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# Digital inequality in disconnection practices: voluntary nonuse during COVID-19

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## Abstract

The pervasiveness of digital media renders people constantly connected. Digital inequality theory tends to focus on how socio-digital factors link to technology access, skills, uses, and opportunities derived from such use. It is not clear, however, whether this theoretical lens applies to a time of heightened connection when privilege may also explain intended disconnection. Drawing on data from 1,551 U.S. adults surveyed during the pandemic, we find that younger age, higher education, frequent Internet use, less dependable access, and better skills are related to partaking in voluntary nonuse (e.g., having technology-free moments, switching off the Internet). As digital disconnection emerges from a place of socio-digital privilege as well as disadvantage, in a society of technology abundance, new inequalities arise around who has the freedom to use it in moderation rather than use it at all. Our study extends theoretical notions from digital inequality to the realm of voluntary digital nonuse.

**Keywords:** digital disconnection, digital well-being, digital inequality, COVID-19

Contemporary digital societies are characterized by the increasing pervasiveness of digital media, such as the Internet, mobile technologies, social media, and messaging services. Digital inequality theory implies that more connection is better and posits that more privileged people tend to have better technological opportunities, which can be summed up as socio-digital privilege (Hargittai, 2021). While it is indeed the case that technologies offer people numerous benefits in various domains of everyday life, being “permanently online” and thus “permanently connected” (Vorderer & Kohring, 2013; Vorderer et al., 2016) may also present challenges. Indeed, a significant number of Internet users feel that they spend too much time online (Büchi et al., 2019; Ofcom, 2017). Digital habits such as constantly “checking” one’s smartphone are commonly perceived to interfere with people’s everyday activities, and social and professional responsibilities (Aranda & Baig, 2018; Kadylak et al., 2018; Ytre-Arne et al., 2020). These aspects of users’ relationship to technology use challenge traditional notions of digital inequality whereby more connection is believed to be better. In this article, we consider how contemporary disconnection practices complicate existing perspectives on digital inequality, thereby offering a new theoretical perspective on how to think about socio-digital inequalities in an always-on digital environment.

“Digital detox” behaviors, such as taking deliberate breaks from technology or limiting connectivity in other ways, have become common practice to mitigate perceived negative consequences attributed to digital media use (Nguyen, 2021). In the UK, one-third of Internet users have taken a break from being online (Ofcom, 2017), while 7 in 10 U.K. and U.S. Internet users had tried to moderate their digital media use in some way (GlobalWebIndex, 2018). In Switzerland, one in three digital media users manages to take a break from digital media every day, and another one-third would like to do so more often than they do now (Comparis, 2018). The current

article examines such voluntary disconnection from digital media (e.g., putting devices away, turning off notifications, switching to flight mode), and applies a digital inequality perspective to understand how socioeconomic indicators and digital resources may shape how people disconnect from technology.

Digital inequality research theorizes that several socio-digital factors may shape who has access to, uses, and benefits from the diffusion of digital media (e.g., DiMaggio & Hargittai, 2001; Hargittai, 2021; van Dijk, 2002). However, in societies where ubiquitous connectivity has become standard for the large majority, novel inequalities may develop around who can manage the abundance of information and communication through technology effectively (Gui & Büchi, 2021). Industry reports show that “digital detoxing” is most often practiced by younger and more socioeconomically privileged people (GlobalWebIndex, 2018), suggesting social inequalities around who manages to take a break from perpetual connectedness—and therefore mitigate the potential negative consequences for health and well-being (Nguyen, 2021). Scholarship has also pointed to the importance of digital skills in managing the constant flow of information and communication (Gui et al., 2017; Hargittai & Micheli, 2019; Nguyen, 2021). Overall, this raises questions about whether preexisting social and digital inequalities extend into the realm of digital disconnection.

The COVID-19 pandemic presents a unique case to study digital disconnection. The pandemic has been characterized by the worldwide closing of public spaces and stay-at-home guidelines to prevent the spread of the coronavirus. As such, many people were unable to go out and had to spend significantly more time inside their homes. Industry reports and academic research has shown that during this time, people increasingly turned to digital media for news, information, leisure, and social connection (Anderson & Vogels, 2020;

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Ipsos, 2020; Nguyen et al., 2021; Wamsley, 2020). Moreover, many were forced to take up digital tools for remote work and learning (Parker et al., 2020; Schaeffer, 2021). Simultaneously, many felt overwhelmed by the abundance of information (e.g., COVID-19 news; Mitchell et al., 2020) and communication (e.g., “Zoom fatigue”; McClain et al., 2021) during this time. Indeed, one-third of Americans took a break from digital media at some point during the pandemic (McClain et al., 2021). Thus, while the increased dependence on digital media during lockdown may have presented challenges for people to use it in moderation, it may also have stirred desires to take breaks from the coerced hyperconnectivity (Parker et al., 2020; Schaeffer, 2021)—thus prompting disconnection. Misinformation during a public health crisis (e.g., COVID-19), which puts some population groups at higher risk than others, is another example of the potential harms of overuse (Loomba et al., 2021). Reducing digital media use could have beneficial effects in this scenario, and socio-digital disparities in this beneficial reduction would be problematic from a digital inequality perspective. As such, it is highly important to devote scholarly attention to socio-digital inequalities in people’s disconnection practices.

Diving deeper into related questions, this article examines how people disconnected from digital media during a time when these technologies were essential for information, work, learning, leisure, and social connection (Anderson & Vogels, 2020; Ipsos, 2020; Nguyen et al., 2021; Parker et al., 2020; Schaeffer, 2021; Wamsley, 2020). Drawing on theoretical notions of digital inequality, we investigate whether inequalities rooted in sociodemographic differences and varying digital resources (i.e., frequency of Internet use, stability of Internet access, digital skills) shaped disconnection and whether such inequalities extended to the types of disconnection strategies that people used (i.e., non-tech vs. feature-based strategies). In doing so, we extend the existing theory on digital inequality to the phenomenon of voluntary digital disconnection, thereby bringing these two bodies of scholarship together. Finally, we discuss how our findings on digital inequality in disconnection practices can inform and further advance theoretical and empirical work on digital communication and well-being in the digital age.

### How do people disconnect from digital media?

Early research often treated dis/connection as binary, for instance by studying Internet “drop-outs” (Katz & Aspden, 1998) or other forms of explicit nonuse of digital media (Hargittai, 2007; Selwyn et al., 2005). Other scholars, however, referred to ICT nonuses in a more flexible manner, such as Satchell and Dourish (2009) who conceptualized a variety of ICT nonuses ranging from lagging adoption to forms of involuntary nonuse and active resistance. Satchell and Dourish (2009) noted that “non-use is, often, active, meaningful, motivated, considered, structured, specific, nuanced, directed, and productive,” which highlights that early research on technology nonuse already considered some of the contemporary conceptualizations of disconnection practices in the digital era.

By far the most work to focus on nonuse concerns the digital divide and digital inequality literatures. It is important to note that voluntary disconnection is different from situations where people go offline for reasons such as lack of access and resources (Gonzales et al., 2021). Given the widespread uptake of digital media and its pervasiveness in people’s

everyday life, in digital societies today, connection becomes a default for many. For instance, in the USA 93% of the population currently uses the Internet, with 85% using it daily or almost constantly (Perrin & Atske, 2021). Coming from this notion of perpetual connectivity, research has started examining which people, and why people sometimes voluntarily refrain from using digital media (e.g., Büchi et al., 2019; Nguyen et al., 2022).

Over the past decades, scholarship has established that disconnection “is rarely a binary case of either-or, but instead part of dilemmas, ambivalences, and practices of media use” (Lomborg & Ytre-Arne, 2021) with a focus on “balanced” digital media use (Vanden Abeele, 2021). Following this tradition, instead of treating dis/connection as a binary, we conceptualize disconnection as a more flexible practice that captures the intentional self-regulation of one’s digital media use, ranging from explicit nonuse to the less absolute ways where one places limits on one’s connectivity but without going completely offline (Nguyen, 2021). Such a conceptualization of disconnection is useful in an age of perpetual connectivity, as it allows us to study the nuanced ways in which people attempt to manage their digital media uses and negotiate their dis/connectivity. The conceptualization of disconnection as a flexible practice is in line with notions of temporal ambivalence in digital media use (Ytre-Arne et al., 2020), and explains why users *sometimes* experience conflicts—and thus *sometimes* would like to disconnect. As Hesselberth (2018) notes, disconnection is “rarely total, but often situational,” and the literature has reported disconnection attempts to range from minutes, to hours, to days, and weeks, with users often returning to digital media again (Baumer et al., 2015; Franks et al., 2018; Nguyen, 2021). As most people experience a myriad of benefits from digital media, they tend to look for a balance in their use rather than to disconnect altogether (Baumer et al., 2015; Nguyen, 2021).

