COVID-19 frauds: An exploratory study of victimization during a global crisis

Jay P. Kennedy¹ | Melissa Rorie² | Michael L. Benson³

¹ Michigan State University, East Lansing, Michigan
² University of Nevada Las Vegas, Las Vegas, Nevada
³ University of Cincinnati, Cincinnati, Ohio

Abstract
Research Summary: The COVID-19 pandemic threatened public health and safety and led to a number of virus-related fraud schemes. We surveyed over 2,200 American adults to investigate their experiences with COVID-19-related frauds. Our goals were to better understand fraud targeting and victimization, as well as the impacts of fraud on victims. Over a quarter of our sample reported purchasing either a COVID-19-related product or a service, yet 42.5% reported feeling targeted for fraud. Being a target of COVID-19 frauds is significantly linked to one’s routine activities, however it is one’s level of self-control that more strongly predicts victimization. COVID-19 anxieties mediate the impact of self-control on purchasing.

Policy Implications: Legal interventions and increased regulations surrounding advertising are a potential mechanism for protecting consumers, yet “soft” interventions that interrupt routine activities might be more useful and applicable. The use of white-lists and publicly available websites that allow e-commerce sites and sellers to be verified would help enable higher levels of self-guardianship. It is also important to provide continuous and clear messaging about what is being done to protect consumers.

KEYWORDS
fraud, COVID-19, self-control, routine activity theory
In late January of 2020 both the U.S. government and the World Health Organization declared COVID-19 to be a public health emergency, and in March of 2020 the World Health Organization officially announced that COVID-19 was a global pandemic (World Health Organization, 2020). One year later in the United States alone there were over 30 million confirmed cases, and nearly 550,000 deaths. The more than half a million victims of COVID-19 represent an ever-present reminder of the catastrophic harm posed by the virus. However, parts of the U.S. government’s response to these harms have been described as “about as organized as a ferret dance party” (Lee, 2021), a situation that was not helped by official government sources touting conspiracy theories about the benefits of unproven chemical treatments (Radcliffe, 2020). The fact that much of the misinformation being spread originated with, or was supported by, then President Trump (Facher, 2020) created a confusing stream of messaging for consumers. This mixture of confusion, misinformation, and fear created a fertile context in which COVID-19-related frauds could proliferate.

From the very beginnings of the COVID-19 crisis, criminals sought to take advantage of the lack of information available regarding the virus, misinformation coming from official and unofficial sources, and disinformation spread via the Internet and social media channels. Chief among the disinformation campaigns are the coronavirus conspiracy theories propagated by QAnon that have spread untruths about the virus and left many Americans with a deep distrust of the federal government (Collins, 2020; Spring & Wendlins, 2020). During the early stages of the pandemic the U.S. Food and Drug Administration and Department of Justice were busy issuing warnings to consumers regarding the dangers of COVID-19 frauds. These warnings were in part a reaction to frauds that had been detected early on, as well as a way to prepare people for the schemes that would likely develop in the coming months.

U.S. government and law enforcement officials were well aware of the speed at which opportunists would take advantage of the crisis. In response, federal agencies launched coordinated initiatives to mitigate the risks facing U.S. consumers. Indeed, just five days after the WHO’s pandemic declaration William Barr, then U.S. Attorney General, issued a memorandum that read, in part:

In addition to ensuring that the justice system can continue functioning during the current national crisis, it is essential that the Department of Justice remain vigilant in detecting, investigating, and prosecuting wrongdoing related to the crisis. In particular, there have been reports of individuals and businesses selling fake cures for COVID-19 online and engaging in other forms of fraud, reports of phishing emails from entities posing as the World Health Organization or the Centers for Disease Control and Prevention, and reports of malware being inserted onto mobile apps designed to track the spread of the virus. The pandemic is dangerous enough without wrongdoers seeking to profit from public panic and this sort of conduct cannot be tolerated. Every U.S. Attorney’s Office is thus hereby directed to prioritize the detection, investigation, and prosecution of all criminal conduct related to the current pandemic. (www.justice.gov/coronavirus/DOJresponse)

A year later, these warnings persist (U.S. Department of Health and Human Services, 2021) as the threat of virus-related frauds have not abated, and the schemes themselves have evolved in response to law enforcement activity and the progression of the virus throughout society.
One of the biggest challenges for federal law enforcement agencies during the pandemic has been keeping consumers informed of the growing and ever-shifting threats posed by frauds. The continued engagement of federal agencies in consumer-focused messaging has been necessary because of the ease with which criminals are able to find new victims. Yet, these agencies are finding out that it is much more difficult to influence consumer decision-making than it is to simply raise awareness about risky behaviors. One factor is the scope of the crisis – unlike a hurricane, wildfire, or other natural disaster that has localized impacts on a particular subset of the population, COVID-19 is truly a global crisis, making the pool of potential victims much bigger. Relatedly, the U.S. government is giving crisis-relief funds out to a much larger group of individuals and businesses than ever before. These factors, in addition to unique individual-level aspects of the virus response (i.e., consumer fears about the virus, increasing reliance upon the Internet for news, information, and commerce, and the spread of misinformation and disinformation about the virus; Fleming, 2020) seem to provide an ideal environment for virus-related frauds. This is highlighted by the fact that just four months into the pandemic, the Federal Trade Commission estimated that COVID-19 frauds had cost American consumers as much as $77 million (Iacurci, 2020). Twelve months into the pandemic, COVID-19 frauds are estimated to have cost consumers more than $372 million (Waggoner & Markowitz, 2021).

According to the U.S. Department of Justice (www.justice.gov/coronavirus), the individuals most at risk for COVID-19 fraud victimization are individuals who have already been victimized by identity theft, those who have had their personal information exposed in a past data breach, and individuals who gave out their personal information in response to solicitations inquiring about citizens’ need for help with filing unemployment insurance claims (for which citizens would pay a fee). While the types of frauds being perpetrated – financial frauds, cyberattacks, product counterfeiting, price gouging, and the sale of fake medical treatments – are generally similar to those committed before the crisis, there is a unique callousness to the current schemes. This callousness comes from the fact that so many individuals are directly targeted for victimization and that these fraud schemes prey upon those impacted by a global pandemic that has led to more than half a million deaths in the United States alone. Furthermore, easy access to computers and mobile phones and the growth of social media platforms have brought counterfeiters directly into most American’s homes.

Given the ongoing threat posed by COVID-19 frauds and the ease with which those who operate these fraud schemes are able to interact with and solicit consumers, it is important to study COVID frauds from the standpoint of victimization. Our study is partially exploratory in nature and partially a test of two criminological theories relevant to fraud victimization. The exploratory aspect of our study looks to identify what factors differentiate consumers who are targeted by, and those who ultimately became victims of, COVID-19 frauds. Drawing from criminological theory, we also investigated fraud targeting and victimization using routine activity theory and self-control theory. As we explain in greater detail below, drawing from routine activity theory we hypothesize that the nature and extent of one’s activity on the internet and social media influences the likelihood of exposure to some sort of fraudulent solicitation regarding COVID-19. In addition, drawing from self-control theory we hypothesize that among those who are targeted by fraudulent schemes, persons with low self-control will be more likely to fall prey to a scheme than those with higher levels of self-control, because low self-control is associated with impulsivity and high risk-taking proclivities. The results suggest that both routine activity and low self-control have important influences on feeling targeted for, as well as being a victim of, a COVID-19 fraud. Importantly, the Internet also plays a prominent role in facilitating both targeting and victimization.
Our study focuses upon frauds that targeted consumers during the COVID-19 pandemic and were related in some way to the virus. The COVID-19 frauds that developed earliest in the crisis relate to the sale and distribution of fake virus-related products. The first news of large-scale COVID-19 frauds broke in late-March of 2020 with the announcement that federal officials had seized counterfeit testing kits at airports in Chicago and Los Angeles (Lapin, 2020; Torres, 2020). These seizures came at the very beginning of the pandemic, a time when the nation faced a substantial shortage of testing kits. One disrupted scheme involved fake testing kits that were shipped from China to a businessman who ordered the kits with the intention of selling the products directly to U.S. consumers (Bernstein, 2020). Since these initial seizures there have been consistent reports of federal and local authorities seizing fraudulent testing kits, some of which were destined for healthcare facilities (Davis, 2020; Fairbanks, 2020; McCabe, 2020; Rasbach, 2020).

About the same time, Internet frauds developed around “coronavirus cure-alls” (i.e., supplements advertised to boost immunity against the virus) as well as other kinds of fake preventative medicines. Many of these “cures” were widely shared via social media as people sought to protect themselves against the virus. The inherently dangerous nature of many of these purported “cures” prompted a swift response from the U.S. Food and Drug Administration and the Department of Justice (U.S. Department of Justice, 2020). As the pandemic has progressed, fake treatments, preventatives, and cure-alls have become prevalent and federal authorities have been active in seizing shipments containing a range of fake COVID-19-related products (U.S. Immigration and Customs Enforcement, 2020).

Soon after the introduction of fake COVID-related products, counterfeit versions of legitimate goods essential to health and safety began to infiltrate the legitimate supply chain. Counterfeit versions of legitimate testing kits, personal protective equipment (PPE), and (most recently) the coronavirus vaccine have been a common feature of criminal schemes during this pandemic. Nearly a year into the pandemic federal authorities began seizing large numbers of counterfeit PPE, including more than 11 million masks within the first few weeks of 2021 (U.S. Immigration and Customs Enforcement, 2021). Since the beginning of 2021 seizures of counterfeit N95 masks have regularly netted millions of items per seizure.

Other types of COVID-19 fraud schemes are designed to prey upon consumer fears, as well as leverage misinformation and disinformation about the virus. Unlike the previously discussed scams, these virus-related frauds do not involve a product, but rather represent attempts to dupe consumers to turning over personal information or money. Although some of these schemes may involve the promise of receiving a treatment, vaccine, PPE, or some other product, no physical goods are actually sent to the consumer. With the passage of the CARES Act in the summer of 2020, the U.S. Secret Service began warning consumers about the threat of stimulus check-related frauds that targeted individuals who would be receiving paper checks (Singman, 2020). Local governments also began to inform consumers about the threat posed by scams promising to assist with obtaining unemployment benefits or other forms of federal relief (see Gressin, 2020; U.S. Department of Labor, 2020). As the initial date for the rollout of the vaccine approached, websites offering to get people priority access to the vaccine became the new fraud schemes targeting consumers (see Tressler, 2021). All the while, law enforcement officials have continually updated their consumer warnings and remained vigilant in the fight against these frauds. In total, federal officials have seized more than $33 million in illicit funds, made over 200 arrests,
and stopped more than 1,800 shipments of fraudulent COVID-19-related products (U.S. Immigration and Customs Enforcement, 2021). Yet, despite the success of these efforts, threats to consumers persist.

2 COVID-19 FRAUDS AND CRIMINOLOGICAL THEORY

Research on modern fraud schemes has found that routine activity theory (Cohen & Felson, 1979) is useful in explaining the development of fraud opportunity structures (Holtfreter et al., 2010). On-going fraud schemes tend to follow established solicitation patterns that place an emphasis on reassuring potential victims of the legitimacy and legality of the scheme (Holt & Graves, 2007). Given the widespread nature of virus misinformation and disinformation, some consumers may be less likely to heed government warnings about risky activities as they view these official sources to be less than trustworthy. An unfortunate example of consumers following misinformation played out in the early stages of the pandemic when an Arizona resident died after taking a form of chloroquine after statements made by then President Trump (Neuman, 2020).

The people who operate Internet-based frauds tend to use common key words or terms and follow a presentation of information that begins with introducing the “individual” (i.e., the fraud perpetrator) as someone to be trusted before requesting personal information (Isacenkova et al., 2014). Reassurances of legitimacy and legality are important to these schemes because people are being asked to do something that is not part of their normal behavior or they are being contacted by someone with whom they would not normally have contact (Nhan, Kinkade & Burns, 2009; Wall, 2004). In essence, the criminals are attempting to convince people to lower their guards and engage in behavior they would normally avoid.

When activities involve purchases and the exchange of personal information in virtual or non-face-to-face interactions – like the ones that dominate social exchange during the COVID-19 crisis – guardianship tends to weaken and the risk of fraud victimization increases (Pratt, Holtfreter & Reisig, 2010; Reisig & Holtfreter, 2013). The Internet offers an ideal environment for criminals to operate within because they have access to a large number of consumers in spaces that tend to be poorly guarded. The ability to use stolen logos, trademarks, symbols, and pictures from legitimate organizations helps to create the appearance of legitimacy (Fittler et al., 2013; George, 2006; Ivanitskaya et al., 2010; Rost, 2000). Accordingly, consumers are at an information disadvantage as the Internet provides criminals multiple ways to secure their anonymity and hide their illicit intentions (Kennedy & Wilson, 2017).

In normal times, consumers tend to make decisions with less than complete information because the process of obtaining additional information represents a cost that reduces the utility of an item (Seiler, 2013). Although we all make decisions with less than perfect information, people who act impulsively because of low self-control when making purchasing decisions are more likely to become fraud victims (Holtfreter, Reisig & Pratt, 2008). Thus, even when government officials make efforts to educate the public about the dangers of COVID-19 related frauds, persons with low self-control will be less likely to heed those warnings than those with high self-control, because the former have high risk-taking proclivities. Hence, they are less likely to spend the time and effort necessary to differentiate between legitimate and illegitimate information related to COVID-19. During healthcare crises people tend to cope with the uncertainty that crises can create by searching for things that they feel can make them safer or more secure,
sometimes placing high levels of trust in unverifiable sources (Gui et al., 2017). Additionally, prior research has identified that victims of disasters are highly susceptible to fraud schemes (Stratton, 2018). The reason many people are vulnerable to fraud schemes during times of crisis is that they tend to have a strong desire to have their lives “get back to normal quickly” (Davila et al., 2005: p 275). When a crisis persists for a long period of time the influence of this desire can become more pronounced, thereby exacerbating risks for victimization, especially among those with low self-control.

The ongoing and continually evolving nature of the COVID-19 crisis has meant that consumers have continually raised questions – about their health and safety, a return to normalcy, or the end of virus-related restrictions – to which there may be no acceptable answers. Legitimate information about the virus has been co-mingled with steady streams of misinformation and false information. With the rise of misinformation about the coronavirus and the difficulty of distinguishing legitimate from illegitimate sources of information, consumers may be at greater risk of falling victim to frauds that are based on a compelling story. This may be particularly true when frauds address concerns such as how to protect oneself and family from infection, how to obtain treatments, and how to secure needed financial support. Although government agencies have developed processes and tools to disseminate up-to-date information to the American public, problems with usability and functionality have hampered their effectiveness (Adamczyk, 2020; Mapes, 2020).

2.1 Research questions

The present study was designed to explore the extent of fraud targeting and victimization in order to identify patterns that might enhance COVID-19 fraud prevention strategies specifically and crisis-based fraud prevention generally. Two research questions drove our investigation. Our first question focuses on the prevalence of COVID-19 fraud targeting and victimization among American adults; we aimed to identify whether distinctions existed between individuals who had been targeted or victimized and those who had not.

RQ1: How prevalent is fraud targeting and victimization, and are there differences between individuals who feel they have been targeted, those who have been victimized, and individuals who have neither been targeted nor victimized?

We also wanted to examine victimization more closely. Our second research question thus relates to consumer decision making prior to and following fraud victimization. Understanding the factors that influenced fraud victims to become involved in these schemes may be useful for developing preventative interventions, as well as understanding the ways in consumers are targeted. Additionally, we were curious to find out how individuals responded to victimization and whether they undertook any actions against fraudsters.

