Victimization by Nonconsensual Distribution of Intimate Images Is Related to Lower Holistic Well-Being in a Diverse Sample of U.S. Adults During the COVID-19 Pandemic

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The COVID-19 pandemic pushed many aspects of American life online, including sexual intimacy. Increases in sexting and other forms of virtual intimacy may also have increased the nonconsensual distribution of intimate images (NDII), a form of image-based sexual abuse (IBSA). This study is among the first to quantitatively examine the holistic downstream consequences of NDII victimization among U.S. adults (N = 3,150) during the COVID-19 pandemic. We hypothesized that (a) emerging adults would be more likely to experience NDII during the pandemic than other age groups, (b) that victims would experience more negative downstream consequences than nonvictims across nine health and well-being outcomes, and (c) that victims of marginalized identity groups would experience more severe negative outcomes than their nonvictim peers, as compared to those in more privileged identity groups. Multivariate analyses of variance were used to examine the effects of victimization, gender, race, and sexual orientation on all outcomes. Results supported hypothesis 2 but did not fully support hypotheses 1 and 3. During the pandemic, victims experienced worse well-being on all nine outcomes than nonvictims, and, unexpectedly, some of these outcomes (e.g., alcohol consumption) were further exacerbated in men (vs. women) victims.

Keywords: technology-facilitated sexual abuse; IBSA; COVID-19; sexual violence; revenge porn;

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Americans are avid users of information and communications technologies, with a reported 98% of U.S. adults owning a cell phone, 85% of which are capable of accessing the internet from virtually anywhere (Pew Research Center, 2021). The novel coronavirus (COVID-19) pandemic of 2020 pushed even more aspects of day-to-day life online for Americans (Vargo et al., 2021), including education, work, and social interactions. While there are benefits to working, learning, and socializing online, there are also serious concerns, including rapidly emerging cyber threats that we do not yet have laws, technology, or social norms or structures to adequately cope with. Image-based sexual abuse (IBSA), or the creation of, sharing, or threatening to share nude or sexual images or videos without consent (Henry & Powell, 2015; McGlynn et al., 2017), is one such rapidly growing global problem (Henry et al., 2020).

Prior empirical work (e.g., Eaton et al., 2016; Henry & Powell, 2015; McGlynn et al., 2017) and reviews (Eaton & McGlynn, 2020) have attempted to understand who is most likely to be victimized by or to perpetrate IBSA. Additionally, researchers have begun to explore the possible psychological impacts that correlate to IBSA victimization (Ruvalcaba & Eaton, 2020). However, these studies generally examine IBSA through a medicalized, trauma-based lens (McGlynn et al., 2021). In this study, we extend prior work by examining both traditional medical and nonmedical social correlates of one form of IBSA, the nonconsensual disclosure of intimate images (NDII), in an attempt to develop a more holistic understanding of the downstream consequences diverse NDII victims may have experienced during the COVID-19 pandemic.

NONCONSENSUAL DISTRIBUTION OF INTIMATE IMAGES

NDII has been defined as the sharing of sexual or nude images or videos of another person without their consent, excluding commercially produced pornography (Citron & Franks, 2014). This definition includes sharing for purposes beyond deliberate malicious distribution, e.g., profiteering, as a joke or gag, or to build a larger social network ("for the likes"). NDII is not an uncommon occurrence, with 8% (Ruvalcaba & Eaton, 2020) to 10% (Henry et al., 2017) of adults reporting NDII victimization during their lifetime.

Select groups of people have been found more likely to experience NDII than others. For example, some previous research finds that women are more likely than men to be victimized (Branch et al., 2017; O'Connor et al., 2018; Ruvalcaba & Eaton, 2020; for an exception, see Gámez-Guadix et al., 2015). Likewise, sexual minority groups also report increased NDII victimization; bisexual women (Ruvalcaba & Eaton, 2020) and gay or lesbian persons (Huiskes et al., 2022; Pew Research Center, 2021; Powell & Henry, 2019) report higher levels of NDII victimization than their heterosexual peers. This vulnerability for sexual minorities may be rooted in the sexual double standard, including heteronormative patriarchal ideas about masculinity and femininity (Flynn et al., 2023). Age has also been found to play a role in NDII victimization. Emerging adulthood (ages 18–29 years; Arnett, 2014) is also widely understood to be a vulnerable developmental period for sexual relationships and autonomy. Consistent with this, NDII has been found to be more prevalent among emerging adults than individuals from other age groups (Marcum et al., 2022; Powell & Henry, 2019; Ruvalcaba & Eaton, 2020; Stanley et al., 2018).

COVID-19 and Intimacy Online

In February 2020, the U.S. government declared a public health emergency in the United States due to the novel coronavirus outbreak (NCSL, 2021). By the middle of March 2020, individual states began to issue stay-at-home orders, beginning with California, to limit the spread of the virus (Brodeur et al., 2021). These orders restricted the movement of all persons, mandating that all residents stay home unless employed as an essential worker or in order to shop for essential needs. Nonessential businesses and classrooms were closed or reformatted to online workspaces, limiting in-person interactions. This facilitated an increase in technology-mediated communications for both work (Whillans et al., 2021) and social interactions (Tibbetts et al., 2021).

Included among the social needs Americans used technology to address during COVID-19 was sexual intimacy. Limited by strict rules on traveling and social contact, many people turned to sexting, or the transmission of sexual images, text, or videos via cell phones, to continue current or initiate new intimate relationships (Bianchi et al., 2021; Lehmiller et al., 2021). A study of online sexual behavior by Thomas et al. (2022) found that sexting behavior, previously found to be more common in adolescents and emerging adults (Marcum et al., 2022; Stanley et al., 2018), increased across all age groups as social isolation increased. They also found no differences for gender; men and women were equally likely to engage in sexting during the pandemic. Privacy concerns did not moderate sexting behavior either; instead, researchers found that the pressure of social isolation appeared to outweigh privacy concerns among those who were using the internet for sexual intimacy (Thomas et al., 2022).

Sexting was not the only change to intimacy prompted by the pandemic. Relationship conflict increased among many Americans during the pandemic (Luetke et al., 2020; Martin et al., 2024) as psychological, health, and economic pressures rose under lockdown. Intimate partner violence increased during the pandemic (Luetke et al., 2020). Coincidentally, NDII is most often distributed by current or former partners (Ruvalcaba & Eaton, 2020) and may be used as another way to perpetrate intimate partner violence (Eaton et al., 2021; Henry, 2016), particularly against women.

Social Role Theory, Sexual Scripts, and IBSA

Social role theory (Eagly, 1987) suggests that actions and behaviors are highly gendered and based on cultural stereotypes about men and women that develop from the division of labor. Specifically, women are more often caretakers, whereas men perform more instrumental labor, roles that are directly tied to power and status. These stereotypes form expectations for how a person will behave in any given situation, from the workplace to the bedroom. These social roles also impact how people may respond to another's behavior. For example, men are expected to be more aggressive and domineering than women (Byers, 1996), and conformity to these beliefs has been correlated to increased rates of domestic and intimate partner abuse (Archer, 2006; Willie et al., 2018).

Sexual scripts (Byers, 1996; Simon & Gagnon, 1984) can be thought of as the social-role-based rules for the sexual behaviors and attitudes of men and women. These sexual scripts guide intimate interactions along predetermined social roles. For example, men are expected to actively desire and pursue sexual intercourse, whereas women are expected to be gatekeepers of sexual activity (Eaton et al., 2016; Rossetto & Tollison, 2017). Adherence to sexual scripting has also been related to rates of male-perpetrated intimate partner violence (IPV; Santana et al., 2006; Senkans et al., 2020; Willie et al.,

2018), where expected male aggression and feminine passivity may promote the use of violence against women. These same sexual scripts also inform social media and text interactions. Men are expected to pursue sex in their online behaviors by asking for and sending nude and sexual images (Albury, 2015).

Violators of these sexual scripts often suffer harsher judgment by their social peers and society at large, as is demonstrated by studies of victim-blaming behavior (Hipp et al., 2017). Beyond victim-blaming behaviors, the consequences of violating established sexual scripts have been correlated with negative health outcomes (Heise et al., 2019) for both men and women, including inequalities in access to, and gender bias when receiving, health care. Socially accepted victim blame and shaming may lead victims to not seek help from formal support services (Heron et al., 2021; Meyer, 2016), which in turn increases the likelihood of experiencing more severe negative outcomes, suggesting that victims of IBSA may experience significant negative downstream traditional medical and interpersonal effects.

The Current Study

Prior quantitative literature has considered IBSA and the harm it bears on victims from a predominantly medicalized and trauma-focused angle (McGlynn et al., 2021; Powell & Henry, 2019; Ruvalcaba & Eaton, 2020). This has provided a solid footing from which to examine the impacts of IBSA victimization more closely. However, such studies are only able to provide us with a limited window of understanding. Recently, some researchers have undertaken qualitative studies to explore the experiences of IBSA victims in more depth (McGlynn et al., 2021). These studies are typically limited to the small groups or very narrow populations. Nonetheless, these studies find important and lasting social and interpersonal consequences of IBSA victimization, such as constrained liberty and isolation (McGlynn et al., 2021).