A vast body of qualitative work has focused on *how* people disconnect and revealed the various ways in which people might limit their connectivity (e.g., Light & Cassidy, 2014; Mannell, 2019; Nguyen, 2021). Much of this work has focused on disconnection from mobile and social media, in particular. On one end of the continuum, there is the explicit nonuse of digital media, where people might refuse the use of (some) digital technologies completely (Portwood-Stacer, 2013). For instance, people might decide to delete accounts as they intend to abstain from using social media permanently (Nguyen, 2021), or reject the use of mobile phones based on ideological grounds altogether (Rosenberg & Vogelmann-Natan, 2022). However, digital disconnection can also be more flexible. Strategies that are more in the middle of the spectrum include having “digital detox” moments where people take temporary breaks from digital devices or services (Franks et al., 2018; Jorge, 2019; Nguyen, 2021). Such breaks can happen through self-imposed rules about when and where to use or to disconnect from digital media. For instance, people might stick to specific time frames for digital media (non-)use, or demarcate specific locations (e.g., at the dinner table, in the bedroom, at work) where one limits the use of technology temporarily (e.g., Beattie & Cassidy, 2021; Nguyen, 2021).

On the other end of the spectrum, people may use more nuanced disconnection strategies to limit their connectivity, but without going offline completely (Light & Cassidy, 2014; Nguyen, 2021). In an ever-connected society, it might not

always be possible or desirable to disconnect permanently or take breaks from digital media. Indeed, digital media has many benefits to offer such as information, entertainment, relaxation, and social connection (Whiting & Williams, 2013). Such benefits, together with sociotechnical norms about one's online availability and responsiveness, can make it challenging for people to disconnect (Lupinacci, 2021). As such, people may revert to disconnection strategies that still allow them to be online on their own terms, instead of deliberate breaks or permanent disconnection (Nguyen, 2021). Such strategies may encompass practices such as turning off notifications, using do-not-disturb functions or airplane mode, adjusting privacy settings, or setting up content filters. What is unique to these disconnection strategies is that they often involve the use of device and app features to impose restrictions on people's online availability or exposure to online information and communication (Nguyen, 2021). This is relevant in the context of digital inequality, as the use of such technological features might be linked to people's digital skills.

### Digital inequality and disconnection experiences

Digital inequality scholarship has largely distinguished between different levels of disparity when it comes to people's appropriation and use of technologies (Helsper & Van Deursen, 2015; Ragnedda & Ruiu, 2017). The first level of digital inequality refers to disparities in access to ICTs, including dimensions that reflect people's autonomy of use as well as their continuous access. The second level of digital inequality refers to disparities in usage patterns and skills with using technologies after access to technologies is secured (Hargittai, 2002). The third level of digital inequality then extends to disparities in the benefits that people are able to reap from technology use (Hargittai, 2008). The core tenet of digital inequality theory (e.g., the resources and appropriation theory by Van Dijk, 2013) and much empirical work is that disparities in access to, skills with, uses of, and benefits derived from digital media use are rooted in social inequalities in personal (e.g., gender, age) and positional (e.g., level of education, income) factors (Hargittai, 2021).

While it is certainly the case that greater access, skills, and use can lead to greater benefits derived from such technology use, in information societies where large majorities of the population are online, novel inequalities might also arise around who can and is able to disconnect (Beattie & Cassidy, 2021; Gui & Büchi, 2021; Sutton, 2020). The pervasiveness of digital media and the perpetual connectivity that comes with it goes hand in hand with widespread feelings of overuse and overload (Gui & Büchi, 2021). In a society where being connected is the default, disconnection may become a "luxury" reserved for those who are able to do so, as some scholars have suggested (e.g., Beattie & Cassidy, 2021; Jorge, 2019). As Büchi and colleagues (2019) note, "in some contexts of a digitized society, digital inequality is shifting from scarcity to overabundance." Yet, whether socio-digital inequalities also extend to how people manage technology abundance in a connected society by disconnecting remains to be examined explicitly.

Socio-digital disparities in disconnection between more and less privileged groups are important to unravel, as they might unfold into disparities in the benefits derived from digital media. Data from Italy show that people of higher education report lower levels of perceived digital overuse compared to their lower-educated counterparts (Gui & Büchi, 2021),

suggesting that the former group might be more successful at managing today's information-rich digital environment than the latter group. Moreover, being able to disconnect and use digital media in a balanced way may indirectly enable people to mitigate potential negative effects of digital media use on health and well-being (Nguyen, 2021).

Building on the theoretical proposition that socio-digital factors shape digital experiences (Hargittai, 2021), this study examines whether and how such inequalities extend to the realm of digital disconnection. Currently, scholarly examinations of whether and how sociodemographics (i.e., age, gender, education level, income) and digital resources (i.e., frequency of Internet use, stability of Internet access, and digital skills) shape disconnection practices are scarce, yet such investigation can inform about the potential novel socio-digital inequalities in contemporary digital societies. When it comes to sociodemographic differences, industry reports show that "digital detoxing" is more typical among people who are younger, are higher educated, and have greater socioeconomic means (GlobalWebIndex, 2018). Accordingly, research has suggested that ideas of digital disconnection are mostly prevalent among typically higher-educated knowledge workers who operate from connected workplaces (Fast, 2021). In contrast with the assumption that higher socioeconomic status is related to voluntary disconnection, Micheli (2021) provides an examination of low-income youth's disconnection from Facebook, and suggests that lower income could also relate to negative discourses about the platform and prompt disconnection.

Digital resources such as people's stability of Internet access, frequency of use, and digital skills could also be important for explaining possible inequalities in disconnection during COVID-19. The lack of stable access to the Internet is a driving factor of digital inequality (Gonzales, 2016). Previous research has highlighted the importance of autonomy of use, which traditionally refers to having the freedom to access the Internet in multiple locations (Hargittai & Hinnant, 2008; Velasquez, 2016). However, in the context of the COVID-19 pandemic, where most people are limited to home use, having Internet access in different locations is less relevant, as some of these access points may not be available during such a time. As such, in the current study, we conceptualize stability of access through whether people worry about their Internet access in general. Furthermore, as disconnection research often departs from the notion of perpetual connectivity, it is important to consider the role of people's actual uses of the Internet as well.

Scholars have also pointed to the importance of digital skills in managing the overabundance of information and communication (Gui et al., 2017; Hargittai & Micheli, 2019; Hargittai et al., 2012). For instance, qualitative research has shown that digital skills are important for being able to use features of technology to disconnect (Nguyen, 2021; Nguyen et al., 2021). In an interview study with 30 digital media users who had taken a break at least once from social media, Nguyen (2021) finds that some participants use advanced settings to manage online services to prevent overload and make their digital experiences more enjoyable. These participants shared substantive knowledge of how digital platforms operate and showed to be quite experienced in using device and app features to disconnect. With our survey study, we complement earlier qualitative findings that suggest that such digital know-how is important for being able to manage the

complex, information-rich digital media environments of today, and aspire to offer insights into the prevalence of socio-digital inequalities in disconnection practices.

It is important not to conflate digital media uses, or in this case, disconnection practices, with digital skills. While using disconnection strategies that involve technology (e.g., using a screen time app to disconnect) can be a good indicator of someone's digital skills, these are distinguishable concepts and are thus not the same. Namely, having digital skills means being in possession of the digital know-how, or the *ability*, to do certain things online (e.g., knowing one's way around app/device settings), while actual engagement in disconnection practices reflects one's *enactment* of such skills (i.e., using app/device settings to limit one's connectivity). As such, in this study, we look at whether and how inequalities in disconnection behavior might be rooted in people's level of digital skills.

### The current study

This article examines whether and how people deliberately limited their digital media use during COVID-19, a time when digital media became increasingly important for various aspects of life, such as social connection, leisure activities, and work due to lockdown measures. Building on the theoretical framework of digital inequality (Hargittai, 2021; Van Dijk, 2013)—which posits that socio-digital factors can shape access to, uses of, and benefits derived from digital media—we aim to extend these theoretical notions to the phenomenon of digital disconnection, to gain a deeper understanding of how disparities in voluntary nonuse are shaped by such socio-digital factors. Drawing on a national sample of U.S. Internet users, we provide an examination of whether and how socio-demographics (i.e., age, gender, education level, income) and digital resources (i.e., frequency of Internet use, stability of Internet access, digital skills) play a role in people's disconnection practices, thereby offering insight into the prevalence of potential novel digital inequalities. Through our survey, we are able to collect data from a larger, more diverse and representative sample than is usually the case for qualitative methods. This allows us to generalize findings to a more general population of U.S. Internet users, and disentangle the relationship between specific socio-digital axes of inequality and voluntary disconnection behavior. Furthermore, while previous research on digital disconnection has often focused on mobile or social media explicitly, our aim is to focus on the broader digital media repertoire instead. Specifically, we address the following research questions:

RQ1: How has disconnection behavior changed during the COVID-19 pandemic?

RQ2: How prevalent is disconnection during COVID-19, and how common are different disconnections practices (i.e., non-tech vs. feature-based strategies)?

RQ3: Are there differences by sociodemographics and digital resources (i.e., frequency of Internet use, stability of Internet access, and digital skills) regarding people's disconnection practices during the COVID-19 pandemic?