RQ2: What motivates people to purchase COVID-related products or services, what do COVID frauds cost in terms of financial expense to victims, and do victims take action when they realize they have been defrauded?
3  |  METHODS

3.1  |  Sample

In Summer 2020, we launched an online survey of approximately 2,200 adults representative of the U.S. population. We partnered with Qualtrics’ panel survey team to obtain our sample. Qualtrics partners with various opt-in sample providers to obtain generalizable U.S. samples. The “opt-in for market research” process requires respondents to submit an initial registration form that indicates a willingness to participate in market research studies, and potential respondents build their profile from a standardized list of questions. Qualtrics’ panel partners use those profiles to match potential respondents to appropriate studies, and Qualtrics reconfirms a desire to participate in the survey before contacting a majority of those panelists. The respondents are contacted via a variety of modalities – often, they receive an email invitation describing the survey and incentives. Other respondents will see the survey when they sign into a panel portal, via an app, or via SMS notifications. Many studies affirm the validity and reliability of online surveys when such surveys are carefully constructed (Chang and Vowles, 2013; Thompson and Pickett, 2020), whereas other research supports the representativeness of Qualtrics’ sampling methods (Boas et al., 2020; Heen et al., 2014).

Of course, a major limitation of this strategy is the underrepresentation of people without internet access, who are excluded from being recruited via those mechanisms. Recent research by the Pew Research Center (Perrin and Atske, 2021) indicates that 7% of U.S. adults do not use the internet, with older age being the strongest predictor of Internet rejection – about one-fourth of people aged 65 or older do not use the Internet. People with lower educational attainment and of lower SES are also less likely to use the Internet (about 14% of people with a high school degree or less, or people making less than $30,000 per year report not using the Internet). Our findings below indicate that younger and more highly-educated individuals might be at higher risk of victimization (before controlling for other factors); it is possible that those findings would change if we obtained more people from older age groups and lower educational attainment.

In order to improve representativeness with the U.S. population as much as possible, we applied quotas on age, race/ethnicity, and gender. A total of 2,238 people responded to the survey. We dropped six respondents because their answers appeared unreliable or they did not respond to enough questions. Given the exploratory nature of the study, we kept the remaining 2,232 individuals even if they had some missing data.

3.2  |  Measures

We used Qualtrics’ online survey framework to develop the survey. The survey’s cover letter explained that we were seeking information about the products and services that people purchased during the COVID-19 pandemic. Our first research question asks who was targeted and who became actual victims of COVID fraud solicitations. We provided a matrix to the

---

1 Specifically, we ran the survey from July 10, 2020 to July 17, 2020. The United States declared COVID-19 to be a public health emergency on January 31, 2020, and the World Health Organization issued a global health emergency notice on January 30, 2020, about 5 months prior to our survey (CNN, 2021; Department of Health and Human Services Press Office, 2020). Our survey asked respondents to identify COVID-related products or services that they had heard about in the previous 6 months, coinciding with increased concern about COVID across the globe.
respondents with a list of six COVID-related products (e.g., a beverage, essential oil, or mineral that can cure COVID, a vaccine, etc.) and four services (e.g., help receiving a stimulus check or help getting a small business loan in exchange for payment). For each of the six products and four financial services, respondents were asked – over the past 6 months – whether they had: (1) heard of these things from media sources, (2) heard of these things from someone they knew personally, (3) directly received an offer to purchase the product/service, (4) accepted the offer for themselves/their family, and (5) whether they had not heard of it. Respondents could choose as many options as applied. Note that the survey was distributed in July of 2020 – well before legitimate vaccines were available. All of the products and services listed would be considered “questionable” at best and almost all were explicitly fraudulent products or services. Based on the matrix information, we created a binary variable denoting whether the respondent had purchased any of the products or services listed (1 = purchased, 0 = did not purchase).

If they had heard about or purchased one of the products/services, respondents were asked whether they ever felt as though they were targeted by a consumer fraud attempt. They could respond “yes”, “maybe”, or “no” – we aggregated respondents who answered “yes” and those who answered “maybe” into one binary variable indicating that the individual was a target of COVID-related consumer fraud (1 = yes/maybe targeted, 0 = not targeted).

3.2.1 Demographics

Respondents self-reported their age (in years, open-ended question), gender identity (male, female, transgender, genderqueer/gender nonbinary/gender nonconforming, or prefer not to disclose; 1 = yes, 0 = no for each category), race/ethnicity (White, Black or African-American, Hispanic/Latino/Mexican American, Asian, Native Hawaiian/Pacific Islander, American Indian/Alaska Native, Middle Eastern, Mixed Race, or Other racial/ethnic identity; 1 = yes, 0 = no for each category), employment status (employed, not employed, retired, homemaker; whether laid off or furloughed because of the pandemic; 1 = yes, 0 = no for each category), education level (less than high school degree, high school degree or equivalent, some college education, Associate’s degree, Bachelor’s degree, Master’s degree, Doctoral degree; 1 = yes, 0 = no for each category), 2019 household income ($0–$9,999, $10,000–$19,999, $20,000–$39,999, $40,000–$59,999, $60,000–$79,999, $80,000–$99,999, or $100,000 or more; 1 = yes, 0 = no for each category), living situation (moved because of COVID; live alone in own home, live in a house with other non-dependents, live in a house with family, live in a residential facility, live in a nursing home-like facility, temporarily living with relative or friend, temporarily living in shelter/homeless, or Other; 1 = yes, 0 = no for each category), marital status (single/never married, married, cohabitating, widowed, divorced, separated, domestic partnership, prefer not to say; 1 = yes, 0 = no for each category).

3.2.2 Routine activity

Previous research on white-collar crime victimization has demonstrated the importance of opportunity – certain habits are more likely to bring victims into contact with offenders or may serve to protect against victimization (Benson et al., 2009; Holtfreter et al., 2008; Pratt et al., 2010). We ask five questions that serve as indicators or “routine activity” which might allow offenders to contact victims or serve as protective factors. First, we ask respondents a binary yes/no question
about whether they had ever felt like a victim of financial or consumer fraud prior to March 2020 and the COVID-19 outbreak (1 = yes, 0 = no). As part of this question, we defined the word fraud for our respondents, noting that “...these types of fraud involve the use of lies or misrepresentation to make money for consumers or clients” and thus situating this behavior in the white-collar crime domain (versus other types of fraud like credit card or welfare fraud). We also asked them about their purchasing habits over the past year. Respondents indicated “yes” or “no” (1 = yes, 0 = no for each question) to whether in the past 12 months they had (1) purchased something from a telemarketer whom they had not previously done business with, (2) purchased something from the internet more than once a month, or (3) ordered a product in response to seeing an advertisement for it on TV, on social media, on a general website, or somewhere else. Finally, we asked them – in an open-ended question – to report the average number of hours per day they spend on the internet for personal reasons.

3.2.3 | Self-control

One’s self-control has consistently been found to impact both offending and victimization (Holtfreter et al., 2010; Schreck, 1999) across a variety of offending types. Given that levels of self-control/self-regulation are correlated with purchasing decisions (Soroush et al., 2014; Vohs and Faber, 2003), and following Sloan et al. (2020), we used six items from Grasmick et al.’s original self-control scale to assess how one’s level of self-control might impact fraud victimization likelihood. Specifically, respondents rated on a 5-point scale (5 = strongly agree – 1 = strongly disagree) whether they (1) often act on the spur of the moment without stopping to think, (2) do whatever brings them pleasure here and now, even at the cost of some distant goals, (3) avoid projects that they know will be difficult, (4) look out for themselves first, even if it means making things difficult for other people, (5) lose their tempers pretty easily, and feel that (6) other people better stay away from them when they are really angry. The scores on these six items were averaged to create an “average self-control score” variable. Additionally, we drew on two self-control measures specific to white-collar crime (Holtfreter et al., 2008). On the same 5-point scale, respondents reported agreement/disagreement with the statements: (1) I enjoy making risky financial investments now and then, and (2) I don’t mind taking chances with my money, as long as I think there’s a chance it might pay off. These items were analyzed separately from the “average self-control score” variable.

3.2.4 | COVID-related beliefs/concerns

It also seems likely that consumer behavior in the COVID era is driven by the perceived likelihood of catching the virus as well as one’s level of fear surrounding the virus. To that end, we drew on Sloan et al.’s (2020) survey asking questions about fear of COVID. We asked how closely they had been following the news about the COVID outbreak since March 2020 (very closely, fairly closely, not too closely, and not at all closely). We asked respondents to report their level of certainty (under 1%, 1–4%, 5–9%, 10–19%, 20–29%, 30–39%, and over 40%) that certain groups of people would get the virus (them personally, the average American, children under the age of 12, elderly people over the age of 65, people with underlying medical problems, people with auto-immune disorders). Another set of questions asked respondents to report how large a threat (very large, large, moderate, small, very small) the COVID outbreak posed for: the health of the US population as a whole, their personal health, the U.S. economy, their personal financial situation, day-to-day life in their
local community, the U.S. healthcare system, and the public education system. Finally, we asked respondents how worried they were (not worried at all, not too worried, somewhat worried, and very worried) about: being exposed to the virus, having to quarantine after exposure, becoming sick from the virus, becoming seriously ill from the virus, having long-term health problems due to the virus, and dying from the virus. In Tables 1–3, we report the frequency and means of people answering “Over 40%” certainty of COVID causing death, that COVID was a “very large” threat, and that they were “very worried” regarding the virus’s impact. In Table 4, however, when we ran logistic regressions, we included these variables in their original format – as ordinal variables with higher values reflecting increased fear/worry about COVID.

3.2.5 Political orientation

COVID-19 has been a highly politicized issue, with political ideology being associated with behaviors such as mask wearing and intentions to receive the vaccination (Kahane, 2021; Perlis et al., 2020; Stosic et al., 2021). We were interested, therefore, in whether political orientation might be associated with COVID fraud victimization as well. To that end, we asked our respondents whether they tended to identify as Republican, Democrat, Independent, Unsure, Other, or No Preference (1 = affiliated with that political party, 0 = not affiliated with that political party). We also used Sloan et al.’s (2020) 5-item “Faith in Donald Trump” scale to assess whether support of then President Trump was related to COVID fraud. We averaged the respondents’ scores across the five items, in which respondents reported their level of agreement (Strongly Agree–Strongly Disagree, 5-point scale) on items reading “I believe that President Trump will make American great again,” “President Trump knows how to protect America against threats from around the world,” etc. Higher values on this scale reflect higher support of President Trump.

3.2.6 Crime situation characteristics

Our second research question focused on actual victimizations. Accordingly, we narrowed our sample even further to people who indicated that they had purchased one of the products or services described above. We asked these individuals a series of questions about how much money they had spent on COVID products in the past 6 months (in US dollars, open-ended question), whether they had attempted to recover money from the seller of a COVID-19 product or service (1 = yes, 0 = no), how much money they were able to recover (in US dollars, open-ended question), and whether they had come to realize that the product or service was fraudulent (1 = yes or maybe, 0 = no). As a counterpoint, we wanted to see if victims reported being satisfied with their purchases, so we asked them if they were satisfied with every COVID-related purchase that they made (1 = satisfied with everything, 0 = unsatisfied with everything or only satisfied with some things).

We also asked purchasers how they paid the seller. Respondents could choose any or all of the following responses: credit card, bank account debit, internet/mobile payment, wire transfer, prepaid card, cash/cash advance, check, money order, telephone bill, or other (1 = paid via that mechanism, 0 = did not pay via that mechanism). These options are in line with the responses used by the Federal Trade Commission and other organizations in their victimization reports (Anderson, 2013; Irvin-Erickson & Ricks, 2019; Morgan, 2021).
### TABLE 1  
Frequencies and descriptives

| Variable name                                                                 | Frequencies and (valid percent) or mean |
|------------------------------------------------------------------------------|----------------------------------------|
| **Knowledge and perceptions of COVID-related products or services**          |                                        |
| Did you purchase any financial service listed? – frequency of people responding | 2232                                    |
| Yes                                                                          | 410 (18.4%)                            |
| No                                                                           | 1822 (81.6%)                           |
| Did you purchase any product listed? – frequency of people responding         | 2232                                    |
| Yes                                                                          | 401 (18.0%)                            |
| No                                                                           | 1831 (82.0%)                           |
| Did you purchase any financial service or product listed? – frequency of people responding | 2232                                    |
| Yes                                                                          | 565 (25.3%)                            |
| No                                                                           | 1667 (74.7%)                           |
| If you heard about any of the products/services, was there ever a time that you felt you were a target of a consumer fraud attempt? – frequency of people responding | 2102                                    |
| Yes/Maybe                                                                    | 893 (42.5%)                            |
| No                                                                           | 1209 (57.5%)                           |
| If you purchased any of the products or services, did you receive at least one of the product or services that you ordered? – frequency of people responding | 535                                     |
| Yes                                                                          | 345 (64.5%)                            |
| No                                                                           | 190 (35.5%)                            |
| If you purchased one of these products or services, did you – at any point – come to find out that it was not genuine? – frequency of people responding | 238                                     |
| Yes/Maybe                                                                    | 200 (84.0%)                            |
| No                                                                           | 38 (16.0%)                             |

(Continues)
| Variable name                                                                 | Frequencies and (valid percent) or mean |
|------------------------------------------------------------------------------|-----------------------------------------|
| For the products or services you purchased, were you satisfied with what you received? – frequency of people responding | 345                                     |
| Yes, satisfied with everything                                               | 225 (65.2%)                            |
| Satisfied with some but not all/Not satisfied with anything                  | 120 (34.8%)                            |
| Respondent demographics                                                      |                                         |
| Age – frequency of people responding                                         | 2232                                    |
| Average Age                                                                  | 44.394                                  |
| Gender – frequency of people responding                                      | 2232                                    |
| Male                                                                         | 1051 (47.1%)                           |
| Female                                                                       | 1163 (52.1%)                           |
| Transgender                                                                  | 10 (0.4%)                              |
| Genderqueer/Gender non-binary/Gender non-conforming                           | 5 (0.2%)                               |
| Prefer not to disclose                                                       | 3 (0.1%)                               |
| Race/Ethnicity – frequency of people responding                              | 2232                                    |
| White                                                                        | 1328 (59.5%)                           |
| Black or African American                                                    | 295 (13.2%)                            |
| Hispanic, Latino, or Mexican American                                        | 395 (17.7%)                            |
| Asian                                                                        | 118 (5.3%)                             |
| Native Hawaiian/Pacific Islander                                             | 9 (0.4%)                               |
| American Indian/Alaska Native                                                | 11 (0.5%)                              |
| Middle Eastern                                                               | 12 (0.5%)                              |
| Mixed Race                                                                   | 52 (2.3%)                              |
| Other                                                                        | 12 (0.5%)                              |

(Continues)
| Variable name | Frequencies and (valid percent) or mean |
|---------------|----------------------------------------|
| Current employment status and whether furloughed – frequency of people responding | 2231 |
| Yes | 1304 (58.4%) |
| No | 464 (20.8%) |
| Retired | 362 (16.2%) |
| Homemaker | 101 (4.5%) |
| If not employed, were you laid off/furloughed because of the pandemic? – frequency of people responding | 464 |
| Yes | 167 (36.0%) |
| No | 297 (64.0%) |
| Education level – frequency of people responding | 2231 |
| Less than HS | 88 (3.9%) |
| HS or equivalent | 515 (23.1%) |
| Some college | 511 (22.9%) |
| Associates | 280 (12.6%) |
| Bachelors | 487 (21.8%) |
| Masters | 284 (12.7%) |
| Doctoral | 66 (3.0%) |
| 2019 household income – frequency of people responding | 2139 |
| $0–9999 | 187 (8.7%) |
| $10000–19999 | 237 (11.1%) |
| $20000–39999 | 426 (19.9%) |
| $40000–59999 | 372 (17.4%) |
| $60000–79999 | 290 (13.6%) |
| $80000–99999 | 223 (10.4%) |
| $100000+ | 404 (189%) |

