by a public library in order to comply with post-incarceration related tasks. "Well, I am on a diversion in [city name redacted] and so I have to print and communicate with a diversion officer through mail," the participant said. As the public library was closed during the pandemic, she said she was unable to print documents needed to request an extension on her diversion. "I owe $234 to [county name redacted] and have completed all other requirements except the fees," she said. Even though she had been able to work on and off for wages during the pandemic, she was unable to pay these fees associated with her diversion while also paying her other bills and living expenses. She was unsure where else she could go in order to access a computer and printer but said fortunately a public library re-opened near her and she was able to print and mail the extension related a few days before the deadline. Unsure about what alternatives exist if she was not able to print, complete, and mail the appropriate documents, she said she would default in her diversion without access to relevant resources.

Some participants found a silver lining during the pandemic. For example, a 26-year-old participant said due to COVID-19 stay-at-home orders and social distancing practices she is no

longer able to meet with her probation officer in person. She relies on communicating with her probation officer through phone calls which to her has been more convenient because it reduced time spent trying to figure out logistics such as time and transportation for meeting with her probation officer.

> It's actually been easier because we just do phone calls. I mean, she came to my house and visited me once… but we had to stay 6 feet apart. She wouldn't come inside; we had to stay outside and, you know… but other than that, no, it's been easier, because I don't have to go see her (chuckles). We just make phone calls every other week, so…

Employment Opportunities. Stay-at-home orders resulted in some respondents losing their jobs during the pandemic. Those who either were laid off during the pandemic or did not have employment before the pandemic found difficulty accessing computers to search for jobs. A 51-year-old participant said that her inability to access the computers at the library halted her job seeking and application activities.

Other participants were able to continue working during the pandemic. A 38-year-old participant maintained her part-time job during the pandemic, which enabled her to afford internet services for her household. The participant said internet access at her home is important for her daughter, who is attending a middle school and taking classes online. She was able to secure temporary free internet service through her daughter's school district and a local internet provider and then plans on paying the reduced service fee once the free service ends. Before that, she and her daughter relied on a next-door neighbor who allowed them to use his Wi-Fi for free.

Some participants used extra time during stay-at-home orders to improve their job-related skills by participating in online learning activities. In particular, several interviewees were successful in finding employment opportunities based on the digital skills they had learned. A

38-year-old participant, who participated in an online course on Microsoft Office programs and social media strategy, was hired for an office management role thanks to these specific skills gained from the online course. During the pandemic she was wanting to find a new job but was unsure if it was even a possibility due to company-wide layoffs and hiring freezes. She said:

> I have kind of put off getting another job. Just because everything is just so up in there air now, I have just kind of stuck with this one job, which I know I have more potential than just this one job that I am doing.

Another participant, who is 48 years old, enrolled in an online learning program during the pandemic and said that her participation may have saved her job. After being laid off for a few months, she returned to work and was asked by her supervisor to complete some data entry work. Prior to being laid off she said she had never used or learned how to use data entry software but learned how to do so through her online course.

Online Learning. While many interviewees indicated difficulties in actively participating in online activities due to their lack of access to digital devices and the internet, some of them were able to gain relevant digital access through refurbished computers and mobile hotspots provided by nonprofit organizations or computers provided by their children's school district. Those who were able to secure digital devices said they participated in online learning activities to improve their employment opportunities.

A 26-year-old participant had participated in a technology education program through her smartphone, the only digital device available for her, until September 2020. In October 2020, she received a refurbished laptop and a mobile hotspot with free internet access from a nonprofit organization offering technology education for women recently released from incarceration. The

participant said that her probation officer introduced her to the education program and that she has received two certificates through the program. She said:

> The program was brought to my attention last winter by my probation officer. She told me I had this opportunity to be part of this class, and it was free! I am a felon, so I immediately jumped on this opportunity because I knew I was lucky to be given this chance.

A 41-year-old participant said she enrolled in a project management and computer skills class, both taught online. Her project management class takes place synchronously in the evenings two days a week. She said she uses the laptops provided to her children by the school district to complete her own online learning. "Usually when I read my homework, because I do that during the day, I just do that off my phone because I have work and then have homework that I have to do. And then in the evening, I use a laptop." She added that because her class is in the evenings, her children are done with their own schooling at that point making the devices available for her to use for her own learning.

For some participants, classes moving online helped them participate in more educational activities. A 48-year-old participant said that she was able to enroll in a class online so it would not disrupt her work schedule. If the class were to take place in person, she would have had to figure out how she could work evenings and overnight in order to have daytime availability for the class.

The respondents' motivations for taking classes include advancing their skills to make them more competitive on the job market, increasing their skills for the job they presently hold, or staying up to date with digital skills. For example, a 49-year-old participant said:

It changes every day, something new is coming out every single day, so I use um, I get

alerts on those tools and everything, every day to know something new, learn something

new, something like that. I get that job alert, that technology alert, that's what it is, a

technology alert, and do the online classes that way.