### Methods

We administered an online survey between May 4 and 9, 2020, which was during the early months of the COVID-19

pandemic. We programmed our questionnaire in Qualtrics and worked with the online research company Cint to reach respondents. Cint uses a double opt-in national panel of Internet users who receive financial compensation for participating in survey studies. To achieve a diverse sample, we set quotas for age, gender, education level, and region based on U.S. Census figures. We included attention-check questions, and the final sample includes 1,551 U.S. adults who passed the attention check calculations. The questionnaire items are available in [Appendix A](#).

### Independent variables

#### Sociodemographics

We asked for respondents' birth year and subtracted that from 2020 to calculate their age. We included the gender options male, female, and other in the survey. Given that no respondents chose "other," we recoded this variable into a female category (1 vs. 0 for male). To measure education level, we asked about people's highest level of school completed out of six options, which we recoded into: completed high school or less, attended some college, completed college or more. We measured household income with 13 answer options ranging from less than \$10,000 to \$200,000 or more, which we then recoded into midpoint values (5000; 15,000; 25,000; 35,000; 45,000; 57,500; 72,500; 90,000; 112,500; 137,500; 175,000; 225,000; 300,000). To measure metropolitan status, we asked if people lived in a big city, the suburbs or outskirts of a big city, a town or a small city, or a rural area. We then created three dummy variables, with the first and third options reflecting urban residence, and separate categories for suburban and rural residence.

#### Living arrangements

We asked whether people lived with other adults, and if they lived with children under the age of 18 years. We then created two dummy variables: one reflecting whether people lived alone (i.e., without other adults or children) and another representing the presence of children in the household. The latter variable is important in the context of this study, as reports suggest that people with children in the household are more likely to take up digital media during the pandemic (The Harris Poll, 2020). At the same time, during quarantine, people may also enjoy spending more time together with their children (Canzi et al., 2021), which may be reflected in changes in digital media use (e.g., spending more time with digital media or desires to disconnect from digital media more often).

#### Digital resources

To measure the frequency of Internet use, we asked how often respondents accessed the Internet at home through each of these methods: computer, tablet, and phone. Answer options included almost constantly, several times a day, about once a day, several times a week, less often, and never. We recoded the answers into one dichotomous variable distinguishing those who use the Internet almost constantly on any device (1) from those who use it several times a day or less often (0). In a sample where almost all participants are daily Internet users, this recoding allows us to distinguish the most connected users from the rest of the sample meaningfully (also see "Sample Characteristics"). This distinction is crucial to our research question.

To measure the stability of Internet access, we asked people whether, since the coronavirus outbreak, they had been worried about Internet access “more than usual, even if only in a minor way” (Yes = 1; No = 0). We argue that those who worry about their Internet access are likely to have less dependable and sustainable access than those who do not share this concern.

To measure digital skills, we relied on the validated and oft-used measure of Internet skills by Hargittai and Hsieh (2012). This measure asks about participants’ perceived understanding of eight Internet-related terms, such as “PDF,” “cache,” and “advanced search.” Answer options ranged from 1 (no understanding) to 5 (full understanding), which we then averaged into one score to reflect people’s digital skills (Cronbach’s  $\alpha = .90$ ).

### Dependent variable

#### Changes in disconnection during COVID-19

We asked if people had tried to reduce the time they spend on digital media “more than before, less than before, or about the same” since the coronavirus pandemic, to get a sense of how this may have changed due to the pandemic. We informed people that by digital media, we meant “devices with Internet access, such as a smartphone, laptop/computer, tablet or smart TV.” We created two variables from this: one reflecting whether one had decreased attempts to disconnect and one reflecting whether one had increased attempts to disconnect during the pandemic.

#### Disconnection strategies

To assess people’s engagement with specific disconnection behaviors, we asked: “Since the Coronavirus outbreak, have you tried to reduce the time you spend using digital media in any of the following ways? Check all that apply.” Here, we also communicated that we referred to digital media as “devices with Internet access, such as a smartphone, laptop/computer, tablet or smart TV.” We included a number of options that would allow us to distinguish between strategies that did not involve technology to disconnect, versus strategies that involved app and device features to disconnect (Nguyen, 2021; Vanden Abeele et al., 2020). We note that complete nonuse is not listed as an answer option, as we are interested in the question of whether and how digital media users occasionally disconnect during the COVID-19 pandemic, rather than whether they abandon digital media altogether.

Listed items for non-tech disconnection strategies were: (1) “I create ‘digital detox’ moments during which I consciously distance myself from digital media”; (2) “I have rules about limiting digital media in the household, for example during dinner or before sleeping”; and (3) “I just reduce the time I spend on digital media without using any special approach.” Items for feature-based strategies to disconnect were: (4) “I use an app or program that tracks my digital media use”; (5) “I delete apps and programs that take too much of my time”; (6) “I turn off notifications from email, social media, news or messaging apps”; (7) “I temporarily switch off the internet, for instance by using flight mode, when I want to concentrate on an activity.”

We also included an open answer option as part of the above list: (8) “I use a different way to reduce my digital media use, specifically . . .,” which was filled out by six people and did not lead to any recoding of variables, and thus we

excluded this item from further analysis. We listed one more final option: (9) “I have not tried to reduce my digital media use in any way during the Coronavirus pandemic,” to determine who has not engaged in disconnection during COVID-19 at all. When participants indicated having used one or more of the listed strategies, as well as checking the option that they did not try to reduce their digital media use in any way, we recoded the used strategies as missing.

We created three variables in total. First, we created a binary variable reflecting whether people had engaged in any disconnection practices at all. Next, we created a summary score for one variable representing disconnection through non-tech strategies and one variable reflecting disconnection through feature-based strategies.

### Sample characteristics

Table 1 displays the sample characteristics. Respondents are on average 47 years old (range: 18–91), and over half of the sample is female (55%). Almost half of the sample (49%) has a high school degree or less, 17% attended some college, and 34% have a college degree or more. Less than half of the sample lives in an urban area (45%), more than one-third lives in suburban areas (38%), and one-fifth lives in rural areas (19%). About one-fifth (21%) lives alone and 30% of respondents lives together with one or more children under the age of 18 years. The vast majority (99%) accessed the Internet daily through any device, with 60% using the Internet almost constantly. Twelve percent of the sample was worried about their Internet access during the pandemic. People’s average digital skills were 3.19 ( $SD = 1.17$ ; scale 1–5). Overall, our sample includes people with varying socio-demographics and digital resources, which is helpful for addressing questions of digital inequality.

### Analytical strategy

To answer our first research question, we first describe how disconnection behavior may have changed due to the COVID-19 pandemic. To answer the second research question, we describe how many people disconnected at all during

**Table 1.** Sample characteristics

|                                | Percent | Mean     | SD       | N    |
|--------------------------------|---------|----------|----------|------|
| Age                            |         | 47.14    | 17.01    | 1550 |
| Female                         | 55.5    |          |          | 1551 |
| Education                      |         |          |          | 1551 |
| High school or less            | 49.1    |          |          |      |
| Some college                   | 16.6    |          |          |      |
| Bachelor’s degree or more      | 34.4    |          |          |      |
| Household income               |         | \$59,780 | \$50,899 | 1548 |
| Employed                       | 49.1    |          |          | 1551 |
| Metropolitan status            |         |          |          |      |
| Rural                          | 18.6    |          |          | 1550 |
| Suburban                       | 37.0    |          |          | 1550 |
| Urban                          | 44.5    |          |          | 1550 |
| Living alone                   | 20.7    |          |          | 1551 |
| Child(ren) in household        | 30.2    |          |          | 1551 |
| Internet use                   |         |          |          | 1551 |
| Almost constantly              | 60.3    |          |          |      |
| Several times a day            | 34.4    |          |          |      |
| About once a day or less often | 5.3     |          |          |      |
| Worry about Internet access    | 11.8    |          |          | 1550 |
| Digital skills (range 1–5)     |         | 3.19     | 1.17     | 1546 |

Note. Total  $N = 1551$ . The  $N$  may differ across variables due to missing values.

the pandemic, as well as which strategies they used to disconnect. Here, we report the frequencies of the individual disconnection strategies that people used and distinguish between strategies that involve the use of technology versus the strategies that do not.