(Continues)
| Variable name                                                                 | Frequencies and (valid percent) or mean |
|-------------------------------------------------------------------------------|----------------------------------------|
| Did you move as a result of COVID? – frequency of people responding           | 2231                                   |
| Yes                                                                           | 307 (13.8%)                            |
| No                                                                            | 1924 (86.2%)                           |
| Marital Status – frequency of people responding                               | 2213                                   |
| Single, never married                                                         | 686 (31.0%)                            |
| Married                                                                       | 1002 (45.3%)                           |
| Cohabiting                                                                    | 53 (2.4%)                              |
| Widowed                                                                       | 100 (4.5%)                             |
| Divorced                                                                      | 217 (9.8%)                             |
| Separated                                                                     | 34 (1.5%)                              |
| Domestic partnership                                                          | 102 (4.6%)                             |
| Prefer not to say                                                             | 19 (0.9%)                              |
| Current living situation – frequency of people responding                     | 2202                                   |
| Live alone in own home                                                        | 545 (24.8%)                            |
| Live in HH with other people (not dependents)                                 | 357 (16.2%)                            |
| Live in HH with family                                                        | 1169 (53.1%)                           |
| Live in residential facility                                                  | 43 (2.0%)                              |
| Live in nursing home-like facility                                            | 13 (0.6%)                              |
| Temporarily living with relative/friend                                        | 41 (1.9%)                              |
| Temporarily living in shelter or homeless                                     | 19 (0.9%)                              |
| Other                                                                         | 15 (0.7%)                              |
| Routine activity                                                              |                                        |
| Pre-COVID WCC victim – frequency of people responding                         | 2056                                   |
| Yes                                                                           | 744 (36.2%)                            |
| No                                                                            | 1312 (63.8%)                           |

(Continues)
| Variable name                                                                 | Frequencies and (valid percent) or mean |
|------------------------------------------------------------------------------|----------------------------------------|
| In past 12 months, have you ordered something based on seeing an ad? – frequency of people responding | 2067                                    |
| Yes                                                                          | 734 (35.5%)                            |
| No                                                                           | 1333 (64.5%)                           |
| In past 12 months, have you ordered from internet more than 1 time per month? – frequency of people responding | 2069                                    |
| Yes                                                                          | 1213 (54.3%)                           |
| No                                                                           | 856 (41.4%)                            |
| In past 12 months, have you purchased from telemarketer previously unknown to you? – frequency of people responding | 2068                                    |
| Yes                                                                          | 363 (17.6%)                            |
| No                                                                           | 1705 (82.4%)                           |
| In past 12 months, have you purchased a product after receiving unsolicited contact? – frequency of people responding | 2067                                    |
| Yes                                                                          | 402 (19.4%)                            |
| No                                                                           | 1665 (80.6%)                           |
| Hours on Internet per day – frequency of people responding                   | 1871                                    |
| Average hours spent on the Internet each day                                 | 5.790                                  |
| Self-control                                                                 |                                        |
| Self-control score – frequency of people responding                          | 2073                                    |
| Average self-control score                                                   | 16.356                                 |

(Continues)
**TABLE 1** (Continued)

| Variable name                                                                 | Frequencies and (valid percent) or mean |
|------------------------------------------------------------------------------|----------------------------------------|
| I enjoy making risky financial investments now and then – frequency of people responding |                                         |
| Strongly agree                                                               | 159 (7.7%)                             |
| Agree                                                                        | 330 (15.9%)                            |
| Neither agree/disagree                                                       | 449 (21.6%)                            |
| Disagree                                                                     | 520 (25.0%)                            |
| Strongly disagree                                                            | 620 (29.8%)                            |
| I don’t mind taking chances with my money, as long as I think there’s a chance it will pay off – frequency of people responding |                                         |
| Strongly agree                                                               | 199 (9.6%)                             |
| Agree                                                                        | 477 (23.0%)                            |
| Neither agree/disagree                                                       | 522 (25.1%)                            |
| Disagree                                                                     | 478 (23.0%)                            |
| Strongly disagree                                                            | 401 (19.3%)                            |
| Political ideology and party affiliation                                     |                                         |
| Political party affiliation – frequency of people responding                 |                                         |
| Democrat                                                                     | 804 (38.7%)                            |
| Independent                                                                  | 462 (22.3%)                            |
| Republican                                                                   | 613 (29.5%)                            |
| Unsure                                                                       | 121 (5.8%)                             |
| Faith in Trump score – frequency of people responding                         |                                         |
| Average Faith in Trump score                                                 | 11.234                                 |
TABLE 1 (Continued)

| Variable name                                                                 | Frequencies and (valid percent) or mean |
|-------------------------------------------------------------------------------|----------------------------------------|
| **COVID-related beliefs and perceptions**                                    |                                        |
| Closely following COVID news – frequency of people responding                | 2203                                   |
| Very closely                                                                 | 1119 (50.8%)                           |
| Fairly closely                                                               | 839 (37.6%)                            |
| Not too closely                                                              | 179 (8.0%)                             |
| Not at all closely                                                           | 66 (3.0%)                              |
| More than 40% certainty of COVID leading to death for various groups         |                                        |
| Average American – frequency of people responding                            | 2054                                   |
| Number (%) of people reporting more than 40% certainty                       | 181 (8.8%)                             |
| Children under 12 – frequency of people responding                           | 2057                                   |
| Number (%) of people reporting more than 40% certainty                       | 141 (6.9%)                             |
| Elderly people +65 – frequency of people responding                          | 2054                                   |
| Number (%) of people reporting more than 40% certainty                       | 779 (37.9%)                            |
| People with autoimmune disorders – frequency of people responding            | 2053                                   |
| Number (%) of people reporting more than 40% certainty                       | 862 (42.0%)                            |
| People with underlying medical problems – frequency of people responding     | 2055                                   |
| Number (%) of people reporting more than 40% certainty                       | 833 (40.5%)                            |
| You personally – frequency of people responding                              | 2058                                   |
| Number (%) of people reporting more than 40% certainty                       | 323 (15.7%)                            |
| “Very large” threat of COVID for various institutions                       |                                        |
| Day-to-day life – frequency of people responding                             | 2052                                   |
| Number (%) of people reporting this as a “very large” threat                 | 430 (21.0%)                            |
| US economy – frequency of people responding                                  | 2046                                   |

(Continues)
| Variable name                                                                 | Frequencies and (valid percent) or mean |
|-------------------------------------------------------------------------------|----------------------------------------|
| Number (%) of people reporting this as a “very large” threat                  | 783 (38.3%)                            |
| Public Education System – frequency of people responding                      | 2048                                   |
| Number (%) of people reporting this as a “very large” threat                  | 753 (36.8%)                            |
| Personal finances – frequency of people responding                            | 2052                                   |
| Number (%) of people reporting this as a “very large” threat                  | 388 (18.9%)                            |
| US healthcare system – frequency of people responding                         | 2051                                   |
| Number (%) of people reporting this as a “very large” threat                  | 696 (33.9%)                            |
| Health of US population – frequency of people responding                      | 2053                                   |
| Number (%) of people reporting this as a “very large” threat                  | 614 (27.5%)                            |
| Your personal health – frequency of people responding                         | 2053                                   |
| Number (%) of people reporting this as a “very large” threat                  | 387 (18.9%)                            |

“Very worried” about COVID in terms of:

| Variable name                                                                 | Frequencies and (valid percent) or mean |
|-------------------------------------------------------------------------------|----------------------------------------|
| Dying from the virus – frequency of people responding                         | 2045                                   |
| Number (%) of people reporting being “very worried” about this                | 720 (35.2%)                            |
| Being exposed – frequency of people responding                                | 2048                                   |
| Number (%) of people reporting being “very worried” about this                | 627 (30.6%)                            |
| Long-term health impact – frequency of people responding                      | 2045                                   |
| Number (%) of people reporting being “very worried” about this                | 733 (35.8%)                            |
| Having to quarantine – frequency of people responding                         | 2048                                   |
| Number (%) of people reporting being “very worried” about this                | 477 (23.3%)                            |
| Serious illness – frequency of people responding                              | 2047                                   |
| Number (%) of people reporting being “very worried” about this                | 762 (37.2%)                            |
| Being sick – frequency of people responding                                   | 2045                                   |
| Number (%) of people reporting being “very worried” about this                | 709 (34.7%)                            |
### Table 2: Differences in frequencies/means of COVID fraud targets and those who reported not being targeted

| Variable name                                                                 | Targeted by COVID Fraud: n (valid percent) | Not targeted by COVID Fraud: n (valid percent) | t-test sig.? |
|-------------------------------------------------------------------------------|--------------------------------------------|-----------------------------------------------|--------------|
| **Knowledge and perceptions of COVID-related products or services**           |                                            |                                               |              |
| Did you purchase any financial service listed?                                | Yes 293 (32.8%)                            | 109 (9.0%)                                    | *            |
|                                                                                | No 600 (67.2%)                             | 1100 (91.0%)                                  |              |
| Did you purchase any product listed?                                          | Yes 293 (32.8%)                            | 90 (7.4%)                                     | *            |
|                                                                                | No 600 (67.2%)                             | 1119 (92.6%)                                  |              |
| Did you purchase any financial service or product listed?                     | Yes 385 (43.1%)                            | 159 (13.2%)                                   | *            |
|                                                                                | No 508 (56.9%)                             | 1050 (86.8%)                                  |              |
| If you purchased any of the products or services, did you receive at least one of the product or services that you ordered? | Yes 285 (75.4%)                            | 59 (38.1%)                                    | *            |
|                                                                                | No 93 (24.6%)                              | 96 (61.9%)                                    |              |
| If you purchased one of these products or services, did you – at any point – come to find out that it was not genuine? | Yes/maybe 181 (91.4%)                      | 18 (46.2%)                                    | *            |
|                                                                                | No 17 (8.6%)                               | 21 (53.8%)                                    |              |
| For the products or services you purchased, were you satisfied with what you received? | Yes, satisfied with everything 178 (62.5%) | 47 (79.9%)                                    | *            |
|                                                                                | Satisfied with some but not all/Not satisfied with anything 107 (37.5%) | 12 (20.3%) | (Continues) |
| Variable name                                                                 | Targeted by COVID Fraud: \( n \) (valid percent) or mean | Not targeted by COVID Fraud: \( n \) (valid percent) or mean | \( t \)-test sig.? |
|-------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|-----------------|
| **Respondent demographics**                                                   |                                                          |                                                          |                 |
| Average age                                                                  | 39.040                                                   | 48.567                                                   | *               |
| Gender                                                                        |                                                          |                                                          |                 |
| Male                                                                          | 469 (52.5%)                                              | 534 (44.2%)                                              | *               |
| Female                                                                        | 411 (46.0%)                                              | 670 (55.4%)                                              | *               |
| Transgender                                                                   | 7 (0.8%)                                                 | 3 (0.2%)                                                 | –               |
| Genderqueer/gender non-binary/gender nonconforming                             | 4 (0.4%)                                                 | 1 (0.1%)                                                 | –               |
| Prefer not to disclose                                                        | 2 (0.2%)                                                 | 1 (0.1%)                                                 | –               |
| **Race/Ethnicity**                                                            |                                                          |                                                          |                 |
| White                                                                         | 479 (53.6%)                                              | 787 (65.1%)                                              | *               |
| Black or African American                                                     | 141 (15.8%)                                              | 137 (11.3%)                                              | *               |
| Hispanic, Latino, or Mexican American                                        | 162 (18.1%)                                              | 196 (16.2%)                                              | NS              |
| Asian                                                                         | 59 (6.6%)                                                | 52 (4.3%)                                                | *               |
| Native Hawaiian/Pacific Islander                                              | 6 (0.7%)                                                 | 3 (0.2%)                                                 | –               |
| American Indian/Alaska Native                                                 | 6 (0.7%)                                                 | 5 (0.4%)                                                 | –               |
| Middle Eastern                                                                | 7 (0.8%)                                                 | 4 (0.3%)                                                 | –               |
| Mixed Race                                                                    | 27 (3.0%)                                                | 20 (1.7%)                                                | *               |
| Other                                                                         | 6 (0.7%)                                                 | 5 (0.4%)                                                 | –               |
| **Current employment status and whether furloughed**                          |                                                          |                                                          |                 |
| Yes                                                                           | 616 (69.0%)                                              | 610 (50.5%)                                              | *               |
| No                                                                            | 167 (18.7%)                                              | 270 (22.3%)                                              | *               |
| Retired                                                                       | 79 (8.8%)                                                | 266 (22.0%)                                              | *               |
| Homemaker                                                                     | 31 (3.5%)                                                | 63 (5.3%)                                                | *               |

(Continues)
### Table 2 (Continued)

| Variable name | Targeted by COVID Fraud: $n$ (valid percent) or mean | Not targeted by COVID Fraud: $n$ (valid percent) or mean | $t$-test sig.? |
|---------------|--------------------------------------------------|--------------------------------------------------|----------------|
| If not employed, were you laid off/furloughed because of the pandemic? |                      |                                                   |                |
| Yes          | 71 (42.5%) | 88 (32.6%) | *                           |
| No           | 96 (42.5%) | 182 (67.4%) | | 
| Education level                       |                                                   |                                                   |                |
| Less than HS | 27 (3.0%) | 50 (4.1%) | NS                           |
| HS or equivalent | 185 (20.7%) | 299 (24.7%) | *                           |
| Some college | 191 (21.4%) | 296 (24.5%) | *                           |
| Associates   | 106 (11.9%) | 157 (13.0%) | NS                           |
| Bachelors    | 206 (23.1%) | 254 (21.0%) | NS                           |
| Masters      | 144 (16.1%) | 126 (10.4%) | *                           |
| Doctoral     | 34 (3.8%) | 27 (2.2%) | *                           |
| 2019 household income                       |                                                   |                                                   |                |
| $0–9,999     | 69 (7.9%) | 99 (8.6%) | NS                           |
| $10,000–19,999 | 83 (9.6%) | 141 (12.3%) | *                           |
| $20,000–39,999 | 163 (18.8%) | 237 (20.6%) | NS                           |
| $40,000–59,999 | 146 (16.8%) | 208 (18.1%) | NS                           |
| $60,000–79,999 | 121 (13.9%) | 150 (13.0%) | NS                           |
| $80,000–99,999 | 106 (12.2%) | 111 (9.7%) | *                           |
| $100,000+    | 181 (20.3%) | 204 (17.7%) | *                           |
| Did you move as a result of COVID? |                      |                                                   |                |
| Yes          | 233 (26.1%) | 60 (5.0%) | *                           |
| No           | 660 (73.9%) | 1149 (95.0%) | | 

(Continues)
| Variable name                                      | Targeted by COVID Fraud: n (valid percent) | Not targeted by COVID Fraud: n (valid percent) | t-test sig.? |
|--------------------------------------------------|-------------------------------------------|-----------------------------------------------|-------------|
| Marital Status                                    |                                           |                                               |             |
| Single, never married                             | 297 (33.3%)                               | 346 (28.6%)                                  | *           |
| Married                                           | 422 (47.3%)                               | 542 (44.8%)                                  | NS          |
| Cohabitating                                      | 22 (2.5%)                                 | 29 (2.4%)                                    | NS          |
| Widowed                                           | 36 (4.0%)                                 | 60 (5.0%)                                    | NS          |
| Divorced                                          | 58 (6.5%)                                 | 145 (12.0%)                                  | *           |
| Separated                                         | 9 (1.0%)                                  | 23 (1.9%)                                    | *           |
| Domestic partnership                              | 41 (4.6%)                                 | 54 (4.5%)                                    | NS          |
| Prefer not to say                                 | 8 (0.9%)                                  | 10 (0.8%)                                    | –           |
| Current living situation                          |                                           |                                               |             |
| Live alone in own home                            | 210 (23.7%)                               | 300 (24.9%)                                  | NS          |
| Live in HH with other people (not dependents)     | 152 (17.1%)                               | 185 (15.3%)                                  | NS          |
| Live in HH with family                            | 457 (51.5%)                               | 672 (55.7%)                                  | *           |
| Live in residential facility                      | 37 (4.2%)                                 | 5 (0.4%)                                     | *           |
| Live in nursing home-like facility                | 6 (0.7%)                                  | 5 (0.4%)                                     | –           |
| Temporarily living with relative/friend           | 12 (1.4%)                                 | 22 (1.8%)                                    | NS          |
| Temporarily living in shelter or homeless         | 8 (0.9%)                                  | 10 (0.8%)                                    | –           |
| Other                                             | 5 (0.6%)                                  | 7 (0.6%)                                     | –           |
| Routine activity                                  |                                           |                                               |             |
| Pre-COVID WCC victim                              |                                           |                                               |             |
| Yes                                               | 533 (61.3%)                               | 210 (17.7%)                                  | *           |
| No                                                | 336 (38.7%)                               | 974 (82.3%)                                  |             |
| In past 12 months, have you ordered something based on seeing an ad? |                   |                                               |             |
| Yes                                               | 446 (51.0%)                               | 287 (24.1%)                                  | *           |
| No                                                | 429 (49.0%)                               | 902 (74.6%)                                  |             |