This current study, in an attempt to address a gap in the literature, is among the first to quantitatively examine NDII victimization along nine holistic outcomes using a large, diverse sample from within the United States during the COVID-19 pandemic. In our evaluation of data from over 3,000 adult U.S. participants, we provide a broad view of how cybersexual violence may be impacting Americans' levels of psychological and physical distress, as well as nonclinical concerns such as economic stability and social well-being, by analyzing the self-reports for stress, anxiety, and depression, the physical, psychological and daily self-care tasks as examined by the Rotterdam Symptom Checklist, alcohol use, perceived social support, and economic distress.

Grounded in the bases of social role and sexual scripts theories as well as the literature surrounding cybersexual abuse and sexual violence, we conducted three hypothesis-driven analyses, as well as exploratory analyses to examine how different identity groups may be impacted by NDII victimization. We predicted the following:

> **Hypothesis 1**: NDII victimization rates will be higher among emerging adults than other age groups.
>
> **Hypothesis 2**: Victims of NDII will have lower levels of health and well-being than nonvictims across all nine health and well-being variables.
>
> **Hypothesis 3**: NDII victims in marginalized and underresourced identity groups (e.g., people of color, lesbian/gay/bisexual identifying participants, women) will experience

more severe impacts of victimization than their peers, as compared to victims in majority groups (e.g., White, heterosexual, male).

METHOD

Participants

Eligible participants were aged 18 years or older and residents of the United States. Our final sample (N = 3,150; total n_{victims} = 82, 2.6%) consisted of 1,685 women (53.5%; n_{victims} = 36, 43.9% of victims) and 1,456 men (46.2%; including n_{victims} = 44, 53.7% of victims), with 9 (.3%) not reporting gender (see Table 1). Due to small group sizes of victims and the need to compare victims by identity categories, we dichotomized some of the social identity categories to maximize statistical power. For example, we collapsed our varied race/ethnicity groups into a binary race variable; 52.7% (n = 1,659; n_{victims} = 30, 36.6%) reported their race or ethnic identity as White, while 47.3% (n = 1,491; n_{victims} = 52, 63.4%) identified as a race or ethnicity other than White (see Table 2). Again, due to small group size, sexual orientation was also collapsed into a binary variable, with 2,743 participants (87.1%) identified as heterosexual (n_{victims} = 70, 85.4%), and 407 participants (12.9%) identified as being members of the LGB (lesbian, gay and bisexual) community (n_{victims} = 12, 14.6%; see Table 3). Participants were asked to report their birth year, and this was used to identify them in four age categories: emerging adults 18–29 (n = 710, 22.5%; n_{victims} = 25, 30.5%), young adults 30–44 (n = 963, 30.6%; n_{victims} = 31, 37.8%), middle adults 45–59 (n = 803, 25.5%; n_{victims} = 23, 28%), and older adults 60+ (n = 674, 21.4%; n_{victims} = 3, 3.7%; see Table 4).

Procedure

Participants were recruited via Qualtrics Panels using proportional quota sampling to capture a diverse national sample of U.S. adults. We oversampled for select identity groups, including racial, ethnic, and sexual orientation minorities, as well as vulnerable age groups (i.e., emerging adults), as prior literature suggests these group members may be more likely to have experienced IBSA (e.g., Branch et al., 2017; O'Connor et al., 2018; Powell & Henry, 2019; Ruvalcaba & Eaton, 2020). This targeting of select identity groups created a nonrepresentative national sample that enabled us to make more reliable between-group comparisons than a representative sample would have.

Qualtrics recruited individuals per our sampling criteria and emailed participants a link to an online survey. All participants were presented with an informed consent approved by the Institutional Review Board at Florida International University, which they digitally signed, followed by our survey materials. The survey took approximately 45 minutes to complete, and participants were compensated with a $15 gift card for their time. Upon

TABLE 1. Binary Gender

	N	%	n_{victims}	%
Female	1,685	53.5	38	46.3
Male	1,456	46.2	44	53.7
Missing	9	0.3	0	0
Total	3,150	100%	82	100%

TABLE 2. Binary Race/Ethnicity

	N	%	n_{victims}	%
	White			
White, European	1,659	52.7	30	36.6
	POC			
Black, Afro-Caribbean, or African	379	12.0	23	28.0
Latino/a or Hispanic	449	14.3	11	13.4
Asian	314	10.0	7	8.5
Native American or Alaskan Native	264	8.4	10	12.2
Other	85	2.7	1	1.2
Total POC	1,491	47.3	52	63.4

POC = people of color.

TABLE 3. Binary Sexual Orientation

	N	%	n_{victims}	%
	Heterosexual			
Heterosexual	2,743	87.1	70	85.4
	LGB			
Gay	95	3.0	1	1.2
Lesbian	57	1.8	2	2.4
Bisexual	196	6.2	8	9.8
Other	59	6.2	1	1.2
Total LGB	407	12.9	12	14.6

LGB = lesbian,gay, bisexual.

TABLE 4. Age Categories

	N	%	n_{victims}	%
Emerging adults (18–29)	710	22.5	25	30.5
Young adults (30–44)	963	30.6	31	37.8
Middle adults (45–59)	803	25.5	23	28.0
Older adults (60+)	674	21.4	3	3.7

completion or exit of the survey, all participants were debriefed according to APA ethical guidelines.

Measures

Participants were asked about experiences of IBSA using a survey of questions about NDII victimization used in a prior study (Ruvalcaba & Eaton, 2020) with additions for IBSA experiences (e.g., digital forgeries or "deepfakes") not included in current

validated scales. Participants were asked if they had experienced any of four forms of IBSA using the following question: "Have you ever been the victim of the following categories of cyber sexual abuse? Please check all categories that apply" with response options of (a) Nonconsensual pornography (sometimes referred to as "revenge porn"): the distribution of private, sexually explicit images of individuals without their consent. (b) Recorded sexual assault: the image or video capture of a sexual assault, typically by a perpetrator, to further humiliate a victim and/or discourage them from reporting the crime. (c) Sextortion: the act of threatening to expose a nude or sexually explicit image in order to get a person to do something such as send more nude or sexually explicit images, pay someone money, or perform sexual acts. (d) Deepfake manipulation: audio or video recordings of you that seem to be real but are fake. In order to capture only those experiences of IBSA that had occurred after the pandemic had begun, all items and scales about IBSA victimization were adapted to reflect response choices as either "Yes, before the pandemic," "Yes, after the pandemic," or "No, never," with participants being able to select before the pandemic, after the pandemic, or both options. All four items are correlated at a level between 0.559 and 0.639, $p < .001$; however, analyses presented in the current article are limited to victims of NDII. At the time participants took the survey (January to March 2021), the pandemic had lasted 10–12 months.

Participants were also asked to complete a variety of validated measures to capture traditional medical health outcomes previously associated with both sexual violence and IBSA victimization, that is, anxiety and depression (Bates, 2017). To create a more holistic understanding of the impacts of IBSA victimization, we also surveyed participants about overall stress, perceived social support, and perceived economic security. Each of these has been found previously to correlate with sexual violence (Adams et al., 2021; Golding, 1994; Kimerling & Calhoun, 1994; McGlynn et al., 2021), which suggests they may also correspond with NDII. Finally, all participants completed demographic items that asked questions about their gender, sexual orientation, racial identity, geographic location, education level, approximate income, religion, relationship and parenting status, typical political views, and year of birth.

Depression, Anxiety, and Stress

We used the short form of the Depression Anxiety Stress Scales (DASS-21; Henry & Crawford, 2005; 21 items) to examine for symptoms of depression, anxiety, and stress. The DASS-21 was designed to capture the overall construct of psychological distress using the tripartite model of psychopathology (Vignola & Tucci, 2014), examining depression (e.g., "I felt down-hearted and blue"), stress (e.g., "I tended to over-react to situations"), and anxiety (e.g., "I felt scared without any good reason") as separate features of distress. Each question is asked in the context of the past week, and all are scored on a 4-point Likert scale ranging from 0 (*did not apply to me at all*) to 3 (*applied to me very much or most of the time*). Responses were summed and then multiplied by two, with higher scores in each subscale reflecting increases in depression, stress, or anxiety, respectively (depression items $\alpha = .96$, stress items $\alpha = .91$, anxiety items $\alpha = .92$), and resulting in possible scores that range from 0 to 42 for each subscale.