When asked about specific digital skills they wanted to learn in order to enhance their job

opportunities, some participants specifically indicated wanting to learn more or updating their

skills for the programs in Microsoft Office such as Excel and Word, accounting and tax software,

and general computer hardware knowledge. A 52-year-old participant said that she was offered a

job at an insurance company, but she was forced to decline the opportunity because she did not

have the knowledge or skills need to use Microsoft Office programs in order to perform the

duties of the job. Several participants indicated interest in learning about online security and

privacy so that they could feel more safe conducting activities online. Other participants kept

their answers very broad, saying that they would be eager to learn everything or participate in

any educational program that is being offered to them in order to improve their digital skills.

Discussion

Based on interviews with women who have been recently released from prison or jail, our study

offers scholarly and policy implications related to addressing digital inequities involving this

population. Overall, the results of this study suggest that women in transition face unique

challenges in meeting their technology needs, especially during the COVID-19 pandemic. Our

interview participants indicated that they often rely on family, friends, or neighbors, as well as

public libraries and community centers, to use the internet or computers. The pandemic has

exacerbated inequality, limiting the opportunities of those interviewed for our study to apply for

employment because of a lack of stable access to computers. With public libraries and

community centers not fully open to the public due to the pandemic, some participants in our research indicated an increased difficulty of looking for and applying for jobs because they rely only on smartphones. Some participants also had to share computing resources with their children, thus limiting their overall access to computers and the benefits that this technology affords.

This limited access to digital technologies is also a major obstacle to the respondents' fulfilling their tasks related to post-incarceration supervision. Several participants expressed challenges in printing or sending required documents, as public libraries where they use printing or internet services have been closed during the pandemic. Insufficient access to digital technologies also affected the group's educational opportunities. Several participants indicated that they were hesitant to enroll in online classes, because they don't have computers or internet access at home. While some participants said they were taking online classes, some of them relied on computers provided by their children's schools or smartphones, thus limiting their ability to fully engage in online learning.

As is the case with most people around the world (Hootsuite, 2020), most of our participants reported that they were spending more time online during the pandemic. In particular, they said they are more actively readings news and information related to COVID-19 online. However, the situation was different for those who still live in a transitional house, such as "halfway house," where people leaving prison or jail stay before being fully released into their communities (Daniel & Sawyer, 2020). Some participants mentioned that they are allowed to use the internet for only a limited time each day (e.g., 30 minutes) and thus they use the opportunity for more important tasks such as job applications rather than reading news about COVID-19. For them, family members or staff at their halfway house serve as critical information sources related

to the pandemic. Several women in our study also mentioned how prison guards were their essential sources of information about the public health crisis when they were still incarcerated.

Scholarly and Policy Implications

Overall, for women in transition, access (i.e., first-level digital divide) was found to be a major factor affecting their daily lives. The prominence of smartphone use among this group, resulting from a lack of access to desktop computers or laptops, also points to a disparity in the mode and quality of use (i.e., second-level digital divide) that is signified by mobile-only access (Bartikowski et al., 2018). Additionally, although women in this study reported spending more hands-on time with technology during the pandemic for various activities, including tracking the latest pandemic-related news and watching online entertainment, the quality of that interaction may not match up to the length of use: More difficult actions necessary for their livelihood were not attempted because of an increased difficulty in accomplishing these tasks by way of smartphones (Mossberger et al., 2012).

Our interviews show that with support provided through Coronavirus Aid, Relief, and Economic Security (CARES) Act funding and by nonprofit organizations, some participants were able to navigate the access issue. In addition to breaking through gaps in access to technology (i.e., addressing the first-level digital divide), some women in this study expressed their experience of taking online courses that better prepared them for future employment (i.e., mitigating the second-level and third-level digital divide). These findings emphasize the importance of developing an effective mechanism for providing marginalized populations with support for technology access and use, especially when public-access computers and internet become less available in public health crisis situations such as the COVID-19 pandemic. Amid the U.S. digital divide issue highlighted during the pandemic, governmental and

nongovernmental entities took a series of measures to help ease the gap, including support for loaning out desktops or offering reduced price broadband access (Snider, 2021). These measures should outlive the pandemic, making it less onerous for participants to utilize these essential resources. In particular, technology training programs tailored for this population's interests and needs (e.g., employment) need to be refined and expanded. At this point, there is a significant lack of appropriate reentry programs for women as most programs are geared for a male population (Emerson, 2018).

Our research also demonstrates an important opportunity to address concerns surrounding women's relationships to digital technology and the need for greater transformation within technology industries and their products in this area (Wajcman, 2010). The study shows a distinct agency in accessing and using technology versus women being the "victims" of technology (Faulkner, 2001, p. 80). Indeed, several participants expressed their accomplishment of getting jobs after taking an online class. At the same time, some participants disclosed an inability to get a job because of a lack of needed digital skillsets, showing success is not ubiquitous for all. This is a reminder that lack of access to digital technologies and an inability to use such technology manifests in a potentially more troubling consequence, the inability to have a positive outcome in their lives from ICTs, or the third-level digital divide (Goedhart et al., 2019).