(Continues)
TABLE 2 (Continued)

| Variable name                                           | Targeted by COVID Fraud: n (valid percent) or mean | Not targeted by COVID Fraud: n (valid percent) or mean | t-test sig.? |
|----------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------|--------------|
| In past 12 months, have you ordered from internet more than 1 time per month? |                                                   |                                                       |              |
| Yes                                                      | 592 (67.6%)                                       | 620 (52.1%)                                           | *            |
| No                                                       | 284 (32.4%)                                       | 570 (47.9%)                                           |              |
| In past 12 months, have you purchased from telemarketer previously unknown to you? |                                                   |                                                       |              |
| Yes                                                      | 311 (35.5%)                                       | 51 (4.3%)                                             | *            |
| No                                                       | 565 (63.3%)                                       | 1138 (95.7%)                                          |              |
| In past 12 months, have you purchased a product after receiving unsolicited contact? |                                                   |                                                       |              |
| Yes                                                      | 329 (36.8%)                                       | 71 (6.0%)                                             | *            |
| No                                                       | 546 (61.1%)                                       | 1118 (94.0%)                                          |              |
| Average hours on Internet per day                        | 6.467                                             | 5.337                                                 | *            |
| Self-control                                             |                                                   |                                                       |              |
| Average self-control score                               | 14.431                                            | 17.771                                                | *            |
| I enjoy making risky financial investments now and then  |                                                   |                                                       |              |
| Strongly agree                                           | 122 (13.9%)                                       | 37 (3.1%)                                             | *            |
| Agree                                                    | 211 (24.0%)                                       | 118 (9.9%)                                            | *            |
| Neither agree/disagree                                   | 219 (24.9%)                                       | 229 (19.1%)                                           | *            |
| Disagree                                                 | 197 (22.4%)                                       | 322 (26.9%)                                           | *            |
| Strongly disagree                                        | 129 (14.7%)                                       | 491 (41.0%)                                           | *            |
| I don’t mind taking chances with my money, as long as I think there’s a chance it will pay off |                                                   |                                                       |              |
| Strongly agree                                           | 137 (15.6%)                                       | 62 (5.2%)                                             | *            |
| Agree                                                    | 260 (29.6%)                                       | 215 (18.0%)                                           | *            |
| Neither agree/disagree                                   | 236 (26.9%)                                       | 285 (23.8%)                                           | NS           |
| Variable name                                      | Targeted by COVID Fraud: n (valid percent) or mean | Not targeted by COVID Fraud: n (valid percent) or mean | t-test sig.? |
|--------------------------------------------------|---------------------------------------------------|------------------------------------------------------|--------------|
| Disagree                                         | 157 (17.9%)                                       | 321 (26.8%)                                          | *            |
| Strongly disagree                                 | 88 (10.0%)                                        | 313 (26.2%)                                          | *            |
| Political ideology and party affiliation          |                                                   |                                                      |              |
| Political party affiliation                       |                                                   |                                                      |              |
| Democrat                                         | 358 (40.7%)                                       | 444 (37.2%)                                          | NS           |
| Independent                                      | 184 (20.9%)                                       | 277 (23.2%)                                          | NS           |
| Republican                                       | 261 (29.7%)                                       | 352 (29.5%)                                          | NS           |
| Unsure                                           | 53 (6.0%)                                         | 68 (5.7%)                                            | NS           |
| Average faith in Trump score                     | 12.206                                            | 10.507                                               | *            |
| COVID-related beliefs and perceptions             |                                                   |                                                      |              |
| Closely following COVID news                     |                                                   |                                                      |              |
| Very closely                                     | 497 (55.7%)                                       | 577 (47.7%)                                          | *            |
| Fairly closely                                    | 322 (36.1%)                                       | 476 (39.4%)                                          | NS           |
| Not too closely                                   | 58 (6.5%)                                         | 110 (9.1%)                                           | *            |
| Not at all closely                                | 16 (1.8%)                                         | 46 (3.8%)                                            | *            |
| More than 40% certainty of COVID leading to death for various groups | | | |
| Average American                                 | 78 (9.0%)                                         | 101 (8.6%)                                           | *            |
| Children under 12                                 | 65 (7.5%)                                         | 76 (6.4%)                                            | *            |
| Elderly people +65                               | 271 (31.1%)                                       | 507 (42.9%)                                          | *            |
| People with autoimmune disorders                 | 285 (32.8%)                                       | 576 (48.7%)                                          | *            |
| People with underlying medical problems           | 276 (31.7%)                                       | 556 (47.0%)                                          | *            |
| Variable name                                      | Targeted by COVID Fraud: n (valid percent) or mean | Not targeted by COVID Fraud: n (valid percent) or mean | t-test sig.? |
|---------------------------------------------------|---------------------------------------------------|-------------------------------------------------------|-------------|
| You personally                                    | 104 (11.9%)                                       | 219 (18.5%)                                           | NS          |
| “Very large” threat of COVID for various institutions |                                                  |                                                       |             |
| Day-to-day life                                   | 213 (24.5%)                                       | 217 (18.4%)                                           | *           |
| US economy                                        | 289 (33.5%)                                       | 493 (41.7%)                                           |             |
| Public education system                           | 293 (33.8%)                                       | 460 (39.0%)                                           | *           |
| Personal finances                                 | 185 (21.3%)                                       | 203 (17.2%)                                           | *           |
| US healthcare system                              | 273 (31.5%)                                       | 423 (35.8%)                                           |             |
| Health of US population                           | 276 (31.8%)                                       | 337 (28.5%)                                           | *           |
| Your personal health                              | 179 (20.6%)                                       | 207 (17.5%)                                           | *           |
| “Very worried” about COVID in terms of:           |                                                  |                                                       |             |
| Dying from the virus                              | 304 (35.1%)                                       | 414 (35.2%)                                           | *           |
| Being exposed                                     | 263 (29.5%)                                       | 362 (30.8%)                                           | NS          |
| Long-term health impact                           | 302 (34.9%)                                       | 430 (36.5%)                                           | NS          |
| Having to quarantine                              | 222 (25.6%)                                       | 253 (21.5%)                                           |             |
| Serious illness                                   | 305 (35.2%)                                       | 456 (38.7%)                                           | NS          |
| Being sick                                        | 288 (33.3%)                                       | 419 (34.7%)                                           | NS          |

*Note: ***p < 0.01; **p < 0.05; *p < 0.10; NS, not statistically significant; –, not tested.
## Knowledge and perceptions of COVID-related products or services

If you heard about any of the products/services, was there ever a time that you felt you were a target of a consumer fraud attempt?

| Variable name                                      | Purchased product or service: \(n\) (valid percent) or mean | Did not purchase anything: \(n\) (valid percent) or mean | \(t\)-test sig.? |
|----------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------|-----------------|
| Yes/maybe                                          | 385 (70.8%)                                                 | 508 (32.6%)                                              | *               |
| No                                                 | 159 (29.2%)                                                 | 1050 (67.4%)                                             |                 |

## Respondent demographics

| Variable name                                      | Purchased product or service: \(n\) (valid percent) or mean | Did not purchase anything: \(n\) (valid percent) or mean | \(t\)-test sig.? |
|----------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------|-----------------|
| Average age                                        | 36.232                                                     | 47.160                                                   | *               |
| Gender                                             |                                                             |                                                          |                 |
| Male                                               | 276 (48.8%)                                                 | 775 (46.5%)                                              | NS              |
| Female                                             | 282 (19.9%)                                                 | 881 (52.8%)                                              | NS              |
| Transgender                                        | 4 (0.7%)                                                    | 6 (0.4%)                                                 | –               |
| Genderqueer/gender non-binary/gender nonconforming | 1 (0.2%)                                                    | 4 (0.2%)                                                 | –               |
| Prefer not to disclose                             | 2 (0.4%)                                                    | 1 (0.1%)                                                 | –               |
| Race/ethnicity                                     |                                                             |                                                          |                 |
| White                                              | 275 (48.7%)                                                 | 1053 (63.2%)                                             | *               |
| Black or African American                          | 106 (18.8%)                                                 | 189 (11.3%)                                              | *               |
| Hispanic, Latino, or Mexican American              | 109 (19.3%)                                                 | 286 (17.2%)                                              | NS              |
| Asian                                              | 41 (7.3%)                                                   | 77 (17.2%)                                               | *               |
| Native Hawaiian/Pacific Islander                   | 4 (0.7%)                                                    | 5 (0.3%)                                                 | NS              |
| American Indian/Alaska Native                      | 5 (0.9%)                                                    | 6 (0.4%)                                                 | NS              |
| Middle Eastern                                     | 6 (1.1%)                                                    | 6 (0.4%)                                                 | NS              |
| Mixed race                                         | 17 (3.0%)                                                   | 35 (2.1%)                                                 | NS              |
| Other                                              | 2 (0.4%)                                                    | 10 (0.6%)                                                 | NS              |

(Continues)
| Variable name | Purchased product or service: n (valid percent) or mean | Did not purchase anything: n (valid percent) or mean | t-test sig.? |
|---------------|------------------------------------------------------|--------------------------------------------------|-------------|
| Current employment status and whether furloughed | | | |
| Yes | 400 (70.8%) | 904 (54.3%) | * |
| No | 117 (20.7%) | 347 (20.8%) | NS |
| Retired | 34 (6.0%) | 328 (19.7%) | * |
| Homemaker | 14 (2.5%) | 87 (5.2%) | * |
| If not employed, were you laid off/furloughed because of the pandemic? | | | |
| Yes | 49 (41.9%) | 118 (34.0%) | NS |
| No | 68 (58.1%) | 229 (66.0%) | |
| Education level | | | |
| Less than HS | 22 (3.9%) | 66 (4.0%) | NS |
| HS or equivalent | 127 (22.5%) | 388 (23.3%) | NS |
| Some college | 101 (17.9%) | 410 (24.6%) | * |
| Associates | 67 (11.9%) | 213 (12.8%) | NS |
| Bachelors | 135 (23.9%) | 352 (21.1%) | NS |
| Masters | 87 (15.4%) | 197 (11.8%) | * |
| Doctoral | 26 (4.6%) | 40 (2.4%) | * |
| 2019 household income | | | |
| 0–9,999 | 57 (10.4%) | 130 (8.2%) | NS |
| 10,000–19,999 | 62 (11.3%) | 175 (11.0%) | NS |
| 20,000–39,999 | 105 (19.2%) | 321 (20.2%) | NS |
| 40,000–59,999 | 97 (17.7%) | 275 (17.3%) | NS |
| 60,000–79,999 | 70 (12.8%) | 220 (13.8%) | NS |
| 80,000–99,999 | 60 (11.0%) | 163 (10.2%) | NS |
| 100,000+ | 96 (17.6%) | 308 (19.3%) | NS |

(Continues)
| Variable name                             | Purchased product or service: \( n \) (valid percent) or mean | Did not purchase anything: \( n \) (valid percent) or mean | \( t \)-test sig.? |
|-------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------|------------------|
| Did you move as a result of COVID?        |                                                               |                                                          |                  |
| Yes                                       | 175 (31.0%)                                                   | 132 (7.9%)                                                | *                |
| No                                        | 390 (69.0%)                                                   | 1534 (92.1%)                                              |                  |
| Marital Status                            |                                                               |                                                          |                  |
| Single, never married                     | 213 (37.7%)                                                   | 473 (28.7%)                                               | *                |
| Married                                   | 246 (43.5%)                                                   | 756 (45.9%)                                               | NS               |
| Cohabitating                              | 20 (3.5%)                                                    | 33 (2.0%)                                                 | *                |
| Widowed                                   | 17 (3.0%)                                                    | 83 (5.0%)                                                 | *                |
| Divorced                                  | 32 (5.7%)                                                    | 185 (11.2%)                                               | *                |
| Separated                                 | 8 (1.4%)                                                     | 26 (1.6%)                                                 | NS               |
| Domestic partnership                      | 22 (3.9%)                                                    | 80 (4.9%)                                                 | NS               |
| Prefer not to say                         | 7 (1.2%)                                                     | 12 (0.7%)                                                 | –                |
| Current living situation                  |                                                               |                                                          |                  |
| Live alone in own home                    | 140 (25.0%)                                                   | 405 (24.7%)                                               | NS               |
| Live in HH with other people (not dependents) | 109 (19.5%)                | 248 (15.1%)                                               | *                |
| Live in HH with family                    | 239 (42.7%)                                                   | 930 (56.6%)                                               | *                |
| Live in residential facility             | 34 (6.1%)                                                    | 9 (0.5%)                                                  | *                |
| Live in nursing home-like facility        | 9 (1.6%)                                                     | 4 (0.2%)                                                  | *                |
| Temporarily living with relative/friend   | 12 (2.1%)                                                    | 29 (1.8%)                                                 | NS               |
| Temporarily living in shelter or homeless | 10 (1.8%)                                                    | 9 (0.5%)                                                  | *                |
| Other                                     | 7 (1.3%)                                                     | 8 (0.5%)                                                  | NS               |
| Routine activity                          |                                                               |                                                          |                  |
| Pre-COVID WCC victim                      |                                                               |                                                          |                  |
| Yes                                       | 310 (62.2%)                                                   | 434 (27.9%)                                               | *                |
| No                                        | 188 (37.8%)                                                   | 1124 (72.1%)                                              |                  |

(Continues)
### Table 3 (Continued)

| Variable name | Purchased product or service: \( n \) (valid percent) or mean | Did not purchase anything: \( n \) (valid percent) or mean | \( t \)-test sig.? |
|---------------|-------------------------------------------------|-------------------------------------------------|----------------|
| In past 12 months, have you ordered something based on seeing an ad? | | | |
| Yes | 268 (50.9%) | 466 (30.3%) | * |
| No | 259 (49.1%) | 1074 (69.7%) | |
| In past 12 months, have you ordered from internet more than 1 time per month? | | | |
| Yes | 341 (64.6%) | 872 (56.6%) | * |
| No | 187 (35.4%) | 669 (43.4%) | |
| In past 12 months, have you purchased from telemarketer previously unknown to you? | | | |
| Yes | 223 (42.2%) | 140 (9.1%) | * |
| No | 305 (57.8%) | 1400 (90.9%) | |
| In past 12 months, have you purchased a product after receiving unsolicited contact? | | | |
| Yes | 226 (42.9%) | 176 (11.4%) | * |
| No | 301 (57.1%) | 1364 (88.6%) | |
| Average hours on Internet per day | 6.867 | 5.470 | * |
| Self-control | | | |
| Average self-control score | 13.869 | 17.120 | * |
| I enjoy making risky financial investments now and then | | | |
| Strongly agree | 77 (14.6%) | 82 (5.3%) | * |
| Agree | 146 (27.7%) | 184 (11.9%) | * |
| Neither agree/disagree | 143 (27.1%) | 306 (19.7%) | * |
| Disagree | 105 (19.9%) | 415 (26.8%) | * |
| Strongly disagree | 57 (10.8%) | 563 (36.3%) | * |
I don’t mind taking chances with my money, as long as I think there’s a chance it will pay off

| Variable name | Purchased product or service: n (valid percent) or mean | Did not purchase anything: n (valid percent) or mean | t-test sig.? |
|---------------|----------------------------------------------------------|---------------------------------------------------|-------------|
| Strongly agree | 86 (16.3%) | 113 (7.3%) | * |
| Agree | 166 (31.4%) | 311 (20.1%) | * |
| Neither agree/disagree | 147 (27.8%) | 375 (24.2%) | * |
| Disagree | 80 (15.2%) | 398 (25.7%) | * |
| Strongly disagree | 49 (9.3%) | 352 (22.7%) | * |