To answer the third research question, we first present bivariate statistics (chi-square tests) to examine how sociodemographics and digital resources relate to changes in disconnection behavior, and to the use of each separate disconnection strategy. For the bivariate comparison tests of age and digital skills, we compare the lowest and highest quartile with the rest of the sample, as this facilitates interpretation of the differences across groups. In the corresponding table, we report the percentage of the lowest and highest quartile to show the differences between the two ends when it comes to engaging in a certain disconnection strategy. Then, to test whether the bivariate relationships between digital communication and disconnection hold when controlling for sociodemographics, living arrangements, and digital resources, we estimate logistic and linear regression models. Based on the full sample ( $N=1523$ ), we first conduct logistic regression analyses with an increase (Model 1) or decrease (Model 2) in disconnection attempts during COVID-19 as the dependent variables. Next, we conduct a logistic regression analysis predicting the use of any disconnection strategy (Model 3), again based on the full sample ( $N=1523$ ). Finally, among the subsample of people who engaged in at least one disconnection strategy ( $N=586$ ), we conduct two ordinary least squares regression analyses to predict people's use of non-tech (Model 4) and feature-based (Model 5) strategies for disconnection. We ran all models with race and ethnicity as control variables as well (see [Appendix A](#) for its measurement). As these were not significantly related to disconnection, including them did not alter the results, and since currently there are no theoretical grounds to believe they are important for disconnection, we report the models without them due to space considerations. For the regression analyses, assumptions of linearity, normality, homoscedasticity, independent errors, and multicollinearity were met. We implemented listwise deletion for missing values. The zero-order correlations of the predictor variables of both the full sample and the subsample are presented in [Appendix B](#). The data and analysis code underlying this article were made available during the review process and will be shared with others upon reasonable request to the corresponding author.

## Results

### Disconnection practices during COVID-19

[Table 2](#) gives an overview of people's disconnection behaviors during COVID-19. The first research question asks how disconnection behaviors changed during the pandemic. While the majority (71%) of the sample reported no changes in attempts to limit the time they spend on digital media during the coronavirus pandemic, about one-fifth (20%) of the sample had tried to reduce the time they spend on digital media more than they had before COVID-19. In contrast, 10% of the sample reported making less effort to reduce their time on digital media than before the pandemic.

The second research question asks how prevalent disconnection behaviors are during the pandemic, and how commonly different disconnection strategies are used. Over one-third

**Table 2.** Disconnection during COVID-19

|  | Percent | N    |
|--|---------|------|
| <i>Change in disconnection behavior during COVID-19</i>  |         |      |
| Since the coronavirus pandemic, have you tried to reduce the time you spend using digital media more than before, less than before, or about the same? |         | 1550 |
| Less than before   | 9.8     |      |
| About the same   | 70.7    |      |
| More than before   | 19.5    |      |
| <i>Disconnection strategies used during COVID-19</i>   |         |      |
| I have not tried to reduce my digital media use in any way during the Coronavirus pandemic   | 62.2    | 1551 |
| Non-tech strategies  |         |      |
| I just reduce the time I spend on digital media without using any special approach   | 35.0    | 586  |
| I have rules about limiting digital media in the household, for example during dinner or before sleeping   | 28.5    | 586  |
| I create "digital detox" moments during which I consciously distance myself from digital media   | 20.5    | 586  |
| Feature-based strategies   |         |      |
| I turn off notifications from email, social media, news or messaging apps  | 30.5    | 586  |
| I delete apps and programs that take too much of my time   | 28.8    | 586  |
| I temporarily switch off the Internet, for instance by using flight mode, when I want to concentrate on an activity                                    | 20.1    | 586  |
| I use an app or program that tracks my digital media use   | 20.0    | 586  |

*Note.* Total  $N=1551$ . For looking into specific disconnection strategies, we report the percentage of the participants who have indicated to use at least one strategy to reduce their digital media use ( $N=586$ ).

(38% of the total sample,  $N=586$ ) of participants indicated that they had used at least one of the listed strategies to disconnect from digital media. Of those who indicated that they had disconnected during COVID-19 ( $N=586$ ), about two-thirds (67%) used at least one of the non-tech strategies listed. Of these, over one-third reduced their time without using any special approach, 29% reported having rules in place about digital media use within the household, and 21% said they create "digital detox" moments during which they consciously distance themselves from digital media. As for strategies that involved the use of technology features to disconnect, similarly about two-thirds (68%) reported using them. Of these, one in three (31%) said they turn off notifications, 29% reported deleting apps and programs that were too time consuming, one-fifth occasionally switched off the Internet (e.g., through flight mode) to disconnect, and one in five (20%) reported using an app or program to track their digital media use.

### The role of sociodemographics and digital skills

The third research question explores differences in disconnection practices during COVID-19 based on people's sociodemographic background and digital resources. In the first step, we report bivariate tests of differences in changes in disconnection practices during COVID-19 ([Table 3](#)). The results show that younger people and higher educated people were more likely to *increase* attempts to disconnect during the pandemic as compared to before. Concerning digital resources, more heavy Internet users and those with greater digital skills

were more likely to *increase* attempts to disconnect, and those worrying about Internet access were also more likely to do so. In contrast, there are no differences by sociodemographics and digital resources in attempts to disconnect *less* during the pandemic as compared to pre-pandemic times. With respect to overall disconnection behavior during the pandemic, the results show that younger people, male participants, higher educated people were more likely to disconnect. Heavy Internet users, people with greater digital skills, as well as people who worried about their Internet access more likely to disconnect during the pandemic.

Concerning the use of specific disconnection strategies (in the subsample of people who had disconnected), the bivariate statistics (Table 3) show that overall, younger participants are more likely to disconnect using most types of non-tech and feature-based strategies, compared to older participants who are less likely to do so. Concerning gender, we find that female participants are less likely to have rules about limiting digital media in the household—a non-tech strategy—compared to males. Female participants are also less likely to switch off their Internet, which is considered a feature-based

strategy. Regarding education level, we find that higher educated people are more likely to engage in “digital detox” moments, compared to those with lower levels of education. People’s digital resources also play a role in their disconnection behaviors during COVID-19. Specifically, more heavy Internet users (i.e., those who use it constantly vs. those who use it several times a day or less frequently) are more likely to disconnect through almost all listed non-tech and feature-based strategies. One exception is that less frequent users are more likely to disconnect without using any special approach. Those who worry about their Internet access are more likely to have rules in the household about digital media use, as well as more likely to use all listed feature-based strategies to disconnect. Finally, we find that participants with higher digital skills, compared to their lower-skilled counterparts, are more likely to engage in the non-tech strategy of taking “digital detox” moments, and the feature-based strategy of turning off the Internet.

In the second step, we consider sociodemographics and digital resources in a series of multivariate regression analyses (see Table 4 for the regression models). Here, as dependent

**Table 3.** Bivariate comparisons of disconnection experiences

|                             |                   | Full sample             |                  |                   | Subsample              |                     |                         |                          |                          |                           |                         |          |
|-----------------------------|-------------------|-------------------------|------------------|-------------------|------------------------|---------------------|-------------------------|--------------------------|--------------------------|---------------------------|-------------------------|----------|
|                             |                   | Changes during COVID-19 |                  | Any disconnection | Non-tech strategies    |                     |                         | Feature-based strategies |                          |                           |                         |          |
|                             |                   | More than before        | Less than before |                   | Rules in the household | No special approach | “Digital detox” moments | Turn off notifications   | Delete apps and programs | Screen time tracking apps | Switch off the Internet |          |
| Age                         | LQ                | %                       | 28               | 12                | 57                     | 30                  | 30                      | 22                       | 37                       | 34                        | 24                      | 27       |
|                             |                   | $\chi^2$                | 22.47***         | 2.71              | 81.72***               | 0.66                | 4.87*                   | 0.55                     | 7.29**                   | 4.66*                     | 4.22*                   | 11.87*** |
|                             | HQ                | %                       | 14               | 9                 | 18                     | 21                  | 53                      | 24                       | 20                       | 23                        | 14                      | 12       |
|                             |                   | $\chi^2$                | 9.12             | 0.12              | 80.03***               | 1.94                | 10.65**                 | 0.65                     | 4.13*                    | 1.35                      | 1.86                    | 2.97     |
| Gender                      | Female            | %                       | 18               | 9                 | 36                     | 24                  | 38                      | 19                       | 29                       | 26                        | 18                      | 14       |
|                             | Male              | %                       | 21               | 11                | 41                     | 33                  | 32                      | 22                       | 33                       | 32                        | 22                      | 27       |
|                             |                   | $\chi^2$                | 2.30             | 2.10              | 4.41*                  | 6.50*               | 2.07                    | 0.50                     | 1.23                     | 2.68                      | 1.49                    | 14.42*** |
| Education                   | Low               | %                       | 16               | 9                 | 32                     | 26                  | 36                      | 15                       | 28                       | 30                        | 17                      | 19       |
|                             | Middle            | %                       | 20               | 10                | 45                     | 29                  | 41                      | 20                       | 35                       | 25                        | 17                      | 24       |
|                             | High              | %                       | 24               | 10                | 44                     | 31                  | 31                      | 26                       | 31                       | 30                        | 24                      | 20       |
|                             |                   | $\chi^2$                | 11.78**          | 0.20              | 23.38***               | 1.88                | 3.36                    | 8.45*                    | 1.80                     | 1.28                      | 4.57                    | 1.25     |
| Internet use                | Almost constantly | %                       | 24               | 11                | 42                     | 30                  | 31                      | 23                       | 32                       | 33                        | 24                      | 22       |
|                             | Less often        | %                       | 12               | 8                 | 33                     | 27                  | 43                      | 16                       | 27                       | 22                        | 12                      | 17       |
|                             |                   | $\chi^2$                | 33.00***         | 2.64              | 13.03***               | 0.60                | 8.58**                  | 4.62*                    | 1.80                     | 7.97**                    | 13.62***                | 2.50     |
| Worry about Internet access | Yes               | %                       | 38               | 9                 | 64                     | 38                  | 33                      | 25                       | 42                       | 40                        | 32                      | 31       |
|                             | No                | %                       | 17               | 10                | 35                     | 26                  | 35                      | 19                       | 28                       | 26                        | 17                      | 17       |
|                             |                   | $\chi^2$                | 46.51***         | 0.06              | 56.08***               | 5.84*               | 0.15                    | 2.27                     | 8.83**                   | 9.06**                    | 13.73***                | 10.14**  |
| Digital skills              | LQ                | %                       | 15               | 10                | 28                     | 25                  | 39                      | 16                       | 26                       | 26                        | 15                      | 11       |
|                             |                   | $\chi^2$                | 6.62*            | 0.02              | 26.45***               | 0.83                | 0.87                    | 2.24                     | 1.56                     | 0.67                      | 2.47                    | 7.27**   |
|                             | HQ                | %                       | 23               | 7                 | 43                     | 28                  | 40                      | 30                       | 36                       | 35                        | 23                      | 26       |
|                             |                   | $\chi^2$                | 4.12*            | 2.84              | 4.33*                  | 0.08                | 1.77                    | 11.42***                 | 2.94                     | 3.46                      | 1.65                    | 4.42*    |
|                             |                   | $df, N$                 | 1, 1545          | 1, 1545           | 1, 1530                | 1, 586              | 1, 586                  | 1, 586                   | 1, 586                   | 1, 586                    | 1, 586                  | 1, 586   |