Of note, it is difficult to ascertain whether the effects seen in this study stem distinctly from factors associated with this population's previous incarceration or gender. For example, systematic empirical data that directly compare formerly incarcerated women's digital skills and access with those with no criminal justice involvement or those of formerly incarcerated men do not exist at this point. However, previous studies have shown that formerly incarcerated women

face additional barriers in reentry education and employment (Curcio & Pattavina, 2018; Emerson, 2018; Seo et al., 2020; Seo et al., 2021), which can then affect their digital experiences. Specifically, Curcio and Pattavina found that women with criminal justice involvement face more barriers to employment compared with similarly situated men (Curcio & Pattavina, 2018). In addition, while older adults with no criminal justice involvement (Fang et al., 2019), older adult women (Dixon et al., 2014), and mothers of lower socio-economic means (Goedhart, et al., 2019) may also face challenges in using and accessing digital technologies, formerly incarcerated women have to overcome a sustained period of little or no technology experiences during their incarceration and lack of reentry education designed for women (Emerson, 2018; Seo et al, 2020). Our research provides empirical data on challenges and barriers that formerly incarcerated women face in accessing digital technologies and its effects of these limitations on other aspects of their post-incarceration lives. Moreover, formerly incarcerated Black women, who comprise 40 percent of the participants of this study, represent especially precarious positions as carceral citizens and are more apt to experience issues of unemployment or underemployment, rearrest, and housing insecurity (Gurusami, 2017; Miller & Stuart, 2017).

The challenges the women in this study faced might be, as Bach (2018) argues, "part and parcel of broader structural and social processes and [are] not easily understood by research, or mediated by solutions, that address what is a symptom of a larger and more complex problem" (p.36). Women in transition would seem, in this work, to reflect the real-world consequence of a convergence of issues into digitalized realms, including gender, time served, race, and the technology policies of prisons, making prescriptive remedies and policies even more challenging to develop. This complex weaving together of issues mimics Gurusami's (2019) reflections of

the "carceral web", the space between correctional institutions and online arenas, a digitalized form of punishment that entangles and clings to those striving to free themselves from this social, political, and corporate post-prison net.

For women in transition, whether it's a failure to move up the socioeconomic ladder because searching or applying for a job is made too difficult, or in the greater chance of recidivism because of the difficulties for turning in paperwork to a parole or diversion officer, the disparity in the access and affordances of technology during a time of COVID-19 perpetuates an ongoing inequality for this already marginalized group and shows that the negative effects of this public health crisis aren't solely contained to elements of the virus alone.

Limitation and Future Research

The findings of this research cannot be generalized to a broader population, as our interview research involves a relatively small group of women residing in three different cities in two neighboring states. In addition, those who agreed to participate in this study may differ from those who did not respond to interview requests. To produce more generalizable findings, it would be helpful to conduct a survey of women in transition in a greater number of cities to provide a more comprehensive look at this population's post-incarceration technology use. A longitudinal study of analyzing how women's technological needs and perspectives on related issues change over time would also offer useful insights. In addition, comparing responses from this population to those from other marginalized populations, such as low-income adults and non-English speakers or similarly situated women with no criminal justice involvement, would help better understand challenges and opportunities for this population compared with challenges for other populations experiencing barriers in technology access and use.

Conclusion

While an increasing number of studies have examined effects of the COVID-19 pandemic on different aspects of society (e.g., Soomoro et al., 2020; Webb Hooper et al., 2020), little research has analyzed how this public health crisis has affected women recently released from jail or prison in terms of utilizing digital resources for reentry. In this sense, our study fills an important gap in the literature. In particular, by analyzing the topic through the lens of three levels of the digital divide, we provide insights into future scholarly studies on the digital divide and marginalized populations. Moreover, our interview findings about how these marginalized women navigated technological challenges during the pandemic provide practical and policy implications for supporting this group during public health crisis situations.

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Table 1

Interview Participant Demographics

Variable	*Value*	*Count*	*Percent*
Age	25-34	15	33.3%
	35-44	14	31.1%
	45-54	9	20.0%
	55 or older	7	15.6%
	Total	45	100%
Race	Black or African-American	18	40.0%
	White or Caucasian	14	31.2%
	Hispanic or Latino	6	13.3%
	American Indian or White/American Indian	6	13.3%
	Other	1	2.2%
	Total	45	100%
Education	Some high school or less	12	26.7%
	High school completed	18	40.0%
	Some college	10	22.2%
	Vocational training	4	8.9%
	Bachelor's degree	1	2.2%
	Total	45	100%