Political ideology and party affiliation

| Political party affiliation | Purchased product or service: n (valid percent) or mean | Did not purchase anything: n (valid percent) or mean | t-test sig.? |
|-----------------------------|----------------------------------------------------------|---------------------------------------------------|-------------|
| Democrat | 228 (43.0%) | 576 (37.3%) | * |
| Independent | 109 (20.6%) | 353 (22.8%) | NS |
| Republican | 149 (28.1%) | 464 (30.0%) | NS |
| Unsure | 36 (6.8%) | 85 (5.5%) | NS |
| Average faith in Trump score | 12.621 | 10.767 | * |

COVID-related beliefs and perceptions

| Closely following COVID news | Purchased product or service: n (valid percent) or mean | Did not purchase anything: n (valid percent) or mean | t-test sig.? |
|-----------------------------|----------------------------------------------------------|---------------------------------------------------|-------------|
| Very closely | 277 (49.0%) | 842 (51.4%) | NS |
| Fairly closely | 230 (40.7%) | 609 (37.2%) | * |
| Not too closely | 43 (7.6%) | 136 (8.3%) | NS |
| Not at all closely | 15 (2.7%) | 51 (3.1%) | NS |

(Continues)
TABLE 3  (Continued)

| Variable name                                                                 | Purchased product or service: \( n \) (valid percent) or mean | Did not purchase anything: \( n \) (valid percent) or mean | \( t \)-test sig.? |
|--------------------------------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------|-------------------|
| More than 40% certainty of COVID leading to death for various groups           |                                                               |                                                          |                   |
| Average American                                                               | 47 (8.9%)                                                     | 134 (8.8%)                                               | *                 |
| Children under 12                                                               | 44 (8.3%)                                                     | 97 (6.3%)                                                | *                 |
| Elderly people +65                                                              | 141 (26.9%)                                                   | 638 (41.7%)                                              | *                 |
| People with autoimmune disorders                                               | 130 (24.7%)                                                   | 732 (47.9%)                                              | *                 |
| People with underlying medical problems                                         | 119 (22.6%)                                                   | 714 (46.7%)                                              | *                 |
| You personally                                                                  | 48 (9.1%)                                                     | 275 (8.2%)                                               | NS                |
| “Very large” threat of COVID for various institutions                          |                                                               |                                                          |                   |
| Day-to-day life                                                                 | 106 (20.3%)                                                   | 324 (21.2%)                                              | NS                |
| US economy                                                                      | 136 (26.2%)                                                   | 647 (42.4%)                                              | *                 |
| Public education system                                                          | 136 (26.1%)                                                   | 617 (40.4%)                                              | *                 |
| Personal finances                                                               | 95 (18.2%)                                                    | 293 (19.2%)                                              | *                 |
| US healthcare system                                                            | 134 (25.7%)                                                   | 562 (36.8%)                                              | *                 |
| Health of US population                                                         | 126 (24.0%)                                                   | 488 (31.9%)                                              | NS                |
| Your personal health                                                            | 96 (18.3%)                                                    | 291 (19.0%)                                              | *                 |
| “Very worried” about COVID in terms of:                                          |                                                               |                                                          |                   |
| Dying from the virus                                                            | 165 (31.8%)                                                   | 555 (36.4%)                                              | NS                |
| Being exposed                                                                    | 140 (26.9%)                                                   | 487 (31.9%)                                              | *                 |
| Long-term health impact                                                          | 165 (31.8%)                                                   | 568 (37.2%)                                              | NS                |
| Having to quarantine                                                            | 137 (26.3%)                                                   | 340 (22.3%)                                              | *                 |
| Serious illness                                                                  | 165 (31.8%)                                                   | 597 (39.1%)                                              | NS                |
| Being sick                                                                       | 158 (30.4%)                                                   | 551 (36.1%)                                              | NS                |

*Note. ***, \( p < 0.01; **, \( p < 0.05; *, \( p < 0.10; \) NS, not statistically significant; –, not tested.*
### TABLE 4  Logistic regressions predicting COVID fraud target and purchasing a product

| Variable name                        | Believe targeted/maybe targeted by COVID fraud | Purchased a product or service |
|--------------------------------------|-----------------------------------------------|--------------------------------|
|                                      | Demographics only | All variables | Demographics only | All variables |
| Age                                  | 0.965*            | 0.977          | 0.960*            | 0.978*         |
| Gender = Male                        | 1.390*            | 1.157          | 1.155             | 1.010           |
| Race/ethnicity                       |                  |                |                  |                |
| White                                | 0.781             | 0.815          | 0.966             | 1.356           |
| Black                                | 0.957             | 0.920          | 1.147             | 1.137           |
| Hispanic                             | 0.767             | 0.794          | 0.947             | 1.407           |
| Currently employed = yes             | 1.254*            | 1.079          | 1.323*            | 1.054           |
| Education level                      |                  |                |                  |                |
| HS or equivalent                     | 1.297             | 1.156          | 1.338             | 1.141           |
| Some college                         | 1.311             | 1.247          | 1.056             | 1.004           |
| Associates                           | 1.327             | 1.272          | 1.367             | 1.397           |
| Bachelors                            | 1.433             | 1.378          | 1.680*            | 1.644           |
| Masters/doctoral                     | 1.884*            | 1.164          | 2.155*            | 1.396           |
| 2019 household income                |                  |                |                  |                |
| 10,000–19,999                        | 1.278             | 1.331          | 1.300             | 1.146           |
| 20,000–39,999                        | 1.364             | 1.682*         | 1.118             | 1.241           |
| 40,000–59,999                        | 1.372             | 1.322          | 1.167             | 1.073           |
| 60,000–79,999                        | 1.434*            | 2.226*         | 0.872             | 0.964           |
| 80,000–99,999                        | 1.506*            | 1.469          | 0.899             | 0.927           |
| 100,000+                             | 1.312             | 1.454          | 0.743             | 0.780           |
| Moved as a result of COVID = yes     | 4.111*            | 1.216          | 2.846*            | 1.204           |
| Marital status                       |                  |                |                  |                |
| Married                              | 1.346*            | 1.056          | 1.273             | 0.910           |
| Cohabitating                         | 0.989             | 1.518          | 1.393             | 1.084           |

(Continues)
| Variable name                                                                 | Believe targeted/maybe targeted by COVID fraud | Purchased a product or service |          |          |
|-----------------------------------------------------------------------------|-----------------------------------------------|--------------------------------|----------|----------|
| Demographics only                                                          | All variables                                 | Demographics only | All variables |
| Widowed                                                                     | 2.544*                                        | 2.514*                          | 1.467    | 1.301    |
| Divorced/separated                                                          | 1.055                                         | 1.236                           | 0.912    | 0.736    |
| Domestic partnership                                                        | 1.262                                         | 1.043                           | 0.839    | 0.965    |
| Prefer not to say                                                           | 1.305                                         | 0.968                           | 1.335    | 0.767    |
| Current living situation                                                    |                                               |                                 |          |          |
| Live in HH with other people (not dependents)                               | 1.027                                         | 1.347                           | 1.174    | 1.314    |
| Live in HH with family                                                      | 0.839                                         | 1.399*                          | 0.696    | 1.023    |
| Live in residential or nursing home-like facility                          | 2.751*                                        | 1.374                           | 5.074*   | 2.965*   |
| Temporarily living with relative/friend                                     | 0.546                                         | 0.697                           | 0.902    | 2.132    |
| Temporarily living in shelter or homeless                                  | 0.626                                         | 0.442                           | 2.099    | 2.110    |
| Other                                                                       | 0.715                                         | 4.057                           | 1.540    | 2.893    |
| Pre-COVID WCC victim = yes                                                 |                                               | 4.317*                          |          | 1.926*   |
| Past 12 months, ordered something based on seeing an ad = yes               |                                               | 1.312*                          | 1.071    |          |
| Past 12 months, ordered from internet more than 1x per month = yes          |                                               | 0.953                           |          | 1.040    |
| Past 12 months, purchased from telemarketer = yes                           |                                               | 2.822*                          |          | 1.724*   |
| Past 12 months, purchased product after unsolicited contact = yes           |                                               | 2.084*                          |          | 1.459    |
| Average hours on Internet per day                                           |                                               | 1.020                           |          | 1.018    |
| Average self-control score                                                  |                                               | 0.970*                          |          | 0.958*   |
| Financial risk-taking                                                       |                                               |                                 |          |          |
| Agree                                                                       |                                               | 0.930                           | 1.725*   |
| Neither agree/disagree                                                      |                                               | 0.618                           | 0.996    |
| Disagree                                                                    |                                               | 0.569                           | 0.881    |
| Strongly disagree                                                           |                                               | 0.391*                          | 0.598    |          |

(Continues)
| Variable name                              | Believe targeted/maybe targeted by COVID fraud | Purchased a product or service |
|--------------------------------------------|-----------------------------------------------|--------------------------------|
|                                            | Demographics only | All variables | Demographics only | All variables |
| Take chance with money                     |                  |                |                  |                |
| Agree                                      | 1.630*           | 1.397          |                  |                |
| Neither agree/disagree                     | 1.971*           | 1.488          |                  |                |
| Disagree                                   | 1.651            | 1.350          |                  |                |
| Strongly disagree                          | 1.533            | 1.863*         |                  |                |
| Political party affiliation                |                  |                |                  |                |
| Democrat                                   | 1.008            | 1.419          |                  |                |
| Independent                                | 0.941            | 1.125          |                  |                |
| Republican                                 | 0.865            | 1.205          |                  |                |
| Average faith in Trump score               | 1.030*           | 1.013          |                  |                |
| Closely following COVID news               |                  |                |                  |                |
| Very closely                               | 1.959            | 1.533          |                  |                |
| Fairly closely                             | 1.535            | 1.744          |                  |                |
| Not too closely                            | 1.356            | 1.306          |                  |                |
| Certainty of COVID leading to death for various groups |          |                |                  |                |
| Average American                           | 0.999            | 1.039          |                  |                |
| Children under 12                          | 1.086*           | 1.071          |                  |                |
| Elderly people +65                         | 0.915            | 0.906          |                  |                |
| People with autoimmune disorders           | 1.030            | 0.992          |                  |                |
| People with underlying medical problems    | 1.018            | 0.930          |                  |                |
| You personally                             | 0.979            | 0.991          |                  |                |
| Variable name                                      | Believe targeted/maybe targeted by COVID fraud |         | Purchased a product or service |         |
|---------------------------------------------------|-----------------------------------------------|---------|--------------------------------|---------|
|                                                   | Demographics only | All variables | Demographics only | All variables |
| Threat of COVID for various institutions          | 1.075                                         | 0.990  | 0.867                                         | 0.868  |
| Day-to-day life                                   |                                              |         |                                              |         |
| US economy                                        | 0.867                                         | 0.874  |                                              |         |
| Public education system                           | 0.968                                         | 0.910  |                                              |         |
| Personal finances                                 | 0.952                                         | 0.999  |                                              |         |
| US healthcare system                              | 0.917                                         | 0.999  |                                              |         |
| Health of US population                           | 1.081                                         | 1.054  |                                              |         |
| Your personal health                              | 1.210*                                        | 1.099  |                                              |         |
| Level of worry about COVID in terms of:           |                                              |         |                                              |         |
| Dying from the virus                              | 0.970                                         | 1.143  |                                              |         |
| Being exposed                                     | 0.942                                         | 0.789* |                                              |         |
| Long-term health impact                           | 1.188                                         | 1.080  |                                              |         |
| Having to quarantine                              | 1.040                                         | 1.221* |                                              |         |
| Serious illness                                   | 0.977                                         | 1.131  |                                              |         |
| Being sick                                        | 0.977                                         | 0.862  |                                              |         |
| Number of observations                            | 2,102                                         | 1,808  | 2,212                                        | 1,809  |
| Model fit statistics                              |                                              |         |                                              |         |
| Hosmer-Lemeshow chi-square                        | 12.21                                         | 8.09   | 8.65                                         | 4.98   |
| Hosmer-Lemeshow p>chi-square                      | 0.142                                         | 0.425  | 0.373                                         | 0.759  |

*Note: ***, p < 0.01; **, p < 0.05; *, p < 0.10.
Finally, we asked respondents to report why they purchased the products/services they did. Respondents could choose any or all of the following reasons: they knew the seller personally, they trusted the seller, they are scared of getting COVID, they had symptoms of COVID, they came into contact with someone who had COVID, they were worried about their family, a family member was diagnosed with COVID, they wanted to help others in their community, and/or “Other” (1 = this is one reason they purchased, 0 = this is not a reason they purchased).

3.2.7 Analytical strategy

Our study relies on descriptive statistics to get an overall picture of COVID fraud targeting and victimization. However, we explore our first research question a bit further, using means comparisons and logistic regression models to examine differences between COVID fraud targets and those who did not perceive being targeted, as well as between people who purchased one of the products and those who did not. Specifically, we examined differences in respondent demographics, routine activity, self-control, COVID-related beliefs, and political orientation.

We ran a variety of diagnostics on the logistic regression models, following recommendations by UCLA’s Institution for Digital Research and Education when using STATA. Specifically, we used the “linktest” command to test for specification errors; used Hosmer and Lemeshow’s (1980; see also Fagerland and Hosmer, 2012) goodness of fit test to assess model fit; examined the correlation coefficients, odds ratios, and standard errors for indications of multicollinearity; and examined Pearson and deviance residuals for outlying observations that might be impacting the model. There were no indications that the regression models were misspecified and generally demonstrated good fit to the data.

3.3 Missing data

Although there were a total of 2,232 respondents in our data, missing data impacted the number of cases included in our regression models. Specifically, 2,102 respondents provided enough information on all variables to run logistic regressions predicting fraud targeting with demographics only (model 1 in Table 4), 1,808 cases were included in the prediction of fraud targeting with all variables (model 2 in Table 4), 2,212 cases were included in the prediction of purchasing fraudulent products with demographics only (model 3 in Table 4), and 1,809 cases were included in the prediction of purchasing fraudulent products with all variables (model 4 in Table 4). Thus, between 0.9% and 19% of cases were dropped in our regression analyses.

Very little data are missing on the demographic variables; this is likely due to the placement of these variables at the beginning of the survey. About 5.82% of respondents did not respond to the fraud targeting question, while all respondents answered the question about whether they purchased fraudulent products.

---

2 In Table 4, the reader will note that most ordinal variables are treated as categorical, following Williams’ (2020) recommendation that non-Likert-type ordinal responses cannot be assumed to have “equally spaced” categories. The variables reflecting low self-control in financial matters could be considered Likert-type scales, but we examined the response categories separately from one another to be more consistent with the previous analyses. The variables included in the “certainty of COVID leading to death”, “threat of COVID for various groups”, and “level of worry” about COVID were all treated as continuous to prevent overcomplicating the models.

3 https://stats.idre.ucla.edu/stata/webbooks/logistic/chapter3/lesson-3-logistic-regression-diagnostics/
purchased one of the products or services – again, this is likely due to the placement of the matrix at the beginning of the survey, while the fraud targeting question was located a bit later.

For the 30 variables with more than 100 missing observations, we assessed whether data were missing at random by creating a binary variable where 1 = missing data and 0 = nonmissing data. We then predicted missingness using the demographic variables. Four demographic variables predicted missingness consistently across the variables – males, individuals in the $80–$100K income bracket, and married individuals were less likely to have missing data while employed respondents were more likely to have missing data. We used the MICE command in STATA to impute values on the 30 variables with missing data, using those four demographic variables as auxiliary variables. We then compared the results of the regressions using the imputed data versus using listwise or complete case analyses (results available from authors). The results were virtually the same, although many of the results using imputed data were stronger as a result of increased power. Due to the exploratory nature of the research, we chose to be more conservative in our interpretations – the coefficients presented in Table 4 are those from the complete case analyses. We do indicate any substantive differences between the raw data and the imputed data using footnotes.