Note. Differences between groups are tested with chi-square tests. For age and digital skills, the lowest (LQ) and highest (HQ) quartiles were compared with the rest of the sample.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .



variables, we first include the dichotomized variables reflecting attempted increases and decreases in disconnection during COVID-19 (Models 1 and 2). Compared to the bivariate results, the regression analyses show that age, education level, frequent Internet use, as well as worry about Internet access remain consistent predictors of *increased* attempts to disconnect. Digital skills, however, do not play a role in explaining increased attempts to disconnect anymore. In line with the bivariate analyses, sociodemographics and digital resources are not related to *decreased* attempts to disconnect.

Next, we examine which factors predict engagement in any disconnection (Model 3). The results show that younger age relates to greater likelihood of involvement in disconnection behaviors during COVID-19. People with higher education levels (i.e., some college, more than a high school degree), as well as those with children in the household are more likely to disconnect as well. Concerning digital resources, participants with concerns about Internet access are more likely to practice disconnection. Here, frequency of Internet use and digital skills do not seem to play a significant part.

Finally, we look at the non-tech and feature-based strategies used among only those who engage in any disconnection (Models 4 and 5). Regarding the use of non-tech disconnection strategies, sociodemographics do not play a significant role in the number of strategies one uses to disconnect. As for digital resources, those with greater digital skills employ a wider range of non-tech strategies to disconnect.

When looking at disconnection strategies that involve the use of technology, we find that older age is negatively related to the number of strategies used, suggesting that younger participants are more likely to use various feature-based strategies to disconnect. Female participants report using fewer feature-based disconnection strategies compared to their male counterparts. People with children in the household used more feature-based disconnection strategies. Greater frequency of Internet use (i.e., almost constantly vs. several times

a day or less) was positively related to the use of feature-based strategies to disconnect. Interestingly, those who worried about their Internet access during the pandemic also used more feature-based strategies to disconnect as compared to those who did not share such concerns.

### Discussion

Drawing on survey data from a diverse sample of 1,551 American Internet users we collected during the early months of the COVID-19 pandemic, this article examines whether and how people with different sociodemographic backgrounds and varying digital resources (i.e., frequency of Internet use, stability of Internet access, and digital skills) voluntarily disconnect from digital media. Our study provides an understanding of the prevalence of everyday digital disconnection practices in contemporary society and related socio-digital inequalities in the general population. Specifically, our work shows that in times of heightened connection, novel socio-digital inequalities arise around who actively tries to spend less time online, with those in more privileged positions engaging more often in voluntary nonuse. One of the main contributions of our work is that we extend theoretical notions of digital inequality—which traditionally examined access, uses, skills, and benefits derived from technology—to the phenomenon of voluntary digital nonuse. In doing so, we propose a new dimension of digital inequality that is sensitive to the realities of 24/7 connectivity in the digital age: one that addresses the possibility and ability to disengage voluntarily from digital media. In the sections that follow, we first discuss our findings, then elaborate on what this means for theories of digital inequality, communication, and well-being, and finally offer directions for future research.

What changes has the COVID-19 pandemic brought on when it comes to people’s disconnection behavior? Our analyses revealed that younger people as well as those with higher

**Table 4.** Regression analyses with disconnection as DV

|                                  | Model 1: Increased disconnection during COVID-19 |       |      |     | Model 2: Decreased disconnection during COVID-19 |       |      |   | Model 3: Any disconnection |       |      |     | Model 4: Non-tech strategies |       |      |   | Model 5: Feature-based strategies |       |      |     |
|----------------------------------|--|-------|------|-----|--|-------|------|---|----------------------------|-------|------|-----|------------------------------|-------|------|---|-----------------------------------|-------|------|-----|
|                                  | (N = 1538)                                       |       |      |     | (N = 1538)                                       |       |      |   | (N = 1523)                 |       |      |     | (N = 586)                    |       |      |   | (N = 586)                         |       |      |     |
|                                  | β  | b     | SE   | p   | β  | b     | SE   | p | β                          | b     | SE   | p   | β                            | b     | SE   | p | β                                 | b     | SE   | p   |
| Age                              | -.18   | -0.01 | 0.00 | *   | -.19   | -0.01 | 0.01 |   | -.50                       | -0.03 | 0.00 | *** | .08                          | 0.00  | 0.00 |   | -.16                              | -0.01 | 0.00 | *** |
| Female                           | -.02   | -0.04 | 0.14 |     | -.13   | -0.26 | 0.18 |   | -.01                       | -0.02 | 0.12 |     | -.01                         | -0.02 | 0.06 |   | -.10                              | -0.17 | 0.07 | *   |
| Education                        |  |       |      |     |  |       |      |   |                            |       |      |     |                              |       |      |   |                                   |       |      |     |
| Some college                     | .07  | 0.18  | 0.19 |     | .03  | 0.08  | 0.25 |   | .18                        | 0.49  | 0.16 | **  | .05                          | 0.10  | 0.08 |   | .01                               | 0.02  | 0.10 |     |
| Bachelor’s degree or more        | .17  | 0.36  | 0.17 | *   | .05  | 0.10  | 0.22 |   | .24                        | 0.51  | 0.15 | *** | .00                          | 0.00  | 0.08 |   | .03                               | 0.06  | 0.09 |     |
| Household income                 | .12  | 0.12  | 0.08 |     | .10  | 0.11  | 0.11 |   | -.04                       | -0.04 | 0.07 |     | .09                          | 0.06  | 0.04 |   | .02                               | 0.02  | 0.04 |     |
| Employed                         | .12  | 0.25  | 0.15 |     | -.03   | -0.06 | 0.20 |   | .11                        | 0.23  | 0.13 |     | .04                          | 0.06  | 0.07 |   | .00                               | 0.00  | 0.08 |     |
| Living alone                     | -.05   | -0.12 | 0.20 |     | .02  | 0.05  | 0.24 |   | .05                        | 0.13  | 0.16 |     | .00                          | 0.01  | 0.09 |   | .01                               | 0.02  | 0.10 |     |
| Child(ren) in household          | .11  | 0.25  | 0.15 |     | -.05   | -0.10 | 0.21 |   | .28                        | 0.62  | 0.13 | *** | .09                          | 0.13  | 0.07 |   | .12                               | 0.22  | 0.08 | **  |
| Metropolitan status              |  |       |      |     |  |       |      |   |                            |       |      |     |                              |       |      |   |                                   |       |      |     |
| Rural                            | -.08   | -0.20 | 0.20 |     | -.08   | -0.20 | 0.25 |   | -.10                       | -0.25 | 0.17 |     | .04                          | 0.09  | 0.09 |   | -.04                              | -0.11 | 0.10 |     |
| Suburban                         | -.04   | -0.07 | 0.15 |     | -.10   | -0.20 | 0.20 |   | -.07                       | -0.14 | 0.13 |     | .06                          | 0.10  | 0.07 |   | -.03                              | -0.06 | 0.08 |     |
| Internet use (almost constantly) | .31  | 0.63  | 0.16 | *** | .13  | 0.26  | 0.19 |   | -.04                       | -0.09 | 0.13 |     | -.02                         | -0.03 | 0.07 |   | .11                               | 0.21  | 0.07 | **  |
| Worry about Internet access      | .31  | 0.96  | 0.18 | *** | -.04   | -0.13 | 0.28 |   | .32                        | 0.98  | 0.18 | *** | .08                          | 0.15  | 0.08 |   | .22                               | 0.50  | 0.09 | *** |
| Digital skills (range 1–5)       | -.01   | -0.01 | 0.06 |     | -.17   | -0.14 | 0.08 |   | .12                        | 0.10  | 0.05 |     | .09                          | 0.06  | 0.03 | * | .08                               | 0.06  | 0.03 |     |