Alcohol Use

The 10-item Alcohol Use Disorders Identification Test (AUDIT; Babor et al., 2001) is a screening tool used by clinicians to identify for treatment those who may be using alcohol in a risky or destructive manner. The AUDIT asks participants about their drinking habits (e.g., "how often do you have a drink containing alcohol?") and behaviors or consequences experienced after drinking (e.g., "how often are you unable to remember what happened the night before because you had been drinking?"). Responses were summed, with higher scores corresponding with more risky drinking behaviors and alcohol use ($\alpha = .91$) and possible scores ranging from 0 to 40.

Physical Symptoms, Psychological Symptoms, and Daily Activity Levels

The 23-item Rotterdam Symptom Checklist (RSCL; de Haes et al., 1996; 23 items) was originally designed as a tool to measure both psychological and physical quality of life in cancer patients and has been used for other diagnoses to determine levels of symptom-related distress by clinicians. The RSCL is divided into three subscales, which we examined individually: physical symptoms (e.g., "Have you, during the past week, been bothered by headaches?"), psychological symptoms (e.g., "Have you, during the past week, been bothered by difficulty concentrating?"), and daily activity levels (e.g., participants are asked to rate the extent to which they have been able to engage in physical activities, such as caring for themselves). Each subscale asks about symptoms in the context of the past week and uses a 4-point Likert scale for scoring. Each subscale is summed and scored, with higher scores indicating more severe psychological or physical symptoms, or an increased inability to perform regular daily tasks (physical items $\alpha = .94$, psychological items $\alpha = .93$, activity items $\alpha = .90$). Possible scores on the physical symptoms subscale range from 23 to 92, possible psychological symptoms scores range from 7 to 28, and possible activity level scores range from 8 to 32.

Perceived Social Support

We utilized the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988) to examine participants' feelings of social support along three subscales: friends, family, and a significant other. Each subscale has four questions, and all are scored using a 7-point Likert scale, ranging from 1 (*very strongly disagree*) to 7 (*very strongly agree*). The scale was also intended to be used in composite score form(Zimet et al., 1988); all 12 items were summed and averaged, resulting in possible scores that ranged from 1 to 7. Higher scores represent increased perceptions of social support by participants ($\alpha = .96$). A sample item is "there is a special person in my life who cares about my feelings."

Economic Security

Economic security was measured using a four-item survey (Shek, 2005), which examines the participant's perceptions of their financial stability. Questions include, "In the past six months, has your family had inadequate money to cope with the family expenses? (Never, Rarely, Sometimes, Always)" and "How do you feel about the financial situation of your family? (Has improved, No change, Has deteriorated)." Scores are coded, question four is reverse-scored, and all questions are summed. Higher scores correspond to more significant levels of economic security ($\alpha = .75$).

Analytic Plan

Minimal data were missing prior to analysis; a missing values analysis yielded missingness that ranged from 0 to 0.6% across the nine outcomes. Data were not missing at random, Little's $\chi^2(123) = 193.56$, $p < .001$. Missing values were imputed using expectation maximization in SPSS 26.0. We did not impute missing values pertaining to race, gender, or sexual orientation. Therefore, the sample sizes varied slightly in our descriptive analyses as well as analyses addressing hypotheses 2 and 3. To examine our first hypothesis regarding age effects on victimization, we conducted a χ^2 analysis with a post hoc binomial test. Hypotheses 2 and 3 were tested using a series of multivariate analyses of variance (MANOVA), examining the main effects of IBSA victimization, demographic characteristics (gender, race, sexual orientation), and the interaction effect between demographic characteristics and victimization on the nine outcomes.

RESULTS

To first explore how different social identity groups may be impacted by NDII victimization, we performed a series of χ^2 analyses of the proportion of NDII victims by each identity group: binary gender, binary race, binary sexual orientation, and to test our first hypothesis, across the four age categories. To determine victimization, all participants were asked if they had experienced NDII, and responses were collapsed into yes or no. The proportions of victimization across the gender binary did not vary significantly, $\chi^2(1, 3140) = 1.82$, $p = .18$, Cramer's V = .02. This was an unexpected result, as much (though not all) of the prior literature suggests that women are more likely to be victimized by NDII than men (Branch et al., 2017; Ruvalcaba & Eaton, 2020).

In an attempt to explore possible explanatory factors, we also performed a χ^2 to examine whether the victim sent unwanted intimate images of themselves to the perpetrator using responses to the question, "Did you first send this image to someone who you knew did not want it?" Analysis of this variable revealed a significant difference between the proportion of men victims (54.5%) and women victims (22.2%) of NDII who first shared their own images despite knowing they were not welcome, $\chi^2(1, 40) = 4.18$, $p = .04$, Cramer's V = .32. Thus, more male victims had perpetrators who never wanted the image(s) to begin with, perpetuating what is considered by some scholars to be a form of sexual harassment ("dick pics" or cyberflashing; McGlynn et al., 2017).

The proportions of victimization across the race binary did vary significantly, $\chi^2(1, 3149) = 8.75$, $p = .003$, Cramer's V = .053, suggesting that Black, Brown, and Indigenous people were more likely to be victimized by NDII during the pandemic than their White peers. In examining the proportions of victimization by sexual orientation, we did not find a significant difference, $\chi^2(1, 3149) = .22$, $p = 0.62$, suggesting no significant difference in the likelihood of being victimized when comparing LGB and heterosexual participants.

Finally, in testing our first hypothesis, that emerging adults would be more likely to be victimized than other age groups, we did find that there was a significant difference in victimization rates between age groups, $\chi^2(3, 3149) = 16.41$, $p = .001$, Cramer's V = .08. However, post hoc binomial analysis showed that this difference was being driven by older adult victims (over the age of 60), in that older adults were significantly less likely to be victimized than adults of other age groups, $\chi^2(3, 82) = 21.61$, $p < .001$.

To test our second and third hypotheses, that during the pandemic NDII victims would experience more severe negative well-being than nonvictims and that participants from marginalized identity groups (women, people of color, LGB) would report more severe negative outcomes after IBSA victimization, we performed three separate MANOVAs. The first MANOVA examined the effects of gender and victimization status on three social (perceived social support, economic stress, and changes in activity level) and six traditional medical outcomes (physical symptoms, psychological symptoms, depression, stress, anxiety, and alcohol use). This MANOVA yielded a significant multivariate effect of gender (Pillai's trace = .02, $F(8, 3128) = 7.06$, $p < .001$, $\eta^2 = .02$), a significant multivariate effect of victimization (Pillai's trace = .08, $F(8, 3128) = 29.63$, $p < .001$, $\eta^2 = .08$), and a significant multivariate interaction effect between victimization and gender (Pillai's trace = .005, $F(8, 3129) = 7.06$, $p < .001$, $\eta^2 = .02$). See Tables 5 and 6.

The second MANOVA examined the effects of race and victimization status on the same nine variables, yielding a nonsignificant multivariate effect of race (Pillai's trace = .005, $F(8, 3137) = 1.82$, $p = .06$, $\eta^2 = .005$), a significant multivariate effect of victimization (Pillai's trace = .07, $F(8, 3137) = 29.22$, $p < .001$, $\eta^2 = .08$), and a nonsignificant multivariate interaction effect between victimization and race (Pillai's trace = .004, $F(8, 3137) = 1.36$, $p = .20$, $\eta^2 = .004$). See Tables 7 and 8.

The third MANOVA examined sexual orientation and victimization status on the same nine outcomes. The final MANOVA yielded a significant multivariate effect of sexual orientation (Pillai's trace = .007, $F(8, 3137) = 2.61$, $p < .01$, $\eta^2 = .01$), a significant multivariate effect of victimization (Pillai's trace = .04, $F(8, 3137) = 13.77$, $p < .001$, $\eta^2 = .04$), and a nonsignificant multivariate interaction effect between victimization and sexual orientation (Pillai's trace = .005, $F(8, 3137) = 1.59$, $p = .11$, $\eta^2 = .005$). See Tables 9 and 10.

Below we examine the main effect of victimization, the main effect of gender, and the interaction between race and gender on each of the nine outcomes. Given the lack of significant multivariate interaction effects by race and sexual orientation, and due to the main effects of race and sexual orientation on health outcomes being outside the scope of the current paper when not considered in tandem with victimization, these analyses were not probed further.

Perceived Social Support (MSPSS)

When examining the effects of gender, victimization status, and the interaction between the two on perceived social support during the pandemic, no main effect of gender on perceived social support was found, $F(1, 3136) = 1.11$, $p = .29$ ($M_{\text{women}} = 4.59$, $SD = 1.56$; $M_{\text{men}} = 4.77$, $SD = 1.51$). A main effect of victimization status was found such that victims felt less social support than nonvictims, $F(1, 3136) = 17.86$, $p < .001$, $\eta^2 = .006$ ($M_{\text{victims}} = 4.32$, $SD = 1.50$; nonvictims $M_{\text{nonvictims}} = 5.04$, $SD = 1.50$). No significant interaction effect between victimization status and gender on perceived social support was found, $F(1, 3136) = .43$, $p = .51$.