4 RESULTS

Table 1 provides much detail about the descriptive statistics for the sample; for brevity, we review only a few details here. Overall, respondents averaged just over 44 years old and 47.1% were male. White respondents made up 59.5% of our respondents, whereas 13.2% were Black or African American, 17.7% were Hispanic, Latino, or Mexican American, 5.3% were Asian, 2.3% were Mixed Race, and the remaining 1.9% reported another racial/ethnic identity. Approximately one-fifth (20.8%) of respondents reported being unemployed at the time of the survey (with 36.0% of them being unemployed as a result of the pandemic). Less than 10% percent (8.7%) of our sample earned under $10,000 per year whereas 18.9% of the respondents reported making more than $100,000 per year. About one-quarter of the sample (23.1%) had a high school degree or equivalent, 22.9% attended but did not graduate/had not graduated from college at the time of the survey, 12.6% had an Associate’s Degree, 21.8% had a Bachelor’s Degree, 12.7% had a Master’s Degree, and 3.0% had some form of a Doctoral degree. About one-third (31.0%) of our respondents were single, 45.3% were married, and 9.8% were divorced. Regarding their current living situation, 24.8% reporting living alone in their own home and 53.1% reported living in a household with their family.

To address our first research question, we explore the prevalence of COVID fraud among our sample, as well as any notable differences between people who felt as though they had been targeted by COVID fraud offenders and those who did not think they had been targeted. We also analyzed differences between people who had purchased a product or service and those who had not. As shown in Table 1, about 18.4% of our sample reported purchasing a financial service, 18.0% reported purchasing a product, and 25.3% purchased either a financial service or product. Importantly, about 42.5% of our sample reported feeling as though they had been, or may have been, the target of a consumer fraud attempt as it related to the services/products mentioned above.

Although 565 people reported purchasing a product or service, there were a notable number of nonresponses to the questions asking about their purchases. Of the 535 people responding about goods/services, 345 (64.5%) reported receiving at least one item. Of the 238 people responding to

4 https://stats.idre.ucla.edu stata/seminars/mi_in stata_p tl_new/
the question about whether the good was genuine, a large number (84.0%) reported finding out that the product/service was not genuine after purchasing it. Of the 345 people responding with regards to their satisfaction with the goods/services, 225 (65.2%) responded that they were satisfied with everything they purchased.

4.1 Means difference testing of target status and victim status

In Table 2, we show means-difference tests to compare various demographic and lifestyle variables by “fraud target” status. People who considered themselves targets of fraud were almost 10 years younger, significantly more likely to be Male, Non-White, possess a Master’s or Doctoral degree, be single/never married, have a higher salary and be employed. However, of the unemployed respondents, fraud targets were more likely to have been laid off or furloughed because of the pandemic. Fraud targets were significantly less likely to have a HS degree or some college education, less likely to be in the lower income brackets, and less likely to be divorced or separated than nontargeted respondents. Additionally, respondents who believed they were targeted for fraud were more likely to have moved as a result of COVID or live in a residential facility, and less likely to live in a household with their family.

Examining “routine activity” indicators, fraud targets were more likely to report having ordered something based on an ad in the past 12 months, ordering something from the internet more than 1 time per month in the past year, purchasing something from a telemarketer previously unknown to them, and purchasing a product after being contacted (without soliciting said contact). Fraud targets also spent about an hour more, on average, on the Internet each day than nontargets and were much more likely to report having been a victim of white-collar crime prior to COVID. Regarding levels of self-control, fraud targets scored lower on the abridged Grasmick et al. scale (Sloan et al., 2020) relative to nontargets. Fraud targets were more likely to report enjoying making risky investments than non-targets, and did not mind taking chances with their money if there was a chance it will pay off. There were no significant differences in political affiliation regarding feeling targeted for COVID frauds, however, respondents who scored higher on the “Faith in Trump” scale were more likely to report feeling targeted.

The questions regarding people’s perceptions of COVID or level of concern about COVID demonstrated some interesting findings. As Table 2 shows, people targeted by frauds were more likely to report following COVID-related news “very closely.” Furthermore, they reported being more certain that COVID would cause death among average Americans and children under 12. Those targeted for fraud were also more likely to report that COVID posed “very large” threats to day-to-day life in their communities, their personal finances, the health of the U.S. population, and their own personal health. Finally, the individuals targeted for fraud were more likely to report being worried about having to quarantine, whereas nontargets were slightly more worried about dying from the virus. Those who reported not being targeted for frauds were significantly more concerned about death among the elderly, people with autoimmune disorders, and people with underlying medical problems. These individuals were also more likely to report that COVID posed a “very large” threat to the U.S. economy, the public education system, and the U.S. healthcare system.

One’s perception of being “targeted by fraud” does not necessarily translate into victimization. To assess differences among victims and nonvictims, we conducted the same analyses as those conducted for perceptions of fraud targeting (see Table 3). Some of the most substantial differences found show that fraud victims were younger and more likely to be Black or African
American, employed, and have a Masters or Doctorate degree. Victims were also more likely to have moved because of COVID, be single/never married, and to live in a household with roommates/nondependents, a residential facility, or a nursing home-like facility. Importantly, the analyses show that victims were significantly less likely to be White or Asian, retired or a homemaker, divorced, or to be living in a household with family members.

Importantly, routine activity variables and level of self-control were strong predictors of victimization. Respondents with a prior WCC victimization were more likely to have purchased a COVID-related product or service. Fraud victims were more likely to have purchased something from an ad, to have shopped on the internet more than once a month, or purchased something from a telemarketer or after receiving unsolicited contact. COVID fraud victims had lower levels of self-control and were more likely to “strongly agree” or “agree” with both of the financial self-control statements. Respondents who reported an affiliation with the Democratic political party were more likely to report purchasing a COVID product or service, whereas victims also scored higher on the faith in Trump scale.

Finally, fraud victims were more likely to be 40% or more certain that the average American, children under 12, and they personally would die from COVID, whereas nonvictims were more certain that elderly people, people with autoimmune disorders, and people with underlying medical conditions would die from COVID. Victims were significantly less likely to see COVID as a “very large” threat to any of the institutions listed, and reported being significantly less worried about being exposed to COVID. Victims were only slightly more likely than nonvictims to report being very worried about having to quarantine and were more likely to be following COVID-related news “fairly closely.”

4.2 Logistic regressions of variables on target status and victim status

We wanted to see if these significant differences held up in a logistic regression, where being targeted by COVID fraud is the dependent variable. In the first column of Table 4, we report regression results for all demographic variables and find that fraud targets were more likely to: be older, be male, be employed, have a Master’s or Doctoral degree (compared to less than a HS education), earn $60,000–$99,999 per year (compared to less than $10,000; marginally significant), have moved as a result of COVID, be married or widowed (compared to being single, never married), and live in a residential or nursing home-like facility (compared to living alone). In the second column of Table 4, we added the variables related to routine activity theory, self-control, political ideology and party, and COVID-related perceptions and beliefs. When we add those variables, some of the demographic variables become nonsignificant or reach significance where they had not before. Gender becomes nonsignificant in this model, as does employment, level of education, earning between $80,000–$99,000, having moved as a result of COVID, and being married. Earning $60,000–$79,000 increases in significance in this model, and $20,000–$39,000 earners now appear to be more likely targeted by fraud compared to the lowest income group.

The routine activity variables prove to be predictive of fraud targeting: being a prior white-collar crime victim, ordering something based on an ad in the past year, purchasing something from a telemarketer in the past year, and purchasing a product after unsolicited contact from a seller in the past year all increased one’s chance of being targeted by fraud. Self-control inconsistently predicted fraud target status – lower self-control was marginally related to being targeted. People who “strongly disagreed” (versus “strongly agreed”) with enjoying financial risk-taking were far less likely to report being targeted. Interestingly, people who reported “agree” and
“neither agree/disagree” with taking chances with money were slightly more likely to report being targeted compared to people who strongly agreed with that statement, while disagreement was not significantly associated with being a target.

In the regression model, having more faith in Donald Trump remained a significant predictor of COVID fraud targeting. Interestingly, only two of the COVID perceptions variables retained significance when controlling for other variables. An increased certainty that children under 12 would die from COVID marginally increased targeting, while seeing COVID as being a threat to your personal health strongly predicted being targeted. When regressing demographic variables on fraud victimization (see column 3 of Table 4), we find that victims tend to be younger, more likely to be employed, more likely to have a Bachelor’s degree or masters/doctoral degree, were more likely to have moved because of COVID, more likely to be living in a household with their family, and more likely to be living in a residential or nursing home-like facility.

When we run the full model (column 4 of Table 4), education is rendered nonsignificant, as is having moved as a result of COVID and living in a household with one’s family. Age and living in a facility remain significant predictors of victimization. Additionally, routine activity continue to exert effects; being a prior WCC victim, purchasing something from a telemarketer, and purchasing something after unsolicited contact seem to increase one’s likelihood of COVID fraud victimization.

Higher self-control also seems to modestly prevent victimization; people who scored higher on Grasmick et al.’s scale were less likely to purchase a product or service. However, the financial self-control variables were inconsistently related to victimization. Respondents who “agreed” with enjoying taking financial risks were more likely than those who “strongly agreed” with that statement to be victimized, whereas respondents who “strongly disagreed” with taking chances with their money were also more likely to have made a purchase.

None of the political variables predicted victimization, whereas very few of the COVID-related beliefs had an impact. Respondents who were more worried about being exposed to the virus were less likely to purchase a good/service, whereas people who were more worried about having to quarantine were more likely to make such a purchase.

4.3 What do COVID frauds look like in terms of expense, recovery, and motivations for purchase?

We also wanted to examine fraud victimization experiences in more detail. To examine the costs incurred by victims, in Table 5 we present information relative to a restricted sample of the 565 respondents who reported purchasing one of the products/services in the initial matrix. These individuals reporting spending an average of $444.44 on COVID-related expenses in the past 6 months. Only 238 people (42.1% of victims) responded to the question of whether they came to find out that their purchase was fake. Of those individuals, 200 (84.0%) reported “yes” (that the product was not genuine) whereas 38 (16%) reported believing that the produce was genuine. Of the 200 people reporting a fake product or service, 65.5% attempted to recover money from the seller. On average, they were able to recover $670.09, which is only slightly less than the average

5 Notably, self-control becomes nonsignificant in this model when using imputed data.

6 This result becomes nonsignificant when using imputed data, whereas “strongly disagreeing” with the statement significantly protects against purchasing behavior.
TABLE 5  What do COVID-related purchases ($n = 565$) look like in terms of expense, recovery, and motivation for purchase?

| Variable name                                                      | Frequencies and (% of purchasers responding) | Number of purchasers reporting “yes” (valid percent) | Number of purchasers of perceived fake products reporting “yes” (valid percent) | Number of purchasers of perceived genuine products reporting “yes” (valid percent) |
|-------------------------------------------------------------------|----------------------------------------------|-----------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| Came to find out that product was not genuine                     | 238 (42.1%)                                  | 200 (84.0%)                                         | 200 (100%)                                                                   | 38 (100%)                                                                    |
|                                                                 |                                              |                                                     |                                                                              |                                                                              |
| **Methods of payment**                                            |                                              |                                                     |                                                                              |                                                                              |
| Cash or cash advance                                              | 565 (100.0 %)                                | 115 (20.4%)                                         | 47 (23.5%)                                                                   | 10 (26.3%)                                                                   |
| Check                                                             | 565 (100.0 %)                                | 58 (10.3%)                                          | 22 (11.0%)                                                                   | 7 (18.4%)                                                                    |
| Credit card                                                       | 565 (100.0 %)                                | 239 (42.3%)                                         | 105 (52.5%)                                                                  | 21 (55.3%)                                                                   |
| Bank account debit                                                | 565 (100.0 %)                                | 152 (26.9%)                                         | 68 (34.0%)                                                                   | 10 (26.3%)                                                                   |
| Internet or mobile payment                                       | 565 (100.0 %)                                | 73 (12.9%)                                          | 46 (23.0%)                                                                   | 5 (13.2%)                                                                    |
| Money order                                                       | 565 (100.0 %)                                | 28 (5.0%)                                           | 11 (5.5%)                                                                    | 3 (7.9%)                                                                     |
| Prepaid card                                                      | 565 (100.0 %)                                | 66 (11.7%)                                          | 29 (14.5%)                                                                   | 5 (13.2%)                                                                    |
| Telephone bill                                                    | 565 (100.0 %)                                | 14 (2.5%)                                           | 9 (4.5%)                                                                     | 1 (2.6%)                                                                     |
| Wire transfer                                                     | 565 (100.0 %)                                | 42 (7.4%)                                           | 29 (14.5%)                                                                   | 3 (7.9%)                                                                     |
| Other                                                             | 565 (100.0 %)                                | 14 (2.5%)                                           | 1 (0.5%)                                                                     | 2 (5.3%)                                                                     |
| **What motivated the purchase?**                                 |                                              |                                                     |                                                                              |                                                                              |
| Wanted to help others in community                                | 565 (100.0 %)                                | 57 (10.1%)                                          | 16 (8.0%)                                                                    | 6 (15.8%)                                                                    |
| Came into contact with COVID person                               | 565 (100.0 %)                                | 45 (8.0%)                                           | 22 (11.0%)                                                                   | 4 (10.5%)                                                                    |
| Diagnosed with COVID                                              | 565 (100.0 %)                                | 57 (10.1%)                                          | 34 (17.0%)                                                                   | 3 (7.9%)                                                                     |

(Continues)
| Variable name                                                                 | Frequencies and (% of purchasers responding) | Number of purchasers reporting “yes” (valid percent) | Number of purchasers of perceived fake products reporting “yes” (valid percent) | Number of purchasers of perceived genuine products reporting “yes” (valid percent) |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| A family member was diagnosed with COVID                                                                                           | 565 (100.0 %)                               | 36 (6.4%)                                             | 21 (10.5%)                                                                    | 4 (10.5%)                                                                     |
| I am worried about my family                                                                                                       | 565 (100.0 %)                               | 129 (22.8%)                                           | 51 (25.5%)                                                                    | 9 (23.7%)                                                                     |
| Scared of getting COVID                                                                                                             | 565 (100.0 %)                               | 182 (32.2%)                                           | 75 (37.5%)                                                                    | 9 (23.7%)                                                                     |
| Had symptoms of COVID                                                                                                               | 565 (100.0 %)                               | 51 (9.0%)                                             | 31 (15.5%)                                                                    | 1 (2.6%)                                                                      |
| Trusted the seller                                                                                                                  | 565 (100.0 %)                               | 137 (24.2%)                                           | 63 (31.5%)                                                                    | 13 (34.2%)                                                                    |
| Knew the seller personally                                                                                                          | 565 (100.0 %)                               | 85 (15.0%)                                            | 45 (22.5%)                                                                    | 4 (10.5%)                                                                     |
| Other                                                                                                                              | 565 (100.0 %)                               | 18 (3.2%)                                             | 1 (0.5%)                                                                      | 3 (7.9%)                                                                      |
| Completely satisfied with every product/service purchases??                                                                          | 345 (61.1%)                                 | 225 (65.2%)                                           | 91 (45.5%)                                                                    | 17 (44.7%)                                                                    |
| Attempted to recover money                                                                                                          | 200 (35.4%)                                 | 131 (65.5%)                                           | 131 (65.5%)                                                                   | –                                                                             |
| Amount of money spent on COVID past 6 months                                                                                         | 525 (92.9%)                                 | $444.44 ($1,469.56)                                   | $678.82 ($2,079.77)                                                          | $542.68 ($1,226.53)                                                          |
| Amount of money recovered                                                                                                           | 128 (22.7%)                                 | $670.09 ($1,807.84)                                   | $670.09 ($1,807.84)                                                          | –                                                                             |
amount of money they reported spending on COVID-related purchases over the past 6 months ($678.82).

People spending money on these purchases were most likely to use credit cards (42.3%) or bank debits (26.9%) to do so. Cash/cash advances (20.4%), Internet or Mobile payments (12.9%), prepaid cards (11.7%), and checks (10.3%) were also likely to be used for these purchases. Comparing the people who came to realize their products were fake to those who believe them to be genuine, we see generally similar spending modes.

Finally, we examined the victims’ motivations for the purchases they made. Overall, the most common reason for purchase was being afraid of getting COVID (32.2%), followed by trusting the seller (24.2%), and being worried about their family (22.8%). Generally speaking, victims who came to realize that they had been defrauded were more likely to report being motivated by a COVID diagnosis, being scared of getting COVID, having symptoms of COVID, and knowing the seller personally. People who did not perceive the products/services as being fake were more likely to report purchase motivations of wanting to help others in the community and “other” reasons.

Perhaps the most interesting findings are with regards to the question about their level of satisfaction with their products or services. Overall, 65.2% of purchasers reported being “completely satisfied” with everything they received. Of our two groups (those who came to realize that their purchase was not genuine and those who did not report their purchase as fraudulent) were as likely as one another to report being satisfied with all of their purchases (45.5% vs. 44.7%).

5 | DISCUSSION AND CONCLUSIONS

Overall, our survey provides important information about how COVID fraud victims came to be taken advantage of when they were at their most vulnerable. Regarding our first research question, we found that about 42.5% of our representative sample felt that they had – at some point – been targeted by COVID frauds. Furthermore, 25.3% of our sample reported purchasing some sort of financial service or COVID-related product within the first 6 months of 2020.

We also found some notable differences between people who reported feeling like a target for fraud and those who did not report that – as well as between people who actually purchased fraudulent services/products and those who did not. In our regression models, many demographic variables lose their significance when controlling for theoretically relevant measures. With all controls included, people targeted by COVID fraud were younger and more likely to: make a middle-class income, be widowed, live with family, have been a white-collar crime victim in the past, and to have purchased something without actively seeking it out in the past year. Targeted individuals also scored slightly lower on self-control measures, higher on “Faith in Trump” questions and reported COVID to be more of a threat to their personal health.

Purchasing decisions were impacted by some of the same variables as targeting, although there were some telling differences as well. In the full regression model, purchasers/victims were younger and more likely to: live in a residential or nursing-home facility, have been a victim of white-collar crime in the past, and have purchased something from a telemarketer in the past year. They also scored lower on Grasmick’s self-control scale, were more worried about having to quarantine as a result of COVID but were less worried about being exposed to COVID than nonvictims.

Interestingly, although COVID-related fear and perceptions of threat of the virus were generally nonsignificant predictors of COVID-fraud targeting and victimization in our regression models, the people who purchased a COVID-related product were more likely to report doing so because
they were scared of getting COVID than for other reasons. Here, it is worth noting that in the regression models, routine activity variables were more predictive of COVID-fraud targeting while self-control was more predictive of purchasing/victimization. Thus, although certain risky routine activities might set people up for victimization, they might not be enough to push them into victimization, as we argued above in the theoretical sections of this paper.

Furthermore, the finding that COVID-related fears were reported by purchasers/victims but not significant in regressions implies, perhaps, that fear of COVID is related to self-control – and that purchasing/victimization is driven by an individual characteristic that manifests itself as fear or anxiety in the context of a global crisis. Many studies have found a relationship between self-control and anxiety (Bertram et al., 2010; Hamama et al., 2000; Powers et al., 2020), noting that people higher in self-control might be better able to keep themselves from ruminating over worries – i.e., higher self-control helps promote coping. It seems reasonable to think that lowered emotional regulation makes one vulnerable to anxiety in the face of crisis and makes one more susceptible to products that would help alleviate that anxiety.

5.1 | Theoretical implications

Our findings indicate that the perpetrators of fraud use routine activities to find potential victims, but vulnerability to fraud is determined by one’s level of self-control. This provides explicit support to Holtfreter et al. (2008), who also differentiated between fraud targeting and fraud victimization and found that routine activity variables (i.e., remote purchasing activities) predicted fraud targeting but not actual victimization. Self-control measures predicted self-reported fraud victimization in their study of adults in Florida. As a result of their findings, Holtfreter et al. (2008) describe the compatibility of routine activity and self-control theories in explaining victimization. Our results support this interpretation.

Here, we turn our attention to the mechanisms by which self-control might increase the vulnerability of victims during times of crisis. Previous research describes self-control as being related to “risky lifestyles” (Schreck et al., 2006; Turanovic and Pratt, 2014) – but during a global pandemic, when venues of vice were shut down (i.e., the opportunity to engage in a risky lifestyle publicly was dramatically altered) we still find that self-control matters in predicting victimization. Perhaps, then, a different mechanism can explain the relationship between lowered self-control and victimization, while also being related to risky lifestyles. Anxiety relief could very well be that mechanism – previous research shows that people lower in self-control are less able to cope with anxiety (Bertram et al., 2010; Hamama et al., 2000; Powers et al., 2020). As such, people lower in self-control might be more likely to engage in behaviors or purchase products that help alleviate feelings of worry or concern. In a pre-pandemic world, this might have taken the form of drugs, alcohol, going out to bars, etc. During a global pandemic, it’s likely that some risk opportunities were constrained (Acuff et al., 2020) – and it is also likely that people with diminished coping mechanisms would also purchase products that they feel would help them.

Alternatively, the substantial increase in online commerce and social media use resulting from the pandemic may have worked, when combined with misinformation about the virus, to exacerbate exposure to frauds. Prior to the COVID-19 pandemic the use of social media platforms and e-commerce options was already on the rise. As the pandemic gained momentum these trends intensified and the social media space became a haven for information dissemination and commerce and trade. Many more Americans were likely presented, through their social media channels, with messages for treatments, products, cures, PPE and other virus-related goods and
services. While this exposed more people to frauds (i.e., increased perceptions of fraud targeting) it did not mean an equal increase in victimization. Alternative narratives, product choices, and many consumers’ reluctance to buy certain types of goods – or at least to buy certain products from online sources – likely helped to buffer those who were targeted through social media from becoming victims of COVID-19 scams.

To examine the possibility of a mediating effect of anxiety on self-control, we re-ran the purchasing decision regression models (available from authors upon request). When we dropped the COVID-related fear, threat, and worry variables in our full regression of purchasing decisions, the self-control variables had a stronger impact on victimization – the Grasmick scale coefficient increased in magnitude (the odds ratio dropped from 0.958 to 0.953, \( p < 0.05 \)), the financial risk-taking variable acted as expected (instead of people “agreeing” being more likely to report purchasing than those strongly disagreeing, now we see that people who strongly disagree with taking financial risks are far less likely to report victimization, \( OR = 0.457, p < 0.05 \)), and the coefficient for strongly disagreeing with “taking chances with my money” increased in magnitude (from 1.863, \( p < 0.10 \) to 2.0165, \( p < 0.05 \)). This is what would be expected if COVID-related anxieties were mediating the impact of self-control on purchasing.

We also re-ran the results after dropping the self-control variables to see if that would impact the COVID-related fear, worry, and threat variables. After dropping the self-control variables, two additional fear variables became marginally significantly predictive of victimization – people who perceived more of a threat from COVID to the U.S. economy (OR changed from 0.868 to 0.851, \( p < 0.10 \)) and to the U.S. education system (OR changed from 0.874 to 0.848, \( p < 0.10 \)) are more likely to report being a victim of fraud. Although this is not a substantial change, it is possible that using a measure of more generalized anxiety would demonstrate a stronger impact alongside self-control. Future research should further consider the potential relationships between self-control, anxiety, and fraud victimization.

5.2 | Policy implications

Routine activity in the form of remote or internet consumption has consistently been shown to predict fraud targeting. Our findings, therefore, contribute to the literature that supports consumer protections in the virtual world. Legal interventions and increased regulations surrounding advertising are a potential mechanism for protecting consumers, although formal laws often run into problems in regulating advertising across multiple media – what might be “misleading” when communicated via Instagram may be acceptable over Facebook, depending on the consumer’s level of understanding and even the audience being targeted (Karoyawasam and Wigley, 2017).

So called “soft” interventions (Karoyawasam and Wigley, 2017) that interrupt risky routine activities might be more useful and applicable across a broad range of Internet domains. For example, Twitter has recently introduced a “warning system” that flags potentially misleading information (see Roth and Pickles, 2020). If such labels could be applied to products making exaggerated claims, or if there were pop-up messages describing “red flags” before any social media advertisement, such messages could serve to educate internet consumers. It would also be useful for consumer protection agencies to maintain an updated list of businesses/individuals who are known for engaging in illegal consumer fraud (see Karoyawasam and Wigley, 2017) – a sort of “white-collar crime registry” (see Taub, 2020) specific to internet consumer scams. Such a list should be easy to find by internet consumers who might want to quickly verify the authenticity of a
product they are considering purchasing. Alternatively, the use of publicly available white lists could be increased, following a model implemented by Internet pharmacy verification websites operated by LegitScript (www.legitscript.com) and the National Association of Boards of Pharmacy (www.nabp.pharmacy), which offer consumers an easy route to verify the legitimacy of online providers.

Our results also indicate that low self-control and anxiety can impact purchasing decisions/victimization. Considering the mixed messaging about COVID-19, the government’s response to the virus, and government assistance, there’s little wonder that citizens were feeling anxious about the virus and eager to take control of the situation. Governments might prevent victimizations simply by providing continuous and clear messaging about what the government is doing to protect its citizens – and then following through with their promises. Additionally, partnering with trusted non-governmental partners may help increase the acceptance of said messaging. For example, as the influence of messages delivered via social media networks increases, governments should consider collaborating with social media influencers as a way to quickly spread legitimate information through sources trusted by users.

5.3 Limitations and conclusion

Although our research contributes meaningfully to an understanding of fraud victimizations during crisis events, there are limitations that must be acknowledged. First, we would have benefitted from using multiple survey modalities to ensure more generalizability. Although online surveys are efficient, and we used quotas to enhance representativeness, some research demonstrates that constraining one’s survey modality to the Internet results in less generalizability than if other methods have been included (see Roster et al., 2004; Stephenson and Crête, 2011).

More importantly, perhaps, our survey took place in the early summer of 2020 – about 3 months after widespread COVID restrictions were imposed in the United States. Since then, many things have changed; our study is unable to speak to new developments. Specifically, in the time between the completion of our study and the writing of this article, a number of new COVID-19 related scams have developed. For example, authorities in Massachusetts have seized a number of websites aimed at defrauding consumers, including one the mimicked the state’s legitimate vaccine registration website (WWLP.com, 2021). Other fraud perpetrators have created legitimate-looking websites posing as pharmaceutical companies like Moderna and Pfizer, advertising vaccines as part of a plot to fleece unsuspecting consumers (Henderson, 2021). Additionally, counterfeit COVID-19 vaccines are being advertised and sold through the dark web (Kelly, 2021).

Although our study was situated in a unique time period, the findings are theoretically consistent with studies from other time periods and the policy implications transcend crises. Furthermore, our research contributes to the small but important examination of COVID-19 related fraud risks across disciplines (see Brooks et al., 2021; Ma and McKinnon, 2021; Naseeb et al., 2020, for example) and encourages more research as well as actions by policymakers. Government agencies should do more to educate consumers in ways that alleviate their anxieties, while Internet companies can better monitor and flag suspicious activity. During the pandemic social media platforms did much to address false information that appeared on their websites, yet certain platforms cater to conspiracy theories and misinformation campaigns. When this speech does not violate the law, governments, social media platforms, consumer groups, and consumers themselves must be extra vigilant and take enhanced measures to mitigate crisis-related risks.

It is clear that after 12 months and substantial effort by law enforcement agencies, consumers remain at risk from individuals seeking to profit from the virus. The fact that more than 65% of
respondents to our survey indicated that they received a product or service they later found out to be illegitimate is highly concerning. The continued seizure of counterfeit PPE and vaccines both domestically and abroad highlight the transnational nature of COVID-19 frauds. Yet, the collaborative investigations and international law enforcement initiatives that have disrupted and dismantled many COVID-19 fraud schemes showcase the extent to which law enforcement agencies are willing to go to protect consumers.

**CONFLICT OF INTEREST**

The authors confirm that they have no conflict of interest to declare.

**ORCID**

Jay P. Kennedy © https://orcid.org/0000-0003-2916-0393

**REFERENCES**

Acuff, S. F., Tucker, J. A., & Murphy, J. G. (2020). Behavioral economics of substance use: Understanding and reducing harmful use during the COVID-19 pandemic. *Experimental and Clinical Psychopharmacology*. https://doi.org/10.1037/pha0000431.

Adamczyk, A. (2020, April 16). ‘This is such chaos’: Americans report continuous problems with the IRS coronavirus stimulus check tracking tool. *CNBC*. https://www.cnbc.com/2020/04/16/irs-coronavirus-stimulus-check-tracking-tool-keeps-malfunctioning.html.

Anderson, K.B. (2013). Consumer fraud in the United States, 2011: the third FTC survey. https://www.ftc.gov/sites/default/files/documents/reports/consumer-fraud-united-states-2011-third-ftcsurvey/130419fraudsurvey_0.pdf.

Benson, M. L., Madensen, T. D., & Eck, J. E. (2009). White-collar crime from an opportunity perspective. In *The criminology of white-collar crime* (pp. 175–193). Springer.

Bernstein, M. (2020, March 27). Feds seize 100 fraudulent COVID-19 test kits shipped from China, addressed to Portland man with prior ties to cannabis industry. *The Oregonian*. https://www.oregonlive.com/coronavirus/2020/03/feds-seize-100-fraudulent-covid-19-test-kits-shipped-from-china-addressed-to-portland-man-with-prior-ties-to-cannabis-industry.html.

Bertrams, A., Englert, C., & Dickhäuser, O. (2010). Self-control strength in the relation between trait test anxiety and state anxiety. *Journal of Research in Personality*, 44(6), 738–741.

Boas, T. C., Christenson, D. P., & Glick, D. M. (2020). Recruiting large online samples in the United States and India: Facebook, mechanical turk, and qualtrics. *Political Science Research and Methods*, 8(2), 232–250.

Brooks, C., Parr, L., Smith, J. M., Buchanan, D., Snioch, D., & Hebishy, E. (2021). A review of food fraud and food authenticity across the food supply chain, with an examination of the impact of the COVID-19 pandemic and Brexit on food industry. *Food Control*, 130, 108171.

Chang, T. Z. D., & Vowles, N. (2013). Strategies for improving data reliability for online surveys: A case study. *International Journal of Electronic Commerce Studies*, 4(1), 121–130.

Cohen, L. E., & Felson, M. (1979). Social change and crime rate trends: A routine activity approach. *American Sociological Review*, 588–608.

Collins, B. (2020, August 14). How QAnon rode the pandemic to new heights — and fueled the viral anti-mask phenomenon. *NBCNews.com*. https://www.nbcnews.com/tech/tech-news/how-qanon-rode-pandemic-new-heights-fueled-viral-anti-mask-n1236695.

CNN. (2021, May 16). Coronavirus Outbreak Timeline Fast Facts. https://www.cnn.com/2020/02/06/health/wuhan-coronavirus-timeline-fast-facts/index.html.

Davila, M., Marquart, J. W., & Mullings, J. L. (2005). Beyond mother nature: contractor fraud in the wake of natural disasters. *Deviant Behavior*, 26(3), 271–293.

Davis, K. (2020, December 10). Shipment of illicit COVID-19 tests seized off flight at San Diego airport. *The Los Angeles Times*. https://www.latimes.com/california/story/2020-12-10/illicit-covid-19-tests-seized-off-flight-at-san-diego-airport.

Department of Health and Human Services Press Office. (2020, January 31). Secretary Azar declares public health emergency for United States for 2019 Novel Coronavirus. https://www.hhs.gov/about/
news/2020/01/31/secretary-azar-declares-public-health-emergency-us-2019-novel-coronavirus.html#:~:text=In%20declaring%20the%20public%20health,retroactive%20to%20January%202020.

Facher, L. (2020, April 6). Fact-checking Trump’s claims about hydroxychloroquine, the antimalarial drug he’s touting as a coronavirus treatment. Statnews.com. https://www.statnews.com/2020/04/06/trump-hydroxychloroquine-fact-check/.

Fagerland, M.W., & Hosmer, D.W. (2012). A generalized Hosmer-Lemeshow goodness-of-fit test for multinomial logistic regression models. The Stata Journal 12(3), 447–453.

Fairbanks, P. (2020, May 15). Feds seize fake Covid-19 test kits and masks at local border crossings. The Buffalo News. https://buffalonews.com/news/local/feds-seize-fake-covid-19-test-kits-and-masks-at-local-border-crossings/article_1ceea261-2c5b-5b53-9a5a-c4f0a3c424cf.html.

Fittler, A., Lankó, E., Brachmann, B., & Botz, L. (2013). Behaviour analysis of patients who purchase medicines on the internet: Can hospital pharmacists facilitate online medication safety?. European Journal of Hospital Pharmacy: Science and Practice, 20(1), 8–12.

Fleming, N. (2020). Fighting coronavirus misinformation. Nature, 583, 155–156.

George, C. E. (2006). Internet pharmacies: Global threat requires a global approach to regulation. Hertfordshire Law Journal, 4(1), 12–25.

Gressin, S. (2020, June 3). Unemployment benefits fraud puts workers at risk of more ID theft [Blog post]. https://www.ftc.gov/news-events/blogs/business-blog/2020/06/unemployment-benefits-fraud-puts-workers-risk-more-id-theft.

Gui, X., Kou, Y., Pine, K. H., & Chen, Y. (2017, May). Managing uncertainty: using social media for risk assessment during a public health crisis. In Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (pp. 4520–4533).

Hamama, R., Ronen, T., & Feigin, R. (2000). Self-control, anxiety, and loneliness in siblings of children with cancer. Social Work in Health Care, 31(1), 63–83.

Heen, M. S., Lieberman, J. D., & Miethe, T. D. (2014). A comparison of different online sampling approaches for generating national samples. Center for Crime and Justice Policy, 1(9), 1–8.

Henderson, B. (2021, February 23). Covid-19 vaccine scams grow, leveraging confusion about how to get the shot. The Wall Street Journal. https://www.wsj.com/articles/covid-19-vaccine-scams-grow-leveraging-confusion-about-how-to-get-the-shot-11614076200.

Holt, T. J., & Graves, D. C. (2007). A qualitative analysis of advance fee fraud e-mail schemes. International Journal of Cyber Criminology, 1(1), 137–154.

Holtfreter, K., Reisig, M. D., & Pratt, T. C. (2008). Low self-control, routine activities, and fraud victimization. Criminology, 46(1), 189–220.

Holtfreter, K., Reisig, M. D., Leeper Piquero, N., & Piquero, A. R. (2010). Low self-control and fraud: Offending, victimization, and their overlap. Criminal Justice and Behavior, 37(2), 188–203.

Hosmer, D.W., Jr., & Lemeshow, S. (1980). Goodness-of-fit tests for the logistic regression model. Communications in Statistics—Theory and Methods 9, 1043–1069.

Iacurci, G. (2020, July 7). Americans lost $77 million to Covid-19 fraud — and that’s just the ‘tip of the iceberg’. CNBC. https://www.cnbc.com/2020/07/07/covid-19-fraud-has-cost-americans-at-least-77-million.html.

Irvin-Erickson, Y., & Ricks, A. (2019). Identify Theft and Fraud Victimization: What We Know about Identity Theft and Fraud Victims from Research- and Practice-Based Evidence. Center for Victim Research. https://ncvc.dspacedirect.org/bitstream/handle/20.500.11990/1544/CVR/20Research/20Syntheses_Identity/20Theft/20and/20Fraud_Report.pdf?sequence=1_isAllowed=y.

Isacenkova, J., Thonnard, O., Costin, A., Francillon, A., & Balzarotti, D. (2014). Inside the scam jungle: A closer look at 419 scam email operations. EURASIP Journal on Information Security, 2014(1), 1–18.

Ivanitskaya, L., Brookins-Fisher, J., O’Boyle, I., Vibbert, D., Erofeev, D., & Fulton, L. (2010). Dirt cheap and without prescription: how susceptible are young US consumers to purchasing drugs from rogue internet pharmacies?. Journal of Medical Internet Research, 12(2), e11.

Kahane, L. H. (2021). Politicizing the mask: Political, economic and demographic factors affecting mask wearing behavior in the USA. Eastern Economic Journal, 1–21.

Kariyawasam, K., & Wigley, S. (2017). Online shopping, misleading advertising and consumer protection. Information & Communications Technology Law, 26(2), 73–89.
Kelly, S. (2021, March 23). Here’s how much vaccines are selling for on the illegal market. CNN.com. https://www.cnn.com/2021/03/23/tech/covid-vaccines-dark-web/index.html.

Kennedy, J. P., & Wilson, J. M. (2017). Clicking into harm’s way: The decision to purchase regulated goods online. American Behavioral Scientist, 61(11), 1358–1386.

Lapin, T. (2020, March 20). Counterfeit coronavirus test kits seized at Chicago airport. New York Post. https://nypost.com/2020/03/20/counterfeit-coronavirus-test-kits-seized-at-chicago-airport/.

Lee, B. Y. (2021, March 12). One Year After Coronavirus Pandemic Declared, How Many Deaths From Covid-19? Forbes.com. https://www.forbes.com/sites/brucelee/2021/03/13/one-year-after-coronavirus-pandemic-declared-how-many-deaths-from-covid-19/?sh=7d58fbc6e900.

Ma, K. W. F., & McKinnon, T. (2021). COVID-19 and cyber fraud: emerging threats during the pandemic. Journal of Financial Crime.

Mapes, L. V. (2020, April 19). Washington state unemployment website crashes after a ‘tsunami of claims’ for coronavirus job-loss benefits. The Seattle Times. https://www.seattletimes.com/seattle-news/state-website-crashes-after-seeing-a-tsunami-of-claims-for-new-coronavirus-unemployment-benefits/.

McCabe, T. (2020, May 1). Phony Covid-19 test kits seized by federal agents in Indianapolis. Wrtv.com. https://www.wrtv.com/news/coronavirus/covid-19-local-government/phony-covid-19-test-kits-seized-by-federal-agents-in-indianapolis.

Morgan, R. E. (2021). Financial Fraud in the United States, 2017. U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics. NCJ 255817. https://www.bjs.gov/content/pub/pdf/ffus17.pdf.

Naseeb, H., Diab, A. A., & Metwally, A. (2020). The impact of the COVID-19 pandemic on medical and travel insurance pricing and fraud risks: An exploratory study. Journal of Risk Management in Financial Institutions, 14(1), 59–71.

Neuman, S. (2020, March 24). https://www.npr.org/sections/coronavirus-live-updates/2020/03/24/820512107/man-dies-woman-hospitalized-after-taking-form-of-chloroquine-to-prevent-covid-19.

Nhan, J., Kinkade, P., & Burns, R. (2009). Finding a pot of gold at the end of an internet rainbow: Further examination of fraudulent email solicitation. International Journal of Cyber Criminology, 3(1), 452–475.

Perlis, R. H., Lazer, D., Ognyanova, K., Baum, M., Santillana, M., Druckman, J. … Simonson, M. (2020). The state of the nation: A 50-state covid-19 survey Report# 9: will Americans vaccinate themselves and their children against covid-19?. Preprint downloaded from: https://osf.io/wzgck

Perrin, A., & Atske, S. (2021). 7% of Americans don’t use the Internet. Who are they? Pew Research Center. https://www.pewresearch.org/?p=272111

Powers, J. P., Moshontz, H., Hoyle, R. H., & Donnellan, M. B. (2020). Self-control and affect regulation styles predict anxiety longitudinally in university students. Collabra: Psychology, 6(1), 1–14.

Pratt, T. C., Holtfreter, K., & Reisig, M. D. (2010). Routine online activity and internet fraud targeting: Extending the generality of routine activity theory. Journal of Research in Crime and Delinquency, 47(3), 267–296.

Radcliffe, S. (2020, May 19). Trump Is Taking Hydroxychloroquine: Why Experts Say You Shouldn’t. Healthline.com. https://www.healthline.com/health-news/trump-is-taking-hydroxychloroquine-why-experts-think-this-is-a-bad-idea.

Rasbach, D. (2020, April 9). Feds seize coronavirus test kit materials bound for Bellingham hospital and Northwest. Bellingham Herald. https://www.bellinghamherald.com/news/coronavirus/article241884351.html.

Reisig, M. D., & Holtfreter, K. (2013). Shopping fraud victimization among the elderly. Journal of Financial Crime, 20(3), 324–337.

Rost, K. T. (2000). Policing the wild west world of internet pharmacies. Chicago - Kent Law Revies, 76, 1333–1362.

Roster, C. A., Rogers, R. D., Albaum, G., & Klein, D. (2004). A comparison of response characteristics from web and telephone surveys. International Journal of Market Research, 46(3), 359–373.

Roth, Y., & Pickles, N. (2020, May 11). Updating our approach to misleading information [Blog Post]. https://blog.twitter.com/en_us/topics/product/2020/updating-our-approach-to-misleading-information.html

Schreck, C. J. (1999). Criminal victimization and low self-control: An extension and test of a general theory of crime. Justice Quarterly, 16(3), 633–654.

Schreck, C. J., Stewart, E. A., & Fisher, B. S. (2006). Self-control, victimization, and their influence on risky lifestyles: A longitudinal analysis using panel data. Journal of Quantitative Criminology, 22(4), 319–340.

Seiler, S. (2013). The impact of search costs on consumer behavior: A dynamic approach. Quantitative Marketing and Economics, 11(2), 155–203.
Singman, B. (2020, April 20). How to spot a counterfeit stimulus check: Secret Service, Treasury warn against coronavirus relief fraud. Fox News. https://www.foxnews.com/politics/spot-counterfeit-stimulus-coronavirus.

Sloan, M. M., Haner, M., Graham, A., Cullen, F. T., Pickett, J., & Jonson, C. L. (2020). Pandemic emotions: the extent, correlates, and mental health consequences of personal and altruistic fear of COVID-19. Preprint from osf.io.

Soroush, M., Hancock, M., & Bonns, V. K. (2014, October). Self-control in casual games: The relationship between Candy Crush Saga™ players’ in-app purchases and self-control. In Proceedings of the 2014 IEEE Games Media Entertainment (pp. 1–6). IEEE.

Stephenson, L. B., & Crête, J. (2011). Studying political behavior: A comparison of Internet and telephone surveys. International Journal of Public Opinion Research, 23(1), 24–55.

Stosic, M. D., Helwig, S., & Ruben, M. A. (2021). Greater belief in science predicts mask-wearing behavior during COVID-19. Personality and individual differences, 176, 110769.

Stratton, S. J. (2018). Disaster-relief fraud: A dark side of disasters. Prehospital and Disaster Medicine, 33(1), 1-1.

Taub, J. (2020). Big dirty money: The shocking injustice and unseen cost of white collar crime. Viking Publishing.

Thompson, A. J., & Pickett, J. T. (2020). Are relational inferences from crowdsourced and opt-in samples generalizable? Comparing criminal justice attitudes in the GSS and five online samples. Journal of Quantitative Criminology, 36, 907–932.

Torres, E. (2020, March 14). Fake coronavirus test kits seized at Los Angeles airport. ABC News. https://abcnews.go.com/US/fake-coronavirus-test-kits-seized-los-angeles-airport/story?id=69600617.

Tressler, C. (2021, January 27). Scammers cash in on COVID-19 vaccination confusion [Blog post]. https://www.consumer.ftc.gov/blog/2021/01/scammers-cash-covid-19-vaccination-confusion

Turkovic, J. J., & Pratt, T. C. (2014). “Can’t stop, won’t stop”: Self-control, risky lifestyles, and repeat victimization. Journal of Quantitative Criminology, 30(1), 29–56.

U.S. Department of Health and Human Services (2021, March 15). Fraud Alert: COVID-19 Scams. https://oig.hhs.gov/fraud/consumer-alerts/fraud-alert-covid-19-scams/?utm_source=web&utm_medium=web&utm_campaign=covid19-fraud-alert.

U.S. Department of Justice. (2020, March 22). Justice Department files its first enforcement action against COVID-19 fraud. Department of Justice, Office of Public Affairs. https://www.justice.gov/opa/pr/justice-department-files-its-first-enforcement-action-against-covid-19-fraud.

U.S. Department of Labor. (2020, August 31). Unemployment Insurance Program Letter No. 28-20. https://wdr.doleta.gov/directives/corr_doc.cfm?docn=8044

U.S. Immigration and Customs Enforcement. (2020, June 3). ICE HSI Baltimore seizes over 14,000 unapproved COVID-19 treatment capsules, several unapproved test kits. https://www.ice.gov/news/releases/icehsi-baltimore-seizes-over-14000-unapproved-covid-19-treatment-capsules-several.

U.S. Immigration and Customs Enforcement. (2021, February 17). DHS prevents millions of counterfeit N95 masks from reaching hospital workers, first responders. https://www.ice.gov/news/releases/dhs-prevents-millions-counterfeit-n95-masks-reaching-hospital-workers-first.

Vohs, K., & Faber, R. (2003). Self-regulation and impulsive spending patterns. ACR North American Advances. Wagoner, J., & Markowitz, A. (2021, March 22). Beware of robocalls, texts and emails promising COVID-19 cures or stimulus payments. AARP. https://www.aarp.org/money/scams-fraud/info-2020/coronavirus.html.

Wall, D. S. (2004). Digital realism and the governance of spam as cybercrime. European Journal on Criminal Policy and Research, 10(4), 309–335.

Williams, R. A. (2020). Ordinal independent variables. In P. Atkinson, S. Delamont, A. Cernat, J.W. Sakshaug, & R.A. Williams (Eds.), SAGE Research Methods Foundations. Sage Publications.

World Health Organization. (2020, March 11). WHO Director-General’s opening remarks at the media briefing on COVID-19 - 11 March 2020. https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19-11-march-2020.

WWLP.com. (2021). https://www.wwlp.com/news/warning-covid-19-vaccine-website-designed-to-mimic-official-site/
**AUTHOR BIOGRAPHIES**

**Jay P. Kennedy** is Assistant Professor of Criminal Justice at Michigan State University and Assistant Director of Research for the Center for Anti-Counterfeiting and Product Protection. He is a Faculty Affiliate with the Michigan State University Graduate School, the Institute for Public Policy and Social Research, the Center for Business and Social Analytics, and the Canadian Studies Institute. Dr. Kennedy’s current research explores managerial and organizational responses to internal and external threats, the incarceration and post-incarceration experiences of white-collar offenders, the sale of counterfeit goods on the Internet, and the role of consumer decision making in product counterfeiting schemes.

**Dr. Melissa Rorie** is an Associate Professor of Criminal Justice at the University of Nevada-Las Vegas (UNLV). Her research predominantly examines the impact of formal and informal controls on corporate and white-collar offending as well as theoretical explanations for elite crime and corporate noncompliance. She has received three awards for her scholarly efforts, including the 2018 “Young Career” award from the American Society of Criminology’s Division of White-Collar and Corporate Crime. Since 2009, she has published 23 peer-reviewed manuscripts as well as serving as the sole editor for the 30-chapter *Wiley Handbook of White-Collar Crime* published in Fall 2019.

**Michael L. Benson** is a Professor Emeritus of the University of Cincinnati School of Criminal Justice. He is a Fellow of the American Society of Criminology and received the Gilbert Geis Lifetime Achievement Award from the Division on White-Collar and Corporate Crime in 2017. He has published extensively on white-collar and corporate crime in leading journals and edited *The Oxford Handbook on White-Collar Crime* with Shanna Van Slyke and Francis Cullen. In 2018, he co-authored “Perp Walks: Public Opinion on the Pretrial Shaming of Criminal Suspects” in *Criminology & Public Policy* with Shanna Van Slyke and William Virkler.

---

**How to cite this article:** Kennedy JP, Rorie M, Benson ML. COVID-19 Frauds: An exploratory study of victimization during a global crisis. *Criminol Public Policy*. 2021;20:493–543. https://doi.org/10.1111/1745-9133.12554