Note. β = standardized regression coefficient, b = unstandardized regression coefficient, SE = standard error. The reference category for education level is “high school or less”, for metropolitan status “urban”, and for Internet use “several times a day or less often”.  
 \* p < .05. \*\* p < .01. \*\*\* p < .001.

education levels were more likely to increase their attempts at disconnection during COVID-19 as compared to before. Frequent Internet users were also more likely to increase attempts to disconnect during the pandemic. Similar patterns were found for overall disconnection behavior during the pandemic (with the exception of Internet use frequency). It could be that these groups had used digital media more than usual, such as for social connection (Nguyen et al., 2021) or remote working (Parker et al., 2020) and learning, and therefore felt a higher need to disconnect. This would make sense, as frequency of use likely covaries with disconnection in the sense that the possibility to engage in disconnection is inherently tied to how much one uses digital media—which we also see in our data as Internet use and disconnection are correlated. Income—an important indicator of social privilege—was not related to disconnection practices. It could be that this relationship is suppressed by related factors, such as that higher age is positively related to income but negatively related to digital skills and disconnection. The finding that people living with children were more likely to disconnect could be explained by the desire to spend more offline leisure time during the pandemic, as children's screen time overall had increased during this time (Trott et al., 2022). Our data did not reveal any differences by sociodemographics and digital resources in attempts to disconnect less. This could be related to the increased dependence on digital media during the pandemic, and fewer opportunities to disconnect overall.

Our study paints a contrasting picture and suggests that disconnection may come both from a place of digital privilege as well as digital disadvantage. On the one hand, our findings indicate that people with greater social and digital privilege are making more efforts to disconnect. Scholarship notes that digital disconnection is increasingly being constructed as a “luxury good” (e.g., Beattie & Cassidy, 2021; Jorge, 2019), and as Beattie and Cassidy (2021, p. 13) note, it has become a “means for the bourgeoisie to differentiate themselves from the rest of society.” On the other hand, our results reveal that those who worry about their Internet access—and presumably have less stable and dependable access—are also more likely to limit their digital media use deliberately. The question that arises from these contrasting findings is what motivated these groups to disconnect more often than usual, or at all, during the pandemic. Future research should consider people's motivations and lived experiences of digital disconnection (Nguyen, 2023) to explore the complexities of digital inequality in people's disconnection practices further.

A possible explanation for the finding that people with greater social and digital privilege engage more in digital disconnection could be that social norms around how much digital media use is “good” for someone are more prevalent among this demographic group (Fleming, 2015), and that they are more likely to be aware of potential downsides (LeBourgeois et al., 2017). In that sense, self-reported disconnection behaviors may be subject to social desirability bias, where those of higher social status believe they are not supposed to use digital media too much or do not want to be seen as people who use digital media a lot. Future research could combine self-report data with log data to examine if certain social groups are indeed using digital media more than other groups or whether this is self-perceived. An alternative explanation for the increased engagement in disconnection practices among younger, higher educated, more connected, and more digitally skilled people could be that there is a

greater need for disconnection among these groups. As Fast (2021) notes, ideas of “digital detoxing” are mainly prevalent among higher-educated knowledge workers, who likely use technology more often because of their jobs as compared to many people of lower socioeconomic status (Riddell & Song, 2017).

For those with less stable and dependable Internet access, it could be that increased attempts to disconnect, and disconnection behavior overall, were forced upon them rather than entirely voluntarily. Interestingly, those who worried about their Internet access were more likely to use feature-based strategies to disconnect compared to those who did not share this concern. Possibly, some people may have had to delete apps and programs or switch off the Internet in an attempt to prevent an overloaded Wi-Fi network or to save on cellular data. Remarkable is that the most connected Internet users were also more likely to worry about their access. Part of this group may comprise knowledge workers (with more privileged socioeconomic backgrounds) who needed reliable access for remote work, and actively disconnected to ensure stable Internet connections. However, we should note that in our current sample socioeconomic status indicators (e.g., education level, income) were not related to worry about Internet access. As mentioned before, in order to understand fully how digital inequalities around disconnection practices are shaped, it is imperative to pursue future research on people's motivations and lived experiences of deliberate technology nonuse.

People with greater digital skills were more likely to disconnect using certain specific strategies. However, when considering the larger context of sociodemographics, living arrangements, and digital resources in the regression analyses, we found that among the people who practice any disconnection, those with greater skills used more non-tech strategies while this was not the case for feature-based strategies. Instead, we found that younger people, men, and more connected participants used a wider range of feature-based strategies to disconnect. While previous qualitative work suggests that digital know-how can be important for managing one's digital media use through the features of technologies (Nguyen, 2021), our results only support this to some extent. Digital skills are typically related to age, education level, and Internet use (e.g., Festic et al., 2021; Hargittai & Shaw, 2020), and the correlations in this study confirm this as well. As such, it could be that the bivariate relationship between digital skills and feature-based disconnection is explained by overlapping variance with age, education level, and Internet use. In a post-hoc exploratory analysis, we found that for younger people, digital skills positively related to the total number of disconnection strategies used (non-tech and feature-based combined), while for older people, digital skills were not indicative of one's disconnection repertoire. This suggests that digital skills shape especially younger people's disconnection practices.

It could also be that digital skills are most relevant for engaging in feature-based disconnection strategies that are highly complex (e.g., the selective use of a phone's do-not-disturb function that makes exceptions for family members; Nguyen, 2021), which might explain why in the current study the role of digital skills was limited as we focused on fairly straightforward feature-based strategies (e.g., deleting apps, turning off notifications or the Internet). More customized and sophisticated disconnection strategies likely require higher digital skills. Considering the increasing digitalization

of contemporary societies, being able to disconnect through technical features may become ever more important as an alternative or supplement to taking deliberate behavioral breaks from technology. We thus encourage future research to continue to explore the role of digital skills in disconnection, as they may become increasingly relevant for using digital media in a balanced way.

### Implications for digital inequality and communication theories

Traditional digital inequality research has typically examined questions of access to, skills with, uses of, and benefits derived from digital media use (Hargittai, 2021), referring to the first, second, and third levels of digital inequality (Hargittai, 2002; Helsper & Van Deursen, 2015; Ragnedda & Ruiu, 2017). In doing so, these theories have implicitly treated “underconnection” as a disadvantage. In other words, historically, the more time one would spend on digital media, the more privileged traditional theories of digital inequality would consider said user (Hargittai, 2021). However, this assumption might no longer be true in digital societies where perpetual connectivity is a default for many. In such cases where people might feel overwhelmed by abundant information and communication, “overconnection” may be as much of a risk to individual health and well-being (e.g., Nguyen, 2021). In the current study, we use digital inequality as a theoretical framework to map the socio-digital disparities in voluntary disconnection practices, thereby giving insight into who is more or less likely to disconnect and therefore potentially more or less susceptible to the risks of information and communication overload. More explicitly, findings about more active disconnection being linked to more privilege challenge some of the core tenets of traditional theorizing of digital inequality whereby more use is equated with better outcomes. We argue that in connected societies where digital media is widely used and abundant, digital inequality scholarship is ripe for an additional dimension: one that addresses disparities in the possibility and ability for people to disengage intentionally from technology. Overall, our study advances scholarship by extending theoretical perspectives on digital inequality to the realm of digital disconnection, thereby improving our understanding of the socio-digital disparities in people’s voluntary digital nonuses in an age of technology ubiquity.

We propose a fourth level of digital inequality, which relates to the possibility and ability to disconnect voluntarily, and has important implications for understanding contemporary digital media use. Combined with traditional perspectives from digital inequality research that hypothesize that socio-digitally advantaged people are more likely to take up and use technologies, our work suggests that there may be an inverted U-shape relationship when it comes to inequalities in technology use. On one end of the digital inequality spectrum, the focus is on sufficient access conditions such as quality devices and connection speeds, i.e., resources to use technology to a full extent. Once these conditions are met, diverse skills and uses follow. These uses then filter up into various benefits for social and economic participation. What the existing theoretical approach does not account for is that the marker of privilege in an always-connected world becomes the possibility and ability to disconnect. As digital media is integrated into people’s everyday lives, people might actively

think of ways to reduce their uses to optimize the gratifications they get from digital activities by minimizing the types of uses that they perceive as problematic. Supported by our findings, voluntary disengagement from technology (e.g., disconnecting outside of work hours or during travel, exchanging a smartphone for a traditional phone) is likely reserved for those with more socio-digitally privileged positions in society.