Economic Security

When examining the effects of gender, victimization status, and the interaction between the two on economic security during the pandemic, no main effect of gender was found, $F(1, 3136) = 3.59$, $p = .06$ ($M_{\text{women}} = 6.77$, $SD = 2.59$; $M_{\text{men}} = 6.24$, $SD = 2.42$). A

TABLE 5. Multivariate Tests of NCP During Pandemic

Effect		Value	*F*	Hypothesis *df*	Error *df*	Sig.	Partial eta squared
Intercept	Pillai's trace	0.898	3071.825[a]	9.000	3137.000	.000	0.898
	Wilks' lambda	0.102	3071.825[a]	9.000	3137.000	.000	0.898
	Hotelling's trace	8.813	3071.825[a]	9.000	3137.000	.000	0.898
	Roy's largest root	8.813	3071.825[a]	9.000	3137.000	.000	0.898
NCP during pandemic	Pillai's trace	0.077	29.215[a]	9.000	3137.000	.000	.077
	Wilks' lambda	0.923	29.215[a]	9.000	3137.000	.000	.077
	Hotelling's trace	0.084	29.215[a]	9.000	3137.000	.000	.077
	Roy's largest root	0.084	29.215[a]	9.000	3137.000	.000	.077
Race	Pillai's trace	0.005	1.815[a]	9.000	3137.000	.061	.005
	Wilks' lambda	0.995	1.815[a]	9.000	3137.000	.061	.005
	Hotelling's trace	0.005	1.815[a]	9.000	3137.000	.061	.005
	Roy's largest root	0.005	1.815[a]	9.000	3137.000	.061	.005
NCP during pandemic * race	Pillai's trace	0.004	1.355[a]	9.000	3137.000	.203	.004
	Wilks' lambda	0.996	1.355[a]	9.000	3137.000	.203	.004
	Hotelling's trace	0.004	1.355[a]	9.000	3137.000	.203	0.004
	Roy's largest root	0.004	1.355[a]	9.000	3137.000	.203	.004

[a]Exact statistic.

main effect of victimization status was found such that victims felt less economic security than nonvictims, $F(1, 3136) = 30.01$, $p < .001$, $\eta^2 = .01$ ($M_{\text{victims}} = 7.27$, $SD = 2.52$; $M_{\text{nonvictims}} = 5.73$, $SD = 2.02$). No significant interaction effect between victimization status and gender on economic security was found, $F(1, 3136) = .26$, $p = .61$.

Changes in Activity Level (RSCL)

A main effect of gender was found on changes in activity level, such that men reported a more reduced activity level than women overall, $F(1, 3136) = 8.23$, $p < .01$, $\eta^2 = .003$ ($M_{\text{women}} = 20.80$, $SD = 3.24$; $M_{\text{men}} = 19.80$, $SD = 3.51$). A main effect of victimization status was found, such that victims had a more reduced activity level than nonvictims, $F(1, 3136) = 139.27$, $p < .001$, $\eta^2 = .04$ ($M_{\text{victims}} = 18.16$, $SD = 3.29$; $M_{\text{nonvictims}} = 22.52$, $SD = 4.40$). Finally, a significant interaction was found such that the effect of victimization on daily activity was more severe for men who were victimized than women who were victimized, $F(1, 3136) = 5.79$, $p = .02$, $\eta^2 = .002$, see Figure 1.

Physical Symptoms (RSCL)

When examining the effects of gender, victimization status, and the interaction between the two on physical symptoms during the pandemic, no main effect of gender was found, $F(1, 3136) = .17$, $p = .68$ ($M_{\text{women}} = 45.41$, $SD = 13.14$; $M_{\text{men}} = 44.81$, $SD = 13.56$). A main effect of victimization status was found, such that victims felt more physical symptoms than nonvictims, $F(1, 3136) = 159.55$, $p < .001$, $\eta^2 = .05$ ($M_{\text{victims}} = 54.33$, $SD = 14.71$; $M_{\text{nonvi ctims}} = 35.89$, $SD = 12.97$). No significant interaction effect between victimization status and gender on reported physical symptoms was found, $F(1, 3136) = .19$, $p = 0.67$, see Figure 2.

TABLE 6. Tests of Between-Subjects Effects

Source	Dependent variable	Type III sum of squares	*df*	Mean square	*F*	Sig.	Partial eta squared
Corrected model	Social support	9891.306[a]	3	3297.102	10.164	.000	.010
	Stress	2203.937[b]	3	734.646	24.101	.000	.022
	Depression	2651.638[c]	3	883.879	24.392	.000	.023
	Anxiety	3845.146[d]	3	1281.715	50.525	.000	.046
	Physical symptoms	28918.587[e]	3	9639.529	57.019	.000	.052
	Psychological symptoms	2332.547[f]	3	777.516	23.210	.000	.022
	Daily activity	1718.531[g]	3	572.844	52.416	.000	.048
	Economic security	411.310[h]	3	137.103	22.065	.000	.021
	Alcohol use during pandemic	5807.585[i]	3	1935.862	42.908	.000	.039
Intercept	Social support	947428.624	1	947428.624	2920.744	.000	0.482
	Stress	24024.603	1	24024.603	788.171	.000	.200
	Depression	19162.418	1	19162.418	528.807	.000	.144
	Anxiety	15988.218	1	15988.218	630.255	.000	.167
	Physical symptoms	613302.283	1	613302.283	3627.773	.000	0.536
	Psychological symptoms	74250.470	1	74250.470	2216.491	.000	.413
	Daily activity	122620.523	1	122620.523	11219.888	.000	0.781
	Economic security	12483.684	1	12483.684	2009.052	.000	.390
	Alcohol use during pandemic	24074.003	1	24074.003	533.591	.000	.145

(*Continued*)

TABLE 6. Tests of Between-Subjects Effects (*Continued*)

Source	Dependent variable	Type III sum of squares	*df*	Mean square	*F*	Sig.	Partial eta squared
NCP during pandemic	Social support	4346.820	1	4346.820	13.400	.000	.004
	Stress	2068.798	1	2068.798	67.871	.000	.021
	Depression	2512.366	1	2512.366	69.331	.000	.022
	Anxiety	3467.275	1	3467.275	136.680	.000	.042
	Physical symptoms	26509.399	1	26509.399	156.807	.000	.047
	Psychological symptoms	2186.386	1	2186.386	65.267	.000	.020
	Daily activity	1421.566	1	1421.566	130.075	.000	.040
	Economic security	152.265	1	152.265	24.505	.000	.008
	Alcohol use during pandemic	5447.058	1	5447.058	120.732	.000	.037
Race	Social support	896.740	1	896.740	2.764	.096	.001
	Stress	152.888	1	152.888	5.016	.025	.002
	Depression	31.785	1	31.785	0.877	.349	.000
	Anxiety	53.712	1	53.712	2.117	.146	.001
	Physical symptoms	135.821	1	135.821	0.803	.370	.000
	Psychological symptoms	45.264	1	45.264	1.351	.245	.000
	Daily activity	11.191	1	11.191	1.024	.312	.000
	Economic security	14.441	1	14.441	2.324	.127	.001
	Alcohol use during pandemic	74.575	1	74.575	1.653	.199	.001
NCP during pandemic * race	Social support	109.547	1	109.547	.338	0.561	.000
	Stress	249.110	1	249.110	8.173	.004	.003
	Depression	73.802	1	73.802	2.037	.154	.001
	Anxiety	167.848	1	167.848	6.617	.010	.002
	Physical symptoms	582.069	1	582.069	3.443	.064	.001
	Psychological symptoms	102.827	1	102.827	3.070	.080	.001
	Daily activity	.174	1	.174	.016	0.900	.000
	Economic security	.882	1	0.882	.142	.706	.000
	Alcohol use during pandemic	18.022	1	18.022	.399	0.527	.000

(*Continued*)

TABLE 6. Tests of Between-Subjects Effects (*Continued*)

Source	Dependent variable	Type III sum of squares	*df*	Mean square	*F*	Sig.	Partial eta squared
Error	Social support	1020172.645	31.45	324.379			
	Stress	95864.183	31.45	30.481			
	Depression	113965.617	31.45	36.237			
	Anxiety	79781.867	31.45	25.368			
	Physical symptoms	53.1685.861	31.45	169.058			
	Psychological symptoms	105354.687	31.45	33.499			
	Daily activity	34371.247	31.45	10.929			
	Economic security	19542.145	31.45	6.214			
	Alcohol use during pandemic	141892.738	31.45	45.117			
Total	Social support	12426775.063	31.49				
	Stress	229838.243	31.49				
	Depression	203720.844	31.49				
	Anxiety	135796.380	31.49				
	Physical symptoms	4739473.482	31.49				
	Psychological symptoms	658102.589	31.49				
	Daily activity	1616869.427	31.49				
	Economic security	125487.457	31.49				
	Alcohol use during pandemic	224982.000	31.49				

(*Continued*)

TABLE 6. Tests of Between-Subjects Effects (*Continued*)

Source	Dependent variable	Type III sum of squares	*df*	Mean square	*F*	Sig.	Partial eta squared
Corrected total	Social support	1030063.951	31.48				
	Stress	98068.120	31.48				
	Depression	116617.255	31.48				
	Anxiety	83627.012	31.48				
	Physical symptoms	560604.448	31.48				
	Psychological symptoms	107687.234	31.48				
	Daily activity	36089.777	31.48				
	Economic security	19953.455	31.48				
	Alcohol use during pandemic	147700.323	31.48				

[a]R-squared = .010 (adjusted R-squared = .009).

[b]R-squared = .022 (adjusted R-squared = .022).

[c]R-squared = .023 (adjusted R-squared = .022).

[d]R-squared = .046 (adjusted R-squared = .045).

[e]R-squared = .052 (adjusted R-squared = .051).

[f]R-squared = .022 (adjusted R-squared = .021).

[g]R-squared = .048 (adjusted R-squared = .047).

[h]R-squared = .021 (adjusted R-squared = .020).

[i]R-squared = .039 (adjusted R-squared = .038).

TABLE 7. Multivariate Tests

Effect		Value	*F*	Hypothesis *df*	Error *df*	Sig.	Partial eta squared
Intercept	Pillai's trace	0.829	1692.943[a]	9.000	3137.000	.000	0.829
	Wilks' lambda	.171	1692.943[a]	9.000	3137.000	.000	0.829
	Hotelling's trace	4.857	1692.943[a]	9.000	3137.000	.000	0.829
	Roy's largest root	4.857	1692.943[a]	9.000	3137.000	.000	0.829
NCP during pandemic	Pillai's trace	.038	13.766[a]	9.000	3137.000	.000	.038
	Wilks' lambda	0.962	13.766[a]	9.000	3137.000	.000	.038
	Hotelling's trace	.039	13.766[a]	9.000	3137.000	.000	.038
	Roy's largest root	.039	13.766[a]	9.000	3137.000	.000	.038
NCP during pandemic * sexual orientation	Pillai's trace	.005	1.594[a]	9.000	3137.000	.111	.005
	Wilks' lambda	0.995	1.594[a]	9.000	3137.000	.111	.005
	Hotelling's trace	.005	1.594[a]	9.000	3137.000	.111	.005
	Roy's largest root	.005	1.594[a]	9.000	3137.000	.111	.005
Sexual orientation	Pillai's trace	.007	2.606[a]	9.000	3137.000	.005	.007
	Wilks' lambda	0.993	2.606[a]	9.000	3137.000	.005	.007
	Hotelling's trace	.007	2.606[a]	9.000	3137.000	.005	.007
	Roy's largest root	.007	2.606[a]	9.000	3137.000	.005	.007

[a]Exact statistic.

Psychological Symptoms (RSCL)

A main effect of gender was found on psychological symptoms, such that women reported more psychological symptoms than men overall, $F(1, 3136) = 5.73$, $p = .02$, $\eta^2 = .002$ ($M_{\text{women}} = 16.46$, $SD = 6.05$; $M_{\text{men}} = 14.91$, $SD = 5.54$). A main effect of victimization status was found, such that victims felt more psychological symptoms than nonvictims, $F(1, 3136) = 67.33$, $p < .001$, $\eta^2 = .02$ ($M_{\text{victims}} = 18.26$, $SD = 5.33$; $M_{\text{nonvictims}} = 13.09$, $SD = 5.80$). No significant interaction effect between victimization status and gender on psychological symptoms was found, $F(1, 3136) = 0.63$, $p = .43$.

Depression (DASS-21)

When examining the effects of gender, victimization status, and the interaction between the two on depression, no main effect of gender was found, $F(1, 3136) = .01$, $p = 0.91$ ($M_{\text{women}} = 15.92$, $SD = 12.16$; $M_{\text{men}} = 15.74$, $SD = 12.18$). A main effect of victimization status was found, such that victims reported more symptoms of depression than nonvictims, $F(1, 3136) = 69.43$, $p < .001$, $\eta^2 = .02$ ($M_{\text{victims}} = 21.46$, $SD = 9.97$; $M_{\text{nonvictims}} = 10.20$, $SD = 12.11$). No significant interaction effect between victimization status and gender on depression was found, $F(1, 3136) = .09$, $p = 0.77$.

TABLE 8. Tests of Between-Subjects Effects

Source	Dependent variable	Type III sum of squares	*df*	Mean square	*F*	Sig.	Partial eta squared
Corrected model	Social support	8168.097[a]	3	2722.699	8.379	.000	.008
	Stress	3436.670[b]	3	1145.557	38.072	.000	.035
	Depression	4448.055[c]	3	1482.685	41.572	.000	.038
	Anxiety	4459.027[d]	3	1486.342	59.046	.000	.053
	Physical symptoms	32709.455[e]	3	10903.152	64.957	.000	.058
	Psychological symptoms	4398.561[f]	3	1466.187	44.643	.000	.041
	Daily activity	1716.947[g]	3	572.316	52.365	.000	.048
	Economic security	338.440[h]	3	112.813	18.088	.000	.017
	Alcohol use during pandemic	5911.350[i]	3	1970.450	43.706	.000	.040
Intercept	Social support	481019.481	1	481019.481	1480.392	.000	.320
	Stress	15424.506	1	15424.506	512.621	.000	.140
	Depression	12384.299	1	12384.299	347.231	.000	.099
	Anxiety	9544.265	1	9544.265	379.152	.000	.108
	Physical symptoms	354415.138	1	354415.138	2111.472	.000	.402
	Psychological symptoms	44859.098	1	44859.098	1365.899	.000	.303
	Daily activity	66930.253	1	66930.253	6123.896	.000	.661
	Economic security	7487.476	1	7487.476	1200.515	.000	.276
	Alcohol use during pandemic	12107.445	1	12107.445	268.553	.000	.079

(*Continued*)

TABLE 8. Tests of Between-Subjects Effects (*Continued*)

Source	Dependent variable	Type III sum of squares	*df*	Mean square	*F*	Sig.	Partial eta squared
NCP during pandemic	Social support	3106.742	1	3106.742	9.561	.000	.003
	Stress	1207.678	1	1207.678	40.136	.000	.013
	Depression	1286.824	1	1286.824	36.080	.000	.011
	Anxiety	1633.335	1	1633.335	64.885	.000	.020
	Physical symptoms	15297.252	1	15297.252	91.135	.000	.028
	Psychological symptoms	1230.949	1	1230.949	37.481	.000	.012
	Daily activity	515.740	1	515.740	47.188	.000	.015
	Economic security	120.753	1	120.753	19.361	.000	.006
	Alcohol use during pandemic	2106.297	1	2106.297	46.719	.000	.015
NCP during pandemic + sexual orientation	Social support	22.482	1	22.482	.069	0.793	.000
	Stress	38.058	1	38.058	1.265	.261	.000
	Depression	1.174	1	1.174	.033	0.856	.000
	Anxiety	0.812	1	0.812	.032	0.857	.000
	Physical symptoms	132.655	1	132.655	0.790	.374	.000
	Psychological symptoms	14.656	1	14.656	.446	.504	.000
	Daily activity	54.071	1	54.071	4.947	.026	.002
	Economic security	5.358	1	5.358	0.859	.354	.000
	Alcohol use during pandemic	88.831	1	88.831	1.970	.161	.001
Sexual orientation	Social support	461.159	1	461.159	1.419	.234	.000
	Stress	355.990	1	355.990	11.831	.001	.004
	Depression	248.629	1	248.629	6.971	.008	.002
	Anxiety	99.581	1	99.581	3.956	.047	.001
	Physical symptoms	1288.598	1	1288.598	7.677	.006	.002
	Psychological symptoms	379.499	1	379.499	11.555	.001	.004
	Daily activity	13.778	1	13.778	1.261	.262	.000
	Economic security	40.339	1	40.339	6.468	.011	.002
	Alcohol use during pandemic	12.401	1	12.401	.275	.600	.000

(*Continued*)

TABLE 8. Tests of Between-Subjects Effects (*Continued*)

Source	Dependent variable	Type III sum of squares	*df*	Mean square	*F*	Sig.	Partial eta squared
Error	Social support	1021895.854	31.45	324.927			
	Stress	94631.450	31.45	30.089			
	Depression	112169.200	31.45	35.666			
	Anxiety	79167.986	31.45	25.173			
	Physical symptoms	527.894.993	31.45	167.852			
	Psychological symptoms	103288.674	31.45	32.842			
	Daily activity	34372.830	31.45	10.929			
	Economic security	19615.014	31.45	6.237			
	Alcohol use during pandemic	141788.973	31.45	45.084			
Total	Social support	12426775.063	31.49				
	Stress	229838.243	31.49				
	Depression	203720.844	31.49				
	Anxiety	135796.380	31.49				
	Physical symptoms	4739473.482	31.49				
	Psychological symptoms	658102.589	31.49				
	Daily activity	1616869.427	31.49				
	Economic security	125487.457	31.49				

(*Continued*)

TABLE 8. Tests of Between-Subjects Effects (*Continued*)

Source	Dependent variable	Type III sum of squares	*df*	Mean square	*F*	Sig.	Partial eta squared
	Social support	1030063.951	31.48				
	Stress	98068.120	31.48				
	Depression	116617.255	31.48				
	Anxiety	83627.012	31.48				
	Physical symptoms	560604.448	31.48				
	Psychological symptoms	107687.234	31.48				
	Daily activity	36089.777	31.48				
	Economic security	19953.455	31.48				

[a]R-squared = .008 (adjusted R-squared = .007).