Looking ahead, digital inequality scholars should incorporate disconnection practices as part of their investigations, as these become ever more relevant in a society where technology is omnipresent. Voluntary nonuse, as a fourth level of digital inequality, is likely to interact with each level (i.e., first, second, third) in a way that can inform the overall picture of digital disparities in today’s society. Methodologically, our findings suggest that we cannot assume that more time spent on digital media equals more benefits or privileges per se, and studies examining contemporary digital inequalities should adopt more refined measures examining people’s online behaviors. We call on future research to examine contemporary digital inequalities more explicitly by examining socio-digital disparities in voluntary nonuse, as well as their motivations and challenges to doing so.

The notion of a fourth level of digital inequality, namely that in people’s voluntary disconnection practices, also has important implications for theories on human communication and well-being, such as Communicate Bond Belong (CBB) theory (Hall & Davis, 2017). CBB theory posits that communication plays a central role in creating and maintaining a sense of social bonding and belonging. The theory also highlights that people’s motivation to engage in communication can fluctuate—as one’s need to belong is satisfied, one becomes less motivated to engage in communication, and vice versa. This is because social interactions take up time and social energy, of which people only have a finite amount. CBB theory might explain why refraining from social interactions can restore one’s perceived well-being. More recently, scholars have connected CBB theory to the concept of digital solitude (Campbell & Ross, 2022). They have argued that solitude, while historically conceptualized as being physically alone, is better captured by the idea of noncommunication, as this better accounts for the ubiquitous role of digital communication in contemporary everyday life. Recent empirical work has shown that especially for highly connected people (i.e., the digitally privileged), solitude, or making oneself unavailable to communicate via face-to-face and digital means, has the potential to restore people’s social energy and consequently their sense of well-being (Ross et al., 2023), thus functioning as restorative “me-time.” What CBB theory does not consider is how motivational processes of (non)communication and related consequences for well-being might differ across individuals based on socio-digital resources. Relating CBB theory and empirical work on digital solitude to our findings that voluntary disconnection is primarily practiced by those in more socio-digitally privileged positions, it might well be that inequalities in disconnection practices would further exacerbate disparities in the benefits that people get from actively taking breaks from technology, such as for their well-being.

Combining CBB theory with a contemporary understanding of digital solitude as well as digital inequality theory, future research should examine more explicitly what the consequences of socio-digital inequalities in disconnection

practices are for the benefits that people derive from such nonuse (e.g., for social connection, well-being). Thus far, digital inequality research has shown that people with greater social and digital privilege are more likely to benefit from engaging with technology, for instance in terms of social capital (Nguyen et al., 2022), subjective well-being (Hofer et al., 2019), and economic opportunities (Karaoglu et al., 2022). When it comes to disconnection then, we can ask: Does disconnection help people in reducing information overload and, does this then benefit their sense of well-being? Do people who disconnect from time to time find their digital experiences more enjoyable and meaningful? Do inequalities in people's disconnection behaviors mean that the benefits thereof are also unequally distributed? Informed by CBB and digital inequality theory, scholarly insight into how socio-digital inequalities around disconnection impact the benefits that people derive from it will offer a more refined understanding of the complex relationship that people hold with digital media in an age of endless connectivity.

### Limitations and future directions

Our study has several limitations that need to be discussed. First, we used quota sampling to ensure that our sample composition would reflect U.S. Census figures based on sociodemographics. Nonetheless, given that we did not use a random sampling technique, our sample may not be entirely representative of the population. Second, since our survey was administered through an online research company, people who were extremely serious about disconnection and abandoned digital media altogether would likely not be in our sample. That said, the purpose of our study was to gain insight into how connected users limit their time online, and we were able to address this question with our sample. Another sampling limitation is that we relied on an online instrument, which would likely bias toward more digitally savvy participants, thereby excluding people especially lacking in skills from participation. Despite this constraint, we found considerable variance in people's level of digital skills in our sample and thus were able to address our research question about whether differences in skills matter for disconnection practices.

Our measure of disconnection focused on digital media use generally, it did not specify whether people reduced digital media use for particular purposes such as using a laptop for work, instant messaging for social connection, or social media for entertainment, and so forth. As such, we cannot draw specific conclusions about particular uses. Moreover, it could be that reductions in certain areas (e.g., for work) might be associated with increases in other uses (e.g., for entertainment). Additionally, our measure of changes in disconnection was based on one item at one time point during the pandemic. While pre and post measures would have been preferred, we embarked on this study when the pandemic started and thus had no access to pre-pandemic measures. Related to this, changes in disconnection might also span longer time periods, such as months and years. In general, we believe that our question was able to capture important changes in digital media practices during COVID-19, especially as technology uses changed significantly during a short time span. Nonetheless, future research using longitudinal approaches is warranted to study how disconnection behaviors change dynamically over longer time periods.

It is important to note that our measure specifically asked about who actively tried to disconnect during the COVID-19

pandemic. As such, our findings do not give insight into which people desired to, but were not able to disconnect and thus did not attempt at doing so. It also does not give insight into which people tried to disconnect, but did not succeed at doing so. Furthermore, it is important to realize that some people cannot engage in voluntary disconnection because of their personal circumstances. This may include gig workers who rely on online tasks for a living and cannot afford to disconnect as they need it for their livelihood (and potentially even more so during COVID-19). It may also concern single parents who have a hard time disconnecting when they are the only emergency contact for their child. Future research might clearly distinguish between people's desire to disconnect, ability to disconnect, disconnection attempts, and success at doing so, as this can give a more comprehensive picture of the socio-digital inequalities in disconnection practices.

We should also be mindful that while COVID-19 offered a unique opportunity to examine disconnection practices, findings from this special time may not generalize to other circumstances. For some people, the pandemic could have meant that they were less likely to disconnect because they were more dependent on digital media for basic human needs such as information, communication, and entertainment. On the other hand, the increased uptake of digital media during this time could also have led to feelings of information overload, prompting people to engage more in efforts to reduce their digital media uses. Our findings might also be specific to the timing of the survey, which was relatively early on in the pandemic (May, 2020), while digital media and disconnection practices might differ later on in the pandemic. Another consideration is that this study was conducted in the United States, which will not generalize everywhere. Specifically, we encourage future work to examine digital disconnection practices in other countries with different digital infrastructures and pandemic circumstances. This is important for gaining a comprehensive understanding of digital inequalities in disconnection practices across the globe (Tréré et al., 2020). Additionally, while this study benefited from focusing on people who are regular Internet users given the interest in disconnection practices, recent scholarship has highlighted how voluntary disconnection is privileged to those who have endless access to the Internet and can afford to go offline (Tréré et al., 2020), and so future work should extend to contexts where connection is less of a given. Finally, having shown in this paper how digital inequality in disconnection practices can be studied using quantitative methods, future research can extend this work and build on the approach in more usual circumstances rather than a global pandemic.

### Conclusion

The increase in people's digital media uses during the COVID-19 pandemic provided a unique case study to examine people's disconnection practices. Thanks to a diverse sample of American Internet users, we were able to examine the prevalence and thus commonness of everyday digital disconnection behaviors. We found that during a time of heightened digital media dependency, one-fifth of people tried to limit their digital media uses more than they would do so ordinarily; while one in ten made less effort to reduce their technology use. We find that social and digital inequalities extend to people's disconnection practices as well, and suggest that

digital disconnection emerges both from a place of socio-digital privilege as well as disadvantage. These findings have empirical and theoretical contributions spanning the field of digital disconnection, digital inequality, and digital well-being scholarship.

In light of the increasing digitalization of many aspects of everyday life, digital disconnection is likely to become ever more important as a research topic in the future. Decades of scholarship have focused on the questions of digital media adoption (e.g., Feng et al., 2019; Goldfarb & Prince, 2008; Hargittai, 2011; Kongaut & Bohlin, 2016) where technology has been treated as a scarcity, emphasizing the risks of not being connected. Building on digital inequality theory, our study gives insight into the socio-digital inequalities in disconnection practices that reveal which groups are less likely to take breaks from technology. Alongside notions from the broader field of digital disconnection research, our study suggests that in digital societies where connection has become more of a default rather than the exception, the focus may shift from questions of differentiated adoption to questions of moderated use instead. Specifically, we argue that in the digital age, scholarship is ripe for a new category of digital inequality: namely one that addresses disparities in people's voluntary disengagement from digital media. Due to increasing digitalization, future generations will likely be more concerned with the question of how to use digital media in moderation—or how to disconnect. We encourage future research to continue studying how social and digital inequalities shape not only people's digital media uses but also their intentional non-uses—such as everyday disconnection practices in the age of 24/7 connectivity.

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## Appendix A—Questionnaire Items

This appendix describes the questions that were used in the study “*Digital Disconnection In A Perpetually Connected World: A Digital Inequality Perspective*.” The questions appear in the order in which they were asked. Note that these questions are a selection of the survey, as this study was part of a larger project.