[b]R-squared = .035 (adjusted R-squared = .034).

[c]R-squared = .038 (adjusted R-squared = .037).

[d]R-squared = .053 (adjusted R-squared = .052)

[e]R-squared = .058 (adjusted R-squared = .057).

[f]R-squared = .041 (adjusted R-squared = .040).

[g]R-squared = .048 (adjusted R-squared = .047).

[h]R-squared = .017 (adjusted R-squared = .016).

[i]R-squared = .040 (adjusted R-squared = .039).

TABLE 9. Multivariate Tests

Effect		Value	*F*	Hypothesis *df*	Error *df*	Sig.	Partial eta squared
Intercept	Pillai's trace	0.905	3311.662[a]	9.000	3128.000	.000	0.905
	Wilks' lambda	.095	3311.662[a]	9.000	3128.000	.000	0.905
	Hotelling's trace	9.528	3311.662[a]	9.000	3128.000	.000	0.905
	Roy's largest root	9.528	3311.662[a]	9.000	3128.000	.000	0.905
NCP during pandemic	Pillai's trace	.079	29.633[a]	9.000	3128.000	.000	.079
	Wilks' lambda	0.921	29.633[a]	9.000	3128.000	.000	.079
	Hotelling's trace	.085	29.633[a]	9.000	3128.000	.000	.079
	Roy's largest root	.085	29.633[a]	9.000	3128.000	.000	.079
Gender	Pillai's trace	.020	7.057[a]	9.000	3128.000	.000	.020
	Wilks' lambda	0.980	7.057[a]	9.000	3128.000	.000	.020
	Hotelling's trace	.020	7.057[a]	9.000	3128.000	.000	.020
	Roy's largest root	.020	7.057[a]	9.000	3128.000	.000	.020
NCP during pandemic * gender	Pillai's trace	.006	2.189[a]	9.000	3128.000	.020	.006
	Wilks' lambda	0.994	2.189[a]	9.000	3128.000	.020	.006
	Hotelling's trace	.006	2.189[a]	9.000	3128.000	.020	.006
	Roy's largest root	.006	2.189[a]	9.000	3128.000	.020	.006

[a]Exact statistic.

Stress (DASS-21)

When examining the effects of gender, victimization status, and the interaction between the two on stress during the pandemic, no main effect of gender was found, $F(1, 3136) = .01$, $p = .92$ ($M_{women} = 17.57$, $SD = 11.25$; $M_{men} = 14.47$, $SD = 11.06$). A main effect of victimization status was found such that victims reported more stress than nonvictims, $F(1, 3136) = 61.34$, $p < .001$, $\eta^2 = .019$ ($M_{victims} = 22.38$, $SD = 11.08$; $M_{nonvictims} = 12.64$, $SD = 10.29$). No interaction effect between gender and victimization on stress was found, $F(1, 3136) = .13$, $p = 0.72$.

Anxiety (DASS-21)

When examining the effects of gender, victimization status, and the interaction between the two on anxiety during the pandemic, no main effect of gender was found, $F(1, 3136) = 2.55$, $p = .11$ ($M_{women} = 13.36$, $SD = 5.13$; $M_{men} = 15.17$, $SD = 5.19$). A main effect of victimization status was found, such that victims reported more symptoms of anxiety than nonvictims, $F(1, 3136) = 130.83$, $p < .001$, $\eta^2 = .04$ ($M_{victims} = 20.74$, $SD = 10.19$; $M_{nonvictims} = 7.78$, $SD = 10.09$). No significant interaction effect between victimization status and gender on anxiety was found, $F(1, 3136) = 2.47$, $p = .12$.

Alcohol Use (AUDIT)

A main effect of gender on alcohol use was found, such that men drank more than women overall, $F(1, 3136) = 28.59$, $p < .001$ ($M_{women} = 6.85$, $SD = 5.82$; $M_{men} = 10.83$, $SD = 5.65$). A main effect of victimization status was found such that victims drank more

TABLE 10. Tests of Between-Subjects Effects

Source	Dependent variable	Type III sum of squares	*df*	Mean square	*F*	Sig.	Partial eta squared
Corrected model	Social support	6281.604[a]	3	2093.868	6.438	.000	.006
	Stress	1953.185[b]	3	651.062	21.318	.000	.020
	Depression	2534.633[c]	3	844.878	23.359	.000	.022
	Anxiety	3488.833[d]	3	1162.944	45.641	.000	.042
	Physical symptoms	28190.183[e]	3	9396.728	55.468	.000	.050
	Psychological symptoms	3048.851[f]	3	1016.284	30.600	.000	.028
	Daily activity	1675.897[g]	3	558.632	51.414	.000	.047
	Economic security	303.144[h]	3	101.048	16.181	.000	.015
	Alcohol use during pandemic	9501.102[i]	3	3167.034	72.012	.000	.064
Intercept	Social support	1001939.030	1	1001939.030	3080.714	.000	0.496
	Stress	24348.079	1	24348.079	797.246	.000	.203
	Depression	19904.968	1	19904.968	550.339	.000	.149
	Anxiety	16159.412	1	16159.412	634.198	.000	.168
	Physical symptoms	646492.294	1	646492.294	3816.154	.000	0.549
	Psychological symptoms	78162.829	1	78162.829	2353.427	.000	.429
	Daily activity	131440.517	1	131440.517	12097.081	.000	0.794
	Economic security	13425.731	1	13425.731	2149.942	.000	.407
	Alcohol use during pandemic	24847.659	1	24847.659	564.983	.000	.153

(*Continued*)

TABLE 10. Tests of Between-Subjects Effects (*Continued*)

Source	Dependent variable	Type III sum of squares	*df*	Mean square	*F*	Sig.	Partial eta squared
NCP during pandemic	Social support	5758.122	1	5758.122	17.705	.000	.006
	Stress	1883.692	1	1883.692	61.679	.000	.019
	Depression	2516.814	1	2516.814	69.586	.000	.022
	Anxiety	3336.815	1	3336.815	130.958	.000	.040
	Physical symptoms	27029.612	1	27029.612	159.552	.000	.048
	Psychological symptoms	2236.103	1	2236.103	67.327	.000	.021
	Daily activity	1513.203	1	1513.203	139.267	.000	.043
	Economic security	187.414	1	187.414	30.012	.000	.009
	Alcohol use during pandemic	5150.269	1	5150.269	117.106	.000	.036
Gender	Social support	356.912	1	356.912	1.097	.295	.000
	Stress	.284	1	.284	.009	0.923	.000
	Depression	0.599	1	0.599	.017	0.898	.000
	Anxiety	63.534	1	63.534	2.493	.114	.001
	Physical symptoms	28.486	1	28.486	.168	0.682	.000
	Psychological symptoms	190.124	1	190.124	5.725	.017	.002
	Daily activity	89.364	1	89.364	8.225	.004	.003
	Economic security	22.420	1	22.420	3.590	.058	.001
	Alcohol use during pandemic	1257.526	1	1257.526	28.593	.000	.009
NCP during pandemic * gender	Social support	143.172	1	143.172	.440	0.507	.000
	Stress	4.101	1	4.101	.134	0.714	.000
	Depression	2.887	1	2.887	.080	0.778	.000
	Anxiety	64.781	1	64.781	2.542	.111	.001
	Physical symptoms	31.698	1	31.698	.187	0.665	.000
	Psychological symptoms	21.010	1	21.010	0.633	0.426	.000
	Daily activity	62.944	1	62.944	5.793	.016	.002
	Economic security	1.605	1	1.605	.257	.612	.000
	Alcohol use during pandemic	292.259	1	292.259	6.645	.010	.002

(*Continued*)

TABLE 10. Tests of Between-Subjects Effects (*Continued*)

Source	Dependent variable	Type III sum of squares	*df*	Mean square	*F*	Sig.	Partial eta squared
Error	Social support	1019919.591	31.36	325.229			
	Stress	95774.231	31.36	30.540			
	Depression	113424.648	31.36	36.169			
	Anxiety	79905.526	31.36	25.480			
	Physical symptoms	531267.758	31.36	169.409			
	Psychological symptoms	104153.912	31.36	33.212			
	Daily activity	34074.126	31.36	10.865			
	Economic security	19583.360	31.36	6.245			
	Alcohol use during pandemic	137919.745	31.36	43.980			
Total	Social support	12392558.063	31.40				
	Stress	228654.737	31.40				
	Depression	202290.253	31.40				
	Anxiety	135209.826	31.40				
	Physical symptoms	4722834.397	31.40				
	Psychological symptoms	654918.679	31.40				
	Daily activity	1613042.015	31.40				
	Economic security	125027.457	31.40				
	Alcohol use during pandemic	224537.000	31.40				

(*Continued*)

TABLE 10. Tests of Between-Subjects Effects (*Continued*)

Source	Dependent variable	Type III sum of squares	*df*	Mean square	*F*	Sig.	Partial eta squared
Corrected Total	Social support	1026201.195	31.39				
	Stress	97727.416	31.39				
	Depression	115959.281	31.39				
	Anxiety	83394.359	31.39				
	Physical symptoms	559457.942	31.39				
	Psychological symptoms	107202.763	31.39				
	Daily activity	35750.022	31.39				
	Economic security	19886.504	31.39				
	Alcohol use during pandemic	147420.847	31.39				

[a]R-squared = .006 (adjusted R-squared = .005).

[b]R-squared = .020 (adjusted R-squared = .019).

[c]R-squared = .022 (adjusted R-squared = .021).

[d]R-squared = .042 (adjusted R-squared = .041).

[e]R-squared = .050 (adjusted R-squared = .049).

[f]R-squared = .028 (adjusted R-squared = .028).

[g]R-squared = .047 (adjusted R-squared = .046).

[h]R-squared = .015 (adjusted R-squared = .014).

[i]R-squared = .064 (adjusted R-squared = .064).

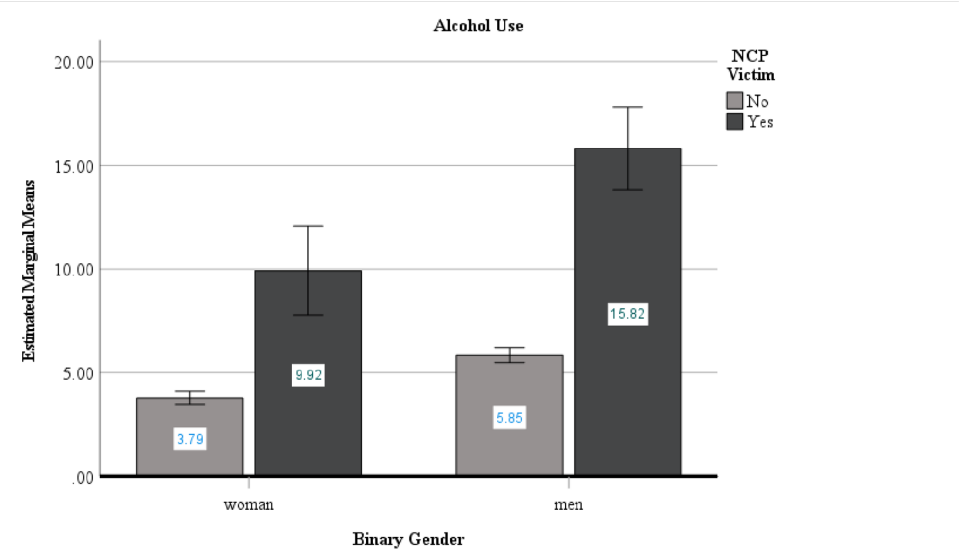

FIGURE 1. Estimated marginal mean scores for alcohol use by binary gender for nonconsensual pornography victimization.

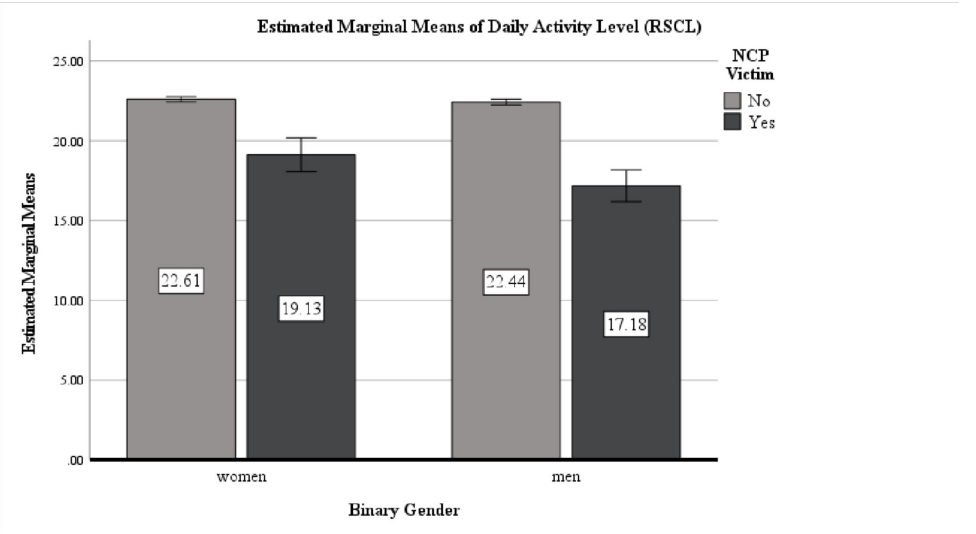

FIGURE 2. Estimated marginal mean scores for daily activity level by binary gender for nonconsensual pornography victimization.

Note. RSCL = Rotterdam Symptom Checklist.

than nonvictims, $F(1, 3136) = 117.106$, $p < .001$, $\eta^2 = .04$ ($M_{\text{victims}} = 12.87$, $SD = 6.85$; $M_{\text{nonvictims}} = 4.82$, $SD = 6.60$). Finally, a significant interaction effect was found such

that the effect of victimization on drinking was more severe for men than for women, $F(1, 3136) = 6.65$, $p = .01$, $\eta^2 = .002$.

DISCUSSION

This study sought to address three primary aims. First, we sought to better understand who was victimized by NDII in the United States during the COVID-19 pandemic, oversampling from underrepresented and potentially high-risk groups such as racial and ethnic minorities.Second, we sought to expand the examination of victim impacts beyond the traditional medicalized impacts examined in previous studies (e.g., Ruvalcaba & Eaton, 2020) by quantitatively assessing a more holistic set of effects, including economic, social, and somatic effects. Finally, we sought to understand how social identity might have moderated the impact of victimization, with some groups (e.g., LGB, women, POC) potentially experiencing downstream consequences to a greater extent than others. In our sample of 3,150 U.S. adults, 2.6% reported having experienced at least one instance of NDII during the first 12 months of the COVID-19 pandemic. This is lower than previous reports of overall victimization in the United States (e.g., Lenhart et al., 2016; Ruvalcaba & Eaton, 2020); however, these previous studies asked about lifetime levels of victimization, whereas we asked only if participants had been victimized during the prior 10–12 months during the COVID-19 pandemic.

In our study, racial minorities were more likely to report experiencing NDII, a novel finding compared to the existing literature. This may be due to the deliberate oversampling of participants who identified as one or more marginalized identities. However, despite that same oversampling, we also found that LGB participants were not significantly more likely to report IBSA victimization, which is contrary to existing literature (Huiskes et al., 2022; Pew Research Center, 2021; Powell & Henry, 2019; Ruvalcaba & Eaton, 2020). Therefore, the actual proportionality should be further explored in future research.

Additionally, in the current study, men and women reported NDII victimization at similar rates, which was contrary to prior research. This might have occurred due to the cyberflashing (aka "dick pic") phenomenon, wherein (typically) men will send photos of their genitals to unsuspecting women (Hayes & Dragiewicz, 2018). Qualitative studies demonstrate that some men will claim that sending these images as self-entertainment or a bid for attention (Waling & Pym, 2017); other studies suggest these images are also being used to perpetrate violence and IBSA, particularly against women (Eaton et al., 2021; Hayes & Dragiewicz, 2018; Vitis & Gilmour, 2017). In our study, of those who reported being victimized, 39.2% (54.5% of men and 22.2% of women) admitted to having first sent the sexual image to someone whom they knew would not want it, thereby perpetuating another form of IBSA. Men were significantly more likely to have first sent an intimate image to someone without consent than women, which is consistent with the literature. However, women self-reported also participating in nonconsensual sexting. This is similar to recent findings by Said and McNealey (2023) which found novel evidence of a new victim-perpetrator dyad in which women nonconsensually share intimate images or "dick pics" to their social circles that were first shared with them without the initial sender's consent. However, in our study, we did not ask participants to whom they nonconsensually shared intimate images, leaving a gap for future

science. Though we did not anticipate this incidental finding, we believe it merits further discussion and study.

The sharing of these intimate pictures, common during the pandemic (Thomas et al., 2022), may have resulted in more men reporting victimization, by increasing the number of nude images of men available to be shared. If we consider this phenomenon in the context of the sociocultural norm of sexting, especially among young people (Hayes & Dragiewicz, 2018), it is possible that some of these perpetrators are unaware of the negative consequences they and their victims may experience. Given that a significantly higher percentage of participants who shared photos nonconsensually were men, both in this study and prior work (Branch et al., 2017; Henry et al., 2017), we believe this demonstrates how the gendered nature of sexual scripting lends itself to the idea that men will be more likely to send unwanted images or sexually harass others (Santana et al., 2006), thereby maintaining the gender power imbalance that is a cultural norm. As such, consideration may also be given to theories of sexual entitlement among men (Pemberton & Wakeling, 2009) and aggrieved entitlement (Kimmel, 2013), though that is beyond the scope of this paper.

Our first hypothesis, that emerging adults would be more likely to experience IBSA, was not supported. Contrary to what has been described in prior studies (Rubalcaba & Eaton, 2020), that younger participants would be more likely to experience IBSA, instead the only age-related finding showed that older adults aged 60 and up were significantly less likely to be victimized than any other age group. The unique circumstances of daily life moving online for many Americans during the pandemic may have pushed established and older adults to join dating apps and other social media they would previously have not in an effort to remain socially connected to the outside world (Vargo et al., 2021). Recent studies have shown that during the pandemic, adults were more willing to share intimate images online (Lehmiller et al., 2021; Thomas et al., 2022) as a means of maintaining intimacy and connection, perhaps without awareness of potential privacy concerns. Loneliness, the subjective perceptions of the discrepancy between an individual's desired level of social connection and the levels of their actual social connection, can contribute to a multitude of issues with health and general well-being. Although this use of media has been found to be effective in reducing loneliness and associated outcomes (Shah et al., 2021), it has yet to establish an effective means of privacy protection that might prevent IBSA from occurring.

Our second hypothesis that victimization during the COVID-19 pandemic would correlate to more severe outcomes for victims compared to nonvictims was strongly supported by our findings. Recent studies have found that the COVID-19 pandemic had far-reaching negative consequences for many people (Blundell et al., 2020; Burström & Tao, 2020; Patel et al., 2022), including poorer mental health (Gibson et al., 2021; Mitchell et al., 2022; Peterson et al., 2021) and increased economic stress (Rodriguez et al., 2021). Nonetheless, in our sample, victims still experienced greater levels of these than nonvictims. Victimization by NDII during the COVID-19 pandemic was a significant predictor of every well-being and health outcome we tested, including alcohol use, anxiety, stress, depression, perceived social support, economic security, reduced daily activity levels, and psychological and physical symptoms, thereby demonstrating that participants who were victimized by NDII during the pandemic experienced significantly more negative outcomes than those who had not.

Finally, our third hypothesis was not supported. In general, contrary to the existing literature (Ansara & Hindin, 2011; Devries et al., 2013; Pittman et al., 2022; Ruvalcaba & Eaton, 2020), we did not find that participants from marginalized or under-resourced groups (e.g., women, racial/ethnic minorities, LGBTQ individuals) demonstrated a greater relationship between NDII victimization and negative downstream consequences than those from more privileged groups, as the multivariate interaction effects for victimization and race and victimization and sexual orientation were nonsignificant, precluding further analysis. We found an overall significant interaction effect between gender and victimization, but in probing the results further, the interaction was not in the expected direction. Rather than women experiencing more severe health consequences, we found that for activity level and alcohol use, men reported experiencing more severe consequences than women. For example, when examining alcohol use, we found that while both men and women who had been victimized drank more than those who had not, this effect was significantly more dramatic among men who had been victimized.

This is consistent with the literature showing that men are more likely to drink excessively under duress than women (Heifner, 1997; Ranney et al., 2021; Rodriguez et al., 2021). We also found that male victims were significantly less likely than male nonvictims to consistently perform daily physical tasks like bathing, going to work, or performing light household jobs. As with alcohol use, this finding is also consistent with the literature, which has shown that men are more likely to have externalized symptoms of stress and depression, including an inability to keep up with regular daily functions (Brownhill et al., 2005; Heifner, 1997). This unexpected shift in who experienced more severe consequences may be a result of the additional pressures related to life during the COVID-19 pandemic, which has been demonstrated to have general negative effects across many domains (Blundell et al., 2020; Burström & Tao, 2020; Gibson et al., 2021; Mitchell et al., 2022; Patel et al., 2022; Peterson et al., 2021), and should be explored further by researchers.

Limitations

There are several limitations to address in discussing this study. First, our sampling methods limit the overall generalizability of these results. Data were collected using proportional quota sampling. This method of nonprobability sampling does carry an inherent risk of selection bias (Lohr, 2010). In addition, we oversampled for select identity groups, and our participants do not reflect a truly representative national sample. Additionally, online sampling has been documented to be skewed toward a predominantly White, college-educated, and middle SES response (Roster et al., 2004), which despite our attempt to overselect for certain groups, also adds to the limited generalizability of this study. Second, despite the fact that this data was collected during the pandemic, a lack of access to private internet access hampered our ability to collect more diverse data. Third, we cannot establish a causal link between IBSA victimization and the various outcomes examined here. We were unable to control for many extraneous influences that may also have influenced our participants' behaviors and feelings. For example, as a result of or in addition to pandemic illness or restrictions, many Americans experienced temporary or permanent job loss and long-term debilitating illnesses (of themselves or loved ones). In addition, there was and continues to be an epidemic of race-based police violence in the United States that has far-reaching implications for the health and well-being of citizens, particularly those of color. Nonetheless, despite not being able to

control for these additional sources of variation in well-being, we still found a negative relationship between victimization and all well-being variables.

Fourth, the proportion of our sample that reported experiencing NDII was too small to allow sufficient power for intersectional analysis of the data using more precise identity groups. The issue of underreporting of abuse and violence in self-report surveys (Lohani et al., 2021) may have contributed to the inadequate number of victim-survivors captured. Due to this limited number of participants in the nonmajority ethnic or sexual orientation groups, we were not able to examine the data in an intersectional framework (e.g., looking at how sexual identity and racial/ethnic identity combine to affect victimization rates and outcomes). Such analyses would have been better able to consider the multiple and intersecting layers of privilege and discrimination experienced by our participants and give a more holistic examination of NDII victimization, especially for marginalized groups (Crenshaw, 1989). Further research should explore how different ethnic, cultural, or sexual identities may have been impacted by NDII victimization during the pandemic; for example, LGB women of color may be differently impacted by victimization than other multiple identity groups. Further, additional studies may be able to holistically examine victims of NDII and other forms of IBSA as the pandemic progressed and more formal support services became available again.

Lastly, although we collected data for three forms of IBSA, this study only examined outcomes for participants who reported experiencing NDII during the pandemic, meaning those who had an intimate or sexual image or video shared of them without their consent. The conclusions drawn here may not be generalizable to those who experienced other forms of IBSA, like sextortion. Additionally, we did not segregate those who reported experiencing multiple forms or instances of IBSA from those who reported one or just NDII. It is likely that participants who are victimized multiple times and/or in multiple ways will have different and more severe outcomes (Golding, 1994; Jozkowski & Sanders, 2012; Kimerling & Calhoun, 1994), which should be more closely examined.

CONCLUSION

The findings from this study provide a more holistic understanding of the consequences experienced by victims of IBSA. More specifically, NDII victimization during the lockdown period of the COVID-19 pandemic was found to be common in all age groups except the most senior, ages 60 and up, and being a victim of NDII during the pandemic was strongly correlated with more severe negative outcomes in alcohol use, anxiety, stress, depression, perceived social support, economic stress, reduced daily activity levels, and psychological and physical symptoms. Additionally, contrary to studies performed outside the pandemic time period, men who experienced NDII victimization during the COVID-19 pandemic lockdown were more likely to report engaging in risky alcohol use and less likely to keep up with daily self-care tasks than women who were victimized during the pandemic. Future research into the impacts of NDII and other forms of IBSA victimization across diverse people groups should seek to create a more nuanced understanding of these individual and group differences.

Although this study is only directly reflective of the experience of NDII during the COVID-19 pandemic, we believe the findings have implications beyond the scope of the pandemic timeframe. Many people still enjoy a hybrid work status, and a large number of Americans still work fully from home. Additionally, online classrooms remain

very popular, especially for emerging adults pursuing a college degree. Social media, messaging, and dating applications remain the method of choice for connecting with others. This demonstrates that for many Americans, large portions of their lives remain "online," despite the declared end to the pandemic. Consequently, many of the same risks of experiencing NDII remain, and in turn, so do the downstream consequences for victim-survivors. As we have demonstrated in this study, while the abuses of NDII may be virtual, the consequences experienced by victim-survivors occur in real life, affecting their bodies and minds as well as their professional, educational, and economic conditions. Continued study into the long-term consequences of NDII victimization would provide a more thorough understanding of the impacts on individual victim-survivors in the postpandemic time period.

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