*Internet use*—How often do you access the Internet at home using the following devices?

|                               | Almost<br>constantly  | Several<br>times<br>a day | About<br>once<br>a day | Few<br>times<br>a<br>week | Less<br>often         | Never                 |
|-------------------------------|-----------------------|---------------------------|------------------------|---------------------------|-----------------------|-----------------------|
| Mobile phone                  | <input type="radio"/> | <input type="radio"/>     | <input type="radio"/>  | <input type="radio"/>     | <input type="radio"/> | <input type="radio"/> |
| Tablet                        | <input type="radio"/> | <input type="radio"/>     | <input type="radio"/>  | <input type="radio"/>     | <input type="radio"/> | <input type="radio"/> |
| Laptop or desktop<br>computer | <input type="radio"/> | <input type="radio"/>     | <input type="radio"/>  | <input type="radio"/>     | <input type="radio"/> | <input type="radio"/> |

*Digital skills*—How familiar are you with the following computer and Internet-related items? Please choose a number between 1 and 5 where 1 represents “no understanding” and 5 represents “full understanding” of the item.

|                 | 1 – None              | 2                     | 3                     | 4                     | 5 – Full              |
|-----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Advanced search | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| PDF             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Spyware         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Wiki            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Cache           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Phishing        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

*Worry about Internet access*—Since the Coronavirus outbreak, have any of the following been worrying you more than usual, even if only in a minor way? Check all that apply.

[This question listed 8 items, among which also the item “Internet access”]

- ...
- Internet access
- ...
- None of these

*Disconnection strategies*—Since the Coronavirus outbreak, have you tried to reduce the time you spend using digital media in any of the following ways? Check all that apply.

By digital media we mean devices with Internet access, such as a smartphone, laptop/computer, tablet or smart TV.

- I create “digital detox” moments during which I consciously distance myself from digital media
- I have rules about limiting digital media in the household, for example during dinner or before sleeping
- I use an app or program that tracks my digital media use
- I delete apps and programs that take too much of my time

- I turn off notifications from email, social media, news or messaging apps
- I temporarily switch off the Internet, for instance by using flight mode, when I want to concentrate on an activity
- I just reduce the time I spend on digital media without using any special approach
- I use a different way to reduce my digital media use, specifically: \_\_\_\_\_
- I have not tried to reduce my digital media use in any way during the Coronavirus pandemic

*Change in disconnection*—Since the coronavirus pandemic, have you tried to reduce the time you spend using digital media more than before, less than before, or about the same?

- More than before
- About the same
- Less than before

*Birth year*—In what year were you born? (four digits please)

\_\_\_\_\_

*Gender*—Are you:

- Male
- Female
- Other, please specify: \_\_\_\_\_

*Race and ethnicity*—Are you of Hispanic or Latino descent?

- No
- Yes

*Race and ethnicity*—Please check one or more categories below to indicate what race or races you consider yourself to be.

- White
- Black/African American
- Asian
- American Indian or Alaska Native
- Native Hawaiian or Pacific Islander
- Other, please specify: \_\_\_\_\_

*Education level*—What is the highest level of school you have completed or the highest degree you have received?

- Less than high school degree
- High school graduate (high school diploma or equivalent including GED)
- Some college but no degree
- Associate’s degree
- Bachelor’s degree
- Advanced degree (e.g., Master’s, doctorate)

*Living arrangements*—How many adults currently live in your household, including you?

- 1
- 2



- 3
- 4
- 5 or more

*Living arrangements*—How many children under the age of 18 currently live in your household, including those who live there part time?

- None
- 1
- 2
- 3
- 4
- 5 or more

*Employment status*—What is your current employment status? Check all that apply.

- Employed full time
- Employed part time
- Self-employed
- Not employed, looking for work
- Not employed, NOT looking for work
- In the military
- Student
- Retired
- Disabled, not able to work
- Homemaker

- Other, please specify : \_\_\_\_\_

*Metropolitan status*—How would you describe the type of community you live in?

- A big city
- The suburbs or outskirts of a big city
- A town or a small city
- A rural area

*Household income*—Which one of the following includes your total HOUSEHOLD income for last year, before taxes?

- Less than \$10,000 (5000)
- \$10,000 to under \$20,000 (15000)
- \$20,000 to under \$30,000 (25000)
- \$30,000 to under \$40,000 (35000)
- \$40,000 to under \$50,000 (45000)
- \$50,000 to under \$65,000 (57500)
- \$65,000 to under \$80,000 (72500)
- \$80,000 to under \$100,000 (90000)
- \$100,000 to under \$125,000 (112500)
- \$125,000 to under \$150,000 (137500)
- \$150,000 to under \$200,000 (175000)
- \$200,000 to under \$250,000 (225000)
- \$250,000 or more (300,000)

## Appendix B: Zero-Order Correlations Independent Variables

**Table B1.** Full sample (N= 1551)

|                                     | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8    | 9       | 10     | 11     | 12     | 13 |
|-------------------------------------|---------|---------|---------|---------|---------|---------|---------|------|---------|--------|--------|--------|----|
| 1 Age                               | –       |         |         |         |         |         |         |      |         |        |        |        |    |
| 2 Female                            | .05     | –       |         |         |         |         |         |      |         |        |        |        |    |
| 3 Some college                      | –.05*   | .00     | –       |         |         |         |         |      |         |        |        |        |    |
| 4 Bachelor’s degree                 | .06*    | –.11*** | –.32*** | –       |         |         |         |      |         |        |        |        |    |
| 5 Household income                  | .06*    | –.10*** | –.01    | .40***  | –       |         |         |      |         |        |        |        |    |
| 6 Employed                          | –.30*** | –.14*** | .01     | .25***  | .28***  | –       |         |      |         |        |        |        |    |
| 7 Rural residence                   | .14***  | .10***  | –.04    | –.13*** | –.08**  | –.10*** | –       |      |         |        |        |        |    |
| 8 Suburban residence                | .03     | –.02    | .05     | .15***  | .21***  | .06*    | –.37*** | –    |         |        |        |        |    |
| 9 Living alone                      | .14***  | –.08**  | .00     | .04     | –.20*** | .01     | –.05    | –.05 | –       |        |        |        |    |
| 10 Living with children             | –.32*** | .02     | .00     | .01     | .09***  | .14***  | –.02    | .01  | –.34*** | –      |        |        |    |
| 11 Internet use (almost constantly) | –.31*** | –.01    | .01     | –.05    | –.05*   | .09***  | –.06*   | –.04 | –.12*** | .14*** | –      |        |    |
| 12 Worry about internet access      | –.15*** | –.06*   | .03     | .01     | –.03    | .02     | .01     | –.01 | –.04    | .10*** | .09*** | –      |    |
| 13 Digital skills                   | –.21*** | –.19*** | .01     | .18***  | .18***  | .24***  | –.09*** | .06* | .00     | .11*** | .17*** | .09*** | –  |

*Note.* The reference category for education level is “high school or less”, for metropolitan status “urban”, and for Internet use “several times a day or less often.”

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

**Table B2.** Subsample ( $N=586$ )

|                                     | 1       | 2       | 3       | 4      | 5       | 6      | 7       | 8    | 9       | 10     | 11    | 12  | 13 |
|-------------------------------------|---------|---------|---------|--------|---------|--------|---------|------|---------|--------|-------|-----|----|
| 1 Age                               | –       |         |         |        |         |        |         |      |         |        |       |     |    |
| 2 Female                            | .06     | –       |         |        |         |        |         |      |         |        |       |     |    |
| 3 Some college                      | –.04    | –.06    | –       |        |         |        |         |      |         |        |       |     |    |
| 4 Bachelor's degree                 | .06     | –.05    | –.40*** | –      |         |        |         |      |         |        |       |     |    |
| 5 Household income                  | .04     | –.14**  | –.06    | .43*** | –       |        |         |      |         |        |       |     |    |
| 6 Employed                          | –.20*** | –.18*** | –.01    | .28*** | .31***  | –      |         |      |         |        |       |     |    |
| 7 Rural residence                   | .01     | .00     | .03     | .16*** | .22***  | .06    | –       |      |         |        |       |     |    |
| 8 Suburban residence                | –.06    | –.10*   | .02     | –.03   | –.10*   | .03    | –.74*** | –    |         |        |       |     |    |
| 9 Living alone                      | .17***  | –.09*   | .00     | .03    | –.19*** | .00    | –.06    | .07  | –       |        |       |     |    |
| 10 Living with children             | –.22*** | –.01    | –.01    | .00    | .13**   | .12**  | .02     | –.01 | –.41*** | –      |       |     |    |
| 11 Internet use (almost constantly) | –.23*** | .02     | .00     | –.04   | –.03    | .03    | –.03    | –.01 | –.16*** | .15*** | –     |     |    |
| 12 Worry about internet access      | –.10*   | –.08    | –.01    | .02    | –.02    | –.01   | .05     | .06  | .00     | .05    | .07   | –   |    |
| 13 Digital skills                   | –.10*   | –.21*** | –.01    | .18*** | .17***  | .18*** | –.12**  | .06  | .01     | .07    | .14** | .06 | –  |

Note. The reference category for education level is “high school or less”, for metropolitan status “urban”, and for internet use “several times a day or less often.”

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .