Privacy Literacy: From Doomscrolling to Digital Wellness

Alexandria Chisholm and Sarah Hartman-Caverly

abstract: Personal technology use can significantly impact wellness. The transition to widespread remote learning, working, and socializing during the COVID-19 pandemic exacerbated society's reliance on technology. This article presents a case study of how the authors applied their privacy scholarship to offer a responsive learning experience for students concerning the social implications of the pandemic. The article also explores the authors' unique approach to digital wellness, which seeks to align wellness goals and habits regarding technology while placing a special emphasis on privacy, particularly information asymmetries, attention engineering, and the hidden harms of invasive data collection.

Digital Wellness as Crisis and Opportunity

Library instruction traditionally focuses on how information can help us *make up our minds*, but there is an emerging opportunity to explore how information also *makes up* our minds. Mental health, including both cognitive and affective well-being, is impacted by information and communications technologies (ICT) and the flow of information through and between increasingly networked lives. The ubiquitous integration of technology in everyday life transforms users' relationships to their devices, selves, loved ones, educational and work experiences, and society at large. Some transformations are positive, as digital access creates new, or even necessary, opportunities. The global COVID-19 pandemic, for example, required

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physical distancing for public health, resulting in increased reliance on ICT. However, these benefits come with costs, including hidden harms. Technology use that is unwelcomingly intrusive, overtly coercive, or clandestinely addictive can harm identity formation and sense of self, emotional and spiritual well-being, cognition and learning, intimacy and social relationships, autonomy, and "the will to will" for the future.[1]

The possibilities and challenges presented by digital technologies are particularly profound for today's traditional college students, those of Generation Z (Gen Z). While members of this generation, born from the mid-1990s to the early 2010s, already experienced unique relationships with technology during their formative years, they now exhibit an unprecedented range of technology-driven potential and impairment in emerging adulthood. Their challenges include loneliness, stress, and a sense of loss of control over their own futures. These feelings are exacerbated by an overreliance on technology, to the detriment of social relationships and real-world experiences, and by the isolation, anxiety, and despair that are the social comorbidities of COVID-19.

As instructional librarians seek opportunities to teach the whole student, they possess unique subject matter expertise and ethical perspectives to respond to the pitfalls of the constant connectivity facing today's undergraduates. Digital well-being is an emerging construct that integrates exploration of the personal, technological, and social factors of ICT to better understand, manage, and advocate for technology's contribution to personal wellness. While students demonstrate a need for information and strategies to maintain their digital well-being, librarians have the necessary knowledge, skills, and ethical reasoning to craft such learning experiences. Librarians are also well positioned to foster partnerships on campus to deliver digital well-being programming in impactful ways.

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This article explores the concept of digital well-being and presents an approach to cocurricular, librarian-led digital wellness programming at a small regional campus within an R1 state university system ("Doctoral Universities—Very high research activity"). A literature review discusses evidence of mental health concerns among Gen Z college students, the broader social context of people's deepening relationships with technology, and the COVID-19 pandemic as both a factor in personal wellness and an accelerator of technology's integration into daily life. Specific attention is paid to the campus context, where the deployment of technologies for academic and public health surveillance during the pandemic inflicted previously unconsidered harms on students. The concept of digital well-being is defined, and examples of library programming for digital wellness are examined. The privacy dimensions of personal well-being are explored as an overlooked aspect of digital wellness that librarians are uniquely positioned to address. The article culminates in a case study of an original Digital Wellness Workshop, describing how the facilitating librarians responded to the sudden pivot to remote teaching and learning to deliver a privacy literacy learning experience under the specter of COVID-19.

Doomscrolling: Mental Health Concerns and College Students

Mental health concerns rose among young adults over the last decade.[2] Most teens identify anxiety and depression as major difficulties for their peers, and these mental health challenges impact young adults across all income brackets at similar rates.[3] Studies indicate that Gen Z is the loneliest generation, which affects physical and emotional health as well as productivity.[4] Furthermore, only half of Gen Z think they do enough to manage their stress.[5]

While the human body is designed to handle stress in small doses, chronic persistent stress can trigger severe responses in all bodily systems, including musculoskeletal, respiratory, cardiovascular, endocrine, gastrointestinal, nervous, and reproductive.[6] Recommended techniques to combat stress include engaging with a social support system, exercising regularly, and getting adequate sleep, all things that are difficult for college students, especially during a pandemic.[7]

Gen Z has a unique, complex relationship with technology, the Internet, and social media.[8] They were the first generation to grow up with omnipresent technology, and connectivity impacts every facet of their lives. Jean Twenge's research shows that the influence of mobile technologies affects Gen Z across all socioeconomic, ethnic, and demographic backgrounds. It comes as no surprise that many self-identified stressors for young adults, including healthcare, mass shootings, politics, and current events, are exacerbated by excessive technology and social media use, as infinite scroll display has made it easier than ever to be sucked into an endless cycle of doomscrolling.[9]

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(Dis)Connected: Technology and the Human Condition

The last two decades saw drastic transformations in technology, significantly changing how individuals relate to their devices and one another. As ubiquitous connectivity spread and society became dependent upon technology for social and professional communications, individuals' relationship with the world around them also evolved. Between 2007 and 2008, Americans first reported more screen time than active leisure time.[10] The year 2007 also saw the biggest annual drop in outdoor recreation time; by 2018, nearly 50 percent of Americans engaged in no outdoor hobbies or activities.[11] These major behavioral shifts transpired concurrently with the introduction of Apple's first iPhone, which hit the market in January of 2007.[12]

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Since the launch of the iPhone, change has been swift—by 2012, just five years later, over half of Americans owned a smartphone.[13] Research shows that, on average, people

interact with their phones more than 2,600 times per day.[14] Socializing online—with its benefits and drawbacks—now ranks as the most common way young adults interact with friends.[15]

As society's relationship with technology evolved, so did the Internet's impact on the individual. In 2008, writer Nicholas Carr famously asked, "Is Google Making Us Stupid?" in an *Atlantic Monthly* piece bemoaning his growing inability to engage in sustained reading and deep thinking.[16] Over a decade later, a psychiatric study has confirmed Carr's hypotheses and shows that high levels of Internet use may cause what researchers have dubbed "online brain"; impacted cognitive functions include difficulty maintaining sustained concentration, divided attention, and issues with memory and recall.[17]

There have also been psychological and social implications. A global study called the world UNPLUGGED project investigated young adults' relationships with technology as they grew up with ubiquitous mobile connectivity. Subjects regarded their cell phones as extensions of their person and experienced extreme discomfort when attempting to disconnect. Students could not imagine how to spend free time without media and conveyed how inextricably linked their phones had become to their day-to-day lives.[18] This research is reinforced by social scientist Sherry Turkle's work illustrating how technology and constant connectivity have drastically altered intimacy, particularly for young adults as they construct their identities through socialization.[19]

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The Pandemic as Technology Accelerator

The pandemic has had far-reaching and severe impacts on society, particularly among college-aged students. It underscored both new and existing concerns, including housing and food insecurity, barriers to degree completion, mental health, and the digital divide—the gap between those who have easy access to computers and the Internet and those who lack it. Many of these issues have disparate impacts on students of color and perpetuate systemic barriers to higher education and social mobility.

Nearly half of college students say that the pandemic will negatively impact their degree completion; these effects are worse for Black and Hispanic students.[20] Many students at risk of dropping out lack a support system at home and are unaware of institutional support programs, such as food assistance, childcare, emergency financial services, mental health programs, and tutoring. Awareness is lowest among first-generation college students.[21]

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Access to reliable technology also poses a key problem for college students. An EDUCAUSE report issued during the pandemic revealed that over a third of respondents struggled to find an adequate Internet connection to meet their academic needs. One in 10 lacked a device that could perform the tasks required for their coursework.[22]

The American Psychological Association (APA) annual report *Stress in America* for 2020 found not only that typical concerns continued about persistent stressors but also that the COVID-19 pandemic had imposed an additional overwhelming burden on Americans. The report warned, "It is the unusual combination of these factors and the persistent drumbeat of a crisis that shows no sign of abating that is leading the APA to sound the alarm: We are facing a national mental health crisis that could yield serious health and social consequences for years to come."[23] For college students, who are at the cusp of commencing their adult lives, this situation could have far-reaching ramifications.

Education was a major stressor reported by Gen Z adults in college. Eighty-seven percent cited their education as a major cause of anxiety, and 82 percent worried about how the 2020–2021 academic year would unfold.[24] One alarming discovery was that "more than 2 in 3 Gen Z adults in college (67%) say the coronavirus pandemic makes planning for their future feel impossible."[25]

As universities transitioned to remote teaching and learning, many implemented a variety of surveillance technologies in the name of academic integrity and health. Remote test proctoring software has been criticized as a privacy invasion that increases stress by both students and faculty.[26.] In addition, there is evidence that the facial recognition and eye tracking features integrated into these technologies are discriminatory to neuro-atypical students and students of color.[27] To have a remote proctoring service fail to recognize your face due to your skin tone or flag you for cheating because of behavior caused by an underlying condition escalates exam anxiety to new and dehumanizing levels.

Many universities have also deployed surveillance tech in the form of wearables, contact tracing apps, thermal imaging cameras, and more.[28] While often well-intentioned, the efficacy of these technologies in preventing the spread of COVID-19 is questionable, and they further contribute to normalizing surveillance tech on campus.[29] Constant surveillance is known to cause anxiety and alter human behavior.[30] At a time of unprecedented stress, adding the strain of increased monitoring seems unnecessary and harmful to students' mental health.

Beyond academic contexts, Gen Z was the likeliest to report feelings of loneliness; declining mental health, including common symptoms of depression; negative impacts on their relationships, including decreased closeness with friends and family; and adverse effects on their physical health, such as disrupted sleep patterns, eating unhealthy food, or weight changes.[31] Other general stressors reported by Americans were the United States presidential election and police violence and discrimination.[32]

Doomscrolling, according to the dictionary publisher Oxford Languages, is "the action of compulsively scrolling through social media or news feeds which relate to bad news."[33] Studies show that excessive phone usage combined with sedentary time, which is inherently associated with doomscrolling, correlates with college students' increased anxiety and depression during lockdown.[35] Excessively consuming news about COVID-19 and other stressful current events contributes to mental health concerns.[36] It is no wonder that the Oxford English Dictionary named *doomscrolling* one of the 2020's words of the year.[34]

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The stress of a pandemic mixed with escalating tensions related to ongoing social issues weighed heavily on Gen Z, who were the least likely of all generations to report feeling hopeful about the future.[37] More than ever, wellness must be addressed in higher education. The intensification of the digital ecosystem by the pandemic renders digital wellness essential.

Digital Wellness: Technology and Optimal Being

Wellness is an all-encompassing concept that touches on nearly every aspect of an individual's life. The National Wellness Institute defines it as "an active process through which people become aware of, and make choices toward, a more successful existence."[38] The institute identifies and recognizes six dimensions of wellness: physical, social, intellectual, spiritual, emotional, and occupational.

Given ubiquitous mobile connectivity, it is essential to redefine, or at least, account for the influence technology has on wellness. As defined by Mariek Vanden Abeele,

> Digital wellbeing is a subjective individual experience of optimal balance between the benefits and drawbacks obtained from mobile connectivity . . . People achieve digital wellbeing when experiencing maximal controlled pleasure and functional support, together with minimal loss of control and functional impairment.[39]

According to Vanden Abeele, the mobile connectivity paradox—the tension between the autonomy achieved from ubiquitous connectivity and the loss of control that comes with increased expectations of availability—presents the core quest of digital wellness.[40] Vanden Abeele suggests that individuals must find balance through a dynamic systems approach to digital well-being. This methodology considers the interplay of several factors, categorized as person-specific, device-specific, and context-specific. Person-specific factors include personality traits, such as impulsivity, and affective and cognitive states, such as mood.[41] Device-specific factors involve system design choices, such as persuasive design, which attempts to change people's behaviors or influence their attitudes, and notification system nudges, which subtly condition (or reward) user activity on the platform. Other device-specific factors include inherent portability and availability. These factors can result in behaviors such as "fragmentation and habituation."[42] Context-specific factors stem from ubiquitous connectivity's impact on social roles, forcing individuals to constantly negotiate time and relationships.[43] Learning experiences can address digital wellness from any combination of these three factors, but their interconnected nature makes acknowledgment of these dynamics a fundamental component of educating about the intersection of technology and wellness. Omitting the influence of any single element leads to both oversimplifying problems and overlooking potential solutions.

With an increasingly complex technological landscape accompanied by a barrage of newly identified data harms, digital wellness is a critical part of modern life, particularly for college students. Considering the pervasive presence of technology in the activities of everyday life, from social interactions to how students participate in learning environments, their lives are entirely networked. Every time it feels like society has reached peak appification—in which our "everyday activities and routines are being expressed through, carried out by, and experienced as apps"[44]—another facet of users' lives is identi-

fied and targeted for datafication, "which enrolls an expanding array of digital technologies that are directed at recording aspects of human lives and bodies and rendering them into digitized information."[45] This datafication is often marketed and weaponized under the guise of self-improvement, efficiency, and wellness. Virtually every app, website, and Internet-connected device collects behavioral data and sells it to data brokers for advertising and profiling purposes.[46] Data are never isolated or contained within a system—they circulate into interconnected networks outside the user's control. The pervasiveness of mobile technologies and connectivity often hide their role in shaping society and emerging power structures.[47]

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The Role of the Academic Library in Digital Wellness

With clear evidence that Gen Z college students suffer mental health issues at greater rates than previous generations, wellness initiatives should be a strong priority in higher education. Librarians, with their expertise in information and digital literacies, are well positioned to lead learning opportunities to support these growing student needs. Many academic libraries spearhead wellness opportunities at their local institutions. These initiatives include peer-study programs; diversity and inclusion initiatives, including support for transgender and gender-nonconforming students; empathetic and relational approaches to research consultations; wellness support for student workers; dedicated space for student parents; meditation spaces for spiritual wellness; therapy dog programs; physical activity promotion; and cross-campus collaborations for wellness initiatives.[48] According to Lorna Rourke's study, which examined the wellness services of a sampling of North American academic libraries, the most common supports were event hosting, collections of wellness information, circulating items (such as light therapy lamps and fitness equipment), provision of "stress-free zones," and cross-campus partnerships.[49] The most widespread theme for library-led wellness programming was examination stress relief.[50] Rourke's survey failed to identify any programs related to the intersection of wellness and technology; this gap illustrates the disconnect between traditional notions of wellness and the impact of technology, as well as academic libraries' lack of digital wellness initiatives.

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Considering technology's role in exacerbating mental health and wellness issues, digital wellness programs are an obvious next step for academic libraries. These initiatives have the potential to expand educational opportunities, increase partnerships across campus, and create positive impacts on students. Digital wellness can easily be addressed through broader digital literacy initiatives as taught by academic librarians. As Julia

Feerrar has highlighted, however, digital literacy frameworks often fail to address health and wellness. When they deal with those issues, they often do so in relation to online safety and digital citizenship, limiting the scope and creativity of learning experiences.[51]

The LIS literature includes few case studies of digital wellness workshops. School libraries offer many parallel programs regarding digital citizenship, but those focus more on prosocial online behaviors than on habits to support individual wellness. The limited academic library-led digital wellness initiatives primarily concentrate on the social, psychological, and physical harms of technology overuse. The desired outcomes concentrate on developing coping techniques to reduce stress and anxiety and on utilizing specific tools and strategies to mitigate overuse.[52]

Feerrar's approach stands out to the authors for several reasons. First, it explicitly addresses privacy and security issues within the context of wellness; this is due in large part to Virginia Tech's newly adopted framework for digital literacy, which includes an "Identity and Wellbeing" competency.[53] Additionally, the method is built on reflection, which embraces student agency; that, along with a teaching philosophy grounded in humility and authenticity, makes the approach similar to the authors' own.[54]

Despite addressing privacy and security issues, Feerrar's approach mostly deals with front-end features, such as password and account security, online identity management, and screen time management. While these are central digital wellness themes, the focus is entirely on individual awareness and management of technology use; it does not address the device-specific factors of Vanden Abeele's dynamic systems approach, such as persuasive design.[55]

While privacy considerations and security measures are essential to digital wellness, technology use is riddled with hidden harms due to our data-driven economies. To simply address the privacy aspect of digital wellness with checklists is to miss an opportunity to educate students on the surveillance capitalist practices that increasingly influence their actions and shape their world.[56]

Empowerment and Datafication: Digital Wellness Approaches

Current approaches to digital wellness rely heavily on the language of addiction and even frame solutions around that rhetoric, such as "digital detoxes," when people temporarily reduce or eliminate the time they spend on their devices. Many techniques also focus on tools to curb technology use, such as screen time monitoring and gray-scale settings that reduce visual appeal and stimuli to lessen the addictive qualities of devices. Most methods place responsibility on individuals to take control of their behaviors and find a healthy equilibrium for their life. Big Tech companies often take this stance in defense of their products.[57] While these approaches can be helpful, valid, and often necessary, they only address individual responsibility and do not adequately account for systemic issues and deeper privacy implications.

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Typical approaches to digital wellness are seldom nuanced and rarely account for experiences that are hedonic—when a user derives pleasure from using digital media—and eudemonic—when digital media use adds meaning to life.[58] While experiences can and do spiral out of control, the positive relationship that individuals can have with technology cannot be disregarded. Simplistic solutions such as digital detoxes and minimalism approaches reduce digital harms at the expense of the positive facets of technology use.[59] In addition, these approaches are temporary solutions at best and do not confront the many systemic, structural issues associated with ubiquitous connectivity.

According to Veronica Barassi, there is a new type of public self on the rise—the "datafied citizen." In contrast to the concept of the "digital citizen"—which refers to an individual's use of online platforms to self-construct in public—the "datafied citizen" is defined by narratives created through a person's digital exhaust, or online behaviors and activities.[60] The digital citizen empowers, while the datafied citizen cedes control of one's identity, often without the individual's awareness or informed consent. In digital wellness rhetoric, the concept of digital citizenship is often the focal point, while the element of datafication is glaringly absent.

Evidence increasingly unveils the extent to which we are tracked online. Big Tech companies may begin monitoring individuals through shadow profiles—even before birth.[61] We live with cradle-to-grave surveillance that allows no refuge from the constant watchful eye of Big Tech—where the boundaries of private and public are erased and there is no place for true solitude.[62]

Many wellness initiatives intentionally integrate technology into daily practice. For example, wearable technologies and smartphone apps are often utilized to motivate individuals to improve their physical fitness or nutrition, track their finances, manage their schedules, or aid in other wellness goals. These self-tracking activities can and do have positive impacts on people's lives; however, the quantified self only scratches the surface of the surveillance architectures at play.[63] The public-facing and shadow texts of these technologies reveal vastly different intentions.[64] While users may adopt these technologies for their marketed self-improvement purposes, companies exploit this personal data intake to harvest profits from individuals' wellness ambitions.

Abundant digital exhaust leads social scientists to laud Big Data's ability to illuminate the inner workings of human behavior. The reality is, however, that platforms are closed loop systems and data do not represent pure human behavior—individuals' actions in online environments are influenced by the intervention of nudges and commercial interests.[65] Recognition of persuasive design and attention engineering techniques are necessary to critically analyze the efficacy of Big Data's ability to accurately represent human behavior.

To be effective, digital wellness initiatives require nuanced approaches that acknowledge the individual's positive relationship with technology while also recognizing the hidden harms of technology use due to data-driven economies. Privacy literacy provides one avenue for exploring the technological affordances that support active digital citizenship while exploiting the datafied citizen. The function of privacy as what Mireille Hildebrandt calls "protection for the incomputable self" raises critical challenges to the emerging paradigm that overrelies on self-knowledge and social science through datafication.[66]

Hidden Harms of Invasive Data Collection [A head]

When a product or service is free, data exhaust is the driving force behind Big Tech's revenue generation. This necessity for behavioral surplus data is what Shoshana Zuboff refers to as the extraction imperative.[67] Under the belief that quantity creates quality in analysis and predictions, technology companies seek to increase their data collection by expanding their reach into every facet of human experience under the guise of convenience and self-improvement. These data are then utilized in an attempt to alter people's behavior, what Zuboff calls actuation.[68] By allegedly understanding an individual's inner mental state, data brokers and their clients predict when people are primed for a push or nudge to prompt desirable behavior. While this confidence in Big Data's ability to accurately portray human experience is flawed, attempts to nudge and alter a person's behavior in online environments pose real consequences. One example is Facebook's social contagion study, in which engineers manipulated users' emotional states on a massive scale.[69] Additionally, the Cambridge Analytica scandal utilized the personality data of Facebook users to influence voter behavior.[70] The success of these sentiment manipulation and "nudge" practices relies on these procedures remaining hidden from the public's knowledge.[71]

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The volume and scope of user data collected by Big Tech companies produce major power disparities. These are known as information asymmetries, which refer to the inherent imbalance of power that arises from control over knowledge by concealing, monopolizing, and restricting access to information flows.[72] Information asymmetries generally disempower data subjects—the people about whom data are collected, analyzed, and used—while benefits accrue to a small minority of information monopolists (companies that control the information market), such as Google and Facebook.

Information asymmetries mean individuals have inherently limited options to control the collection and use of their data. The control paradox speaks to the individual user's limited ability to anticipate and regulate how their digital data may be collected, aggregated, analyzed, and used. Empirical research demonstrates that perception of control over limited aspects of privacy can actually lead people to share more, such that they end up becoming more vulnerable as a result of privacy features ostensibly meant to protect them.[73] For example, the ability to audit privacy settings built into social media accounts like Facebook often make people feel they have greater control over the flow of their personal information. However, the control offered by these privacy settings is limited; power is exercised primarily over how information is shared with other individual users, rather than over the behavioral surplus data that are gathered by

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data brokers. Two examples that involve digital wellness are Google's Digital Wellbeing application for Android users and Apple's Screen Time settings for iPhone users, both of which enable users to set limits on their use of digital devices. These settings give users a sense of control over their technology use, but they do not address the persuasive design features inherent to smartphones and apps that intentionally manipulate individuals' attention and time.

The concept of the attention economy—the idea that attention itself is a finite resource, subject to scarcity—was first described by the multidisciplinary social scientist Herbert Simon in 1971.[74] The scarcity of attention has made it valuable, leading to intentional persuasive design choices meant to engineer attention and keep individuals engaged with devices and platforms for longer periods. Persuasive design for attention engineering is meant to lull people into a timeless state of self-forgetting and to nudge them into automatic and compulsive behaviors, like doomscrolling.[75] As Jenny Odell contends in her book *How to Do Nothing: Resisting the Attention Economy*, "Attention may be the last resource we have left to withdraw."[76]

Some researchers suggest that persuasive design is inevitable, and the conversation should instead shift toward "ethical persuasion" in the belief that technology nudges can be employed to encourage healthy digital habits optimizing both business profits and user values.[77] However, as Odell inquires, "What does persuasive design look like when someone else tries to bring out my 'aspirational self,' and does it for profit?"[78] No matter how prettily these systems are packaged, they still amount to a loss of autonomy and control, particularly when the practice is hidden from the user.

While technology can and does support healthy habits and relationships, these hidden harms are best addressed through the intentional integration of privacy literacy. In the face of these invisible forces, digital wellness initiatives will only be effective when they go beyond individual responsibility and into the systemic design features that usurp people's attentional autonomy and agency.

An Intentional Approach to Digital Wellness

The Digital Wellness Workshop at Penn State Berks Thun Library in Reading, Pennsylvania, is designed to explore the interplay of person-specific, device-specific, and context-specific factors of digital well-being, with a particular focus on the positive case for privacy in the human experience. The workshop developed at the confluence of several factors. First, passive student engagement programming in Thun Library's Discovery Lab made librarians newly aware of students' wellness challenges.[79] The engagement board prompts "What's your academic superpower?" and "How will you use the library to challenge yourself this year?" elicited candid responses regarding such issues as test anxiety, substance abuse, poor sleep quality, and depression, consistent with current research on college student wellness. Librarians resolved to respond to these concerns by creating a new curated wellness collection for browsing and sought opportunities to partner on wellness-related programming.

Next, new dimensions of privacy literacy came to light during the updating of an existing Digital Leadership Workshop. These emerging privacy literacy considerations inspired interest in creating an additional learning experience centered on digital well-

being. Finally, this new workshop needed to be integrated into an established Privacy Workshop Series, then comprising the Privacy, Digital Leadership, and Digital Shred workshops, that is delivered in collaboration with numerous campus partners and stakeholders.[80] As these workshops address privacy considerations in the present, future, and past, respectively, the workshop in development was designed to address privacy across the lifespan.

The Digital Wellness Workshop also reflects a specific philosophical approach to privacy literacy. Workshop developers understand privacy literacy as "a suite of knowledge, behaviors, and critical dispositions regarding the information constructs of selfhood, expressive activities, and relationships," espousing the view that "privacy is a value system before it is a technology."[81] The workshop facilitators actively resist technosolutionist approaches to privacy management, which suggest that the adoption of a specific software, browser extension, password management system, or privacy setting is sufficient. Learning experiences were designed to engage students in a critical evaluation of privacy, personal data collection, and related technologies through the lenses of information asymmetries, the control paradox, disparate impacts, and the hidden harms of invasive and ubiquitous data collection.[82] The workshop's learning activities were designed to be open-ended and exploratory, rather than closed or determinative. Workshop facilitators purposefully avoided prescriptive or proscriptive approaches to privacy and technology use in favor of engaging students in the articulation of their own privacy values and practices while respecting their unique lived experiences, autonomy, and dignity.

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A lodestar concept of the Digital Wellness Workshop is conscientious connectivity, a purposeful state of self-awareness of one's technology use. The framework of conscientious connectivity supports digital wellness learning outcomes by prioritizing conscious awareness, attention, prosocial behavior, and meaning.[83] Advocating conscientious connectivity is an evidence-based approach to digital wellness that simultaneously respects students' individual privacy values, technology use experiences, and ethical reasoning. Admittedly, the original, pre-pandemic Digital Wellness Workshop discussed conscientious connectivity in the context of digital minimalism and an intentional shift toward face-to-face interactions and real-world experiences.

Meeting Campus Needs: Workshop Context and Partnerships

Each of the four workshops—Privacy, Digital Leadership, Digital Shred, and Digital Wellness—work as both stand-alone and integrated learning experiences for students.[84] The introductory Privacy Workshop is offered as an option in first-year seminar classes and reaches about one-third of incoming freshmen each fall. Assessment data and anecdotal observations for this course-integrated workshop clearly reveal that students are

highly engaged and interested in privacy topics.[85] Cocurricular library workshops often struggle to draw consistent attendance, however.[86] Cross-campus partnerships, along with faculty and staff buy-in, are essential to successful learning experiences outside classroom settings. As with the other privacy workshops, the authors sought to leverage existing campus connections to increase student participation in Digital Wellness, partnering with Counseling Services and Student Affairs. Workshop promotion began early in the spring semester of 2020—before anyone could anticipate the pandemic's impact.

Centering Students: Workshop Outcomes and Activities

Three learning outcomes were articulated for digital wellness programming: (1) to reflect on one's digital wellness priorities; (2) to learn how one's digital practices impact personal well-being, including relationships, mental health, and professional aspirations; and (3) to align digital wellness habits and goals through the creation of a personal Digital Wellness Wheel.[87] Using backward design techniques, participatory learning activities were created to engage participants in achieving these outcomes and to deliver a learning experience consistent with the established Privacy Workshop Series.[88] The learning activities included a warm-up reflection, a mini lecture on digital wellness and privacy, a case study investigation of a self-identified digital wellness priority, and development of a personal Digital Wellness Wheel. The workshop is designed to be completed in an hour but can be abbreviated for delivery in 45 minutes or extended to fill the time available.

The Digital Wellness Workshop begins with a brief welcome, an overview of the workshop activities, and a warm-up reflection. Participants respond anonymously to the following prompts:

- What does wellness mean to you?
- List examples of healthy habits.
- What are your wellness priorities?
- Identify barriers to your wellness goals.
- What are your "imbalance indicators" that signal you're going off-track?

These reflection prompts are intended to elicit general wellness priorities and concerns, and they purposely omit references to technology. As the participant response rate slows, workshop facilitators begin to share aloud and respond to participant comments. For example, they might highlight common themes in how participants define or value wellness, identify trends in healthy habits and wellness priorities, and acknowledge common wellness barriers or challenges. Participants are also invited to share observations from the warm-up reflection or discuss their own ideas in more detail. This 15-minute introductory discussion affirms the values, priorities, concerns, and experiences of the participants, and centers the remaining workshop activities on their needs and interests. To segue into the mini lecture, facilitators acknowledge that the reflection prompts do not address technology or digital wellness directly and make it a point to highlight any participant responses that specifically reference technology use. They then transition into the mini lecture, which draws more direct connections between technology use and personal well-being.

The 10-minute mini lecture comprises three slides that consider wellness in light of technology. The first slide reviews pivotal statistics about technology use as it connects to other leisure and social activities, focusing on the transformation of society's relationship with technology over the past two decades. The second slide depicts the authors' Six Private I's privacy conceptual framework (see Figure 1).[89] The purpose of this slide is to highlight the important function of privacy in personal and social well-being while revealing the hidden harms of ubiquitous data collection, including those from apps and wearable technologies ostensibly designed to promote health and wellness. Participants are encouraged to consider the privacy impacts of technology on their identity, intellect, bodily and contextual integrity, intimate relationships, social interactions, and ability to withdraw into seclusion or voluntary isolation.[90] The Six Private I's slide also connects the Digital Wellness Workshop content to the Privacy Workshop, scaffolding from many participants' prior knowledge while creating a shared knowledge base of privacy concepts for those who have not previously participated in the Privacy Workshop. The final slide details considerations for achieving a personal balance between wellness and technology use. These considerations include screen time monitoring; doomscrolling, attention engineering, and persuasive design; behavioral nudging and sentiment manipulation; healthy sleep habits; body image and body dysmorphia; general physical and mental health; nature deprivation; real-life relationships; and school/work/life balance. This content transitions directly into an exploration of the varied dimensions of wellness and the introduction of the Digital Wellness Wheel, which can be found in the Appendix.

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The Digital Wellness Wheel extends the familiar Wellness Wheel by adapting it for the purposes of reflecting on how one's technology habits impact personal well-being and setting wellness goals related to technology use.[91] As part of their pedagogical practice, the workshop facilitators seek real-world artifacts like the Wellness Wheel that enhance the relevance, transferability, and generalizability of their learning experiences for students. The Digital Wellness Wheel depicts six interrelated wellness areas: physical, intellectual, spiritual/emotional, social, financial/professional, and fun/recreational. Like the traditional wellness wheel, which serves as the underlying metaphor, one can only roll smoothly through life if one's Digital Wellness Wheel is balanced, aligned, and well maintained with respect to all dimensions of well-being.[92]

Workshop participants are invited to spend a few moments reviewing the details of each segment in the Digital Wellness Wheel and referring to the warm-up reflection activity to identify one to three personal priority areas. For example, the intellectual dimension relates to education, learning, reading, and creativity; while the spiritual/emotional dimension refers to self-esteem, having a sense of purpose and meaning in life, living in alignment with one's values and beliefs, managing stress levels, and

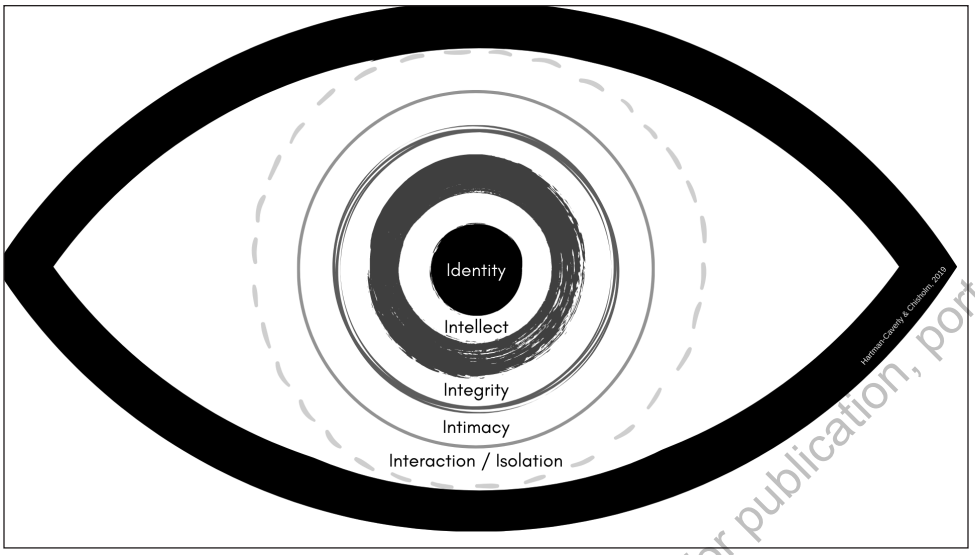

Figure 1. The Six Private I's privacy conceptual framework depicts six concentric "information constructs of selfhood, expressive activities, and relationships" protected by increasingly permeable privacy boundaries: identity, intellect, bodily and contextual integrity, intimate relationships, social interaction, and voluntary withdrawal into seclusion (isolation).

Source: Sarah Hartman-Caverly and Alexandria Chisholm, "Privacy Literacy Instruction Practices in Academic Libraries: Past, Present, and Possibilities," *IFLA* [International Federation of Library Associations and Institutions] *Journal* 46, 4 (2020): 306, https://doi.org/10.1177/0340035220956804.

engaging in reflection, meditation, or general self-awareness. Once participants have selected their digital wellness focus areas, the workshop progresses into the case study investigation activity.

Through brief case study investigations, workshop participants independently explore a digital wellness priority area in more detail by selecting from a curated list of popular media stories and public polling data about digital wellness topics. Workshop facilitators maintain a list of relevant case studies categorized by wellness area in the workshop guide. These case studies, which evidence person-specific, device-specific, and context-specific factors of digital wellness, are continually updated based on new additions to the Digital Shred Privacy Literacy Toolkit repository.[93] Case studies in the intellectual wellness category, for example, include pieces on the College Board's sharing of student data, how technology supports knowledge work in the information economy, the impact of surveillance on attention and mental health, and the use of persuasive design.[94] Participants are prompted to navigate to the list of recommended case studies for their self-identified digital wellness priority area, select a case study to review, and prepare to anonymously share one thing they learned that they can apply to their personal digital wellness goals. After five to seven minutes, workshop facilitators then reconvene the large group and lead a debriefing discussion featuring participants' findings from their case study analyses. Students are encouraged to highlight things they personally find interesting in the case studies or to share more detail about something

they learned. This case study discussion crowdsources information and tips about each dimension of digital wellness to prepare workshop participants for the culminating activity, the development of their personal Digital Wellness Wheel.

The Digital Wellness Workshop concludes with participants reflecting individually on their personal digital wellness priorities and challenge areas guided by the Digital Wellness Wheel worksheet.[95] For each of their identified priority areas, participants are asked to consider how technology positively or negatively impacts this area of personal wellness, how technology can be leveraged or removed, and what steps they can take to improve their habits. During this 10- to 15-minute activity, participants may refer to case studies in the relevant category, use information that was shared during the case study discussion, or consult general digital wellness resources listed in the workshop guide.[96] Participants are also encouraged to apply what they learned about privacy and its impact on the human experience to their digital wellness planning. The Digital Wellness Wheel worksheet includes a link to the Personal Data Plan, a privacy assessment tool that students receive as a takeaway from the Privacy Workshop. The plan is designed to inform their consideration of the impact of privacy and personal data use on their digital wellness priorities.[97] By completing the Digital Wellness Wheel, students leave the workshop with a personalized, evidence-based, and judgment-free tool for pursuing their own digital wellness priorities.

For each of their identified priority areas, participants are asked to consider how technology positively or negatively impacts this area of personal wellness, how technology can be leveraged or removed, and what steps they can take to improve their habits.

In the final moments of the workshop, facilitators invite participants to share their digital wellness discoveries and goals; however, due to the sensitive and personal nature of the exercise, participants are not pressured to share. Facilitators offer general closing remarks for the workshop, thank participants for their engagement with workshop activities, and provide resources and contact information for further learning. Participants are then invited to anonymously respond to summative reflection prompts, including:

- What is one change and/or step you plan to take after this workshop?
- Top takeaway OR something you want to investigate further.
- Comments or suggestions.

The form used to collect these responses is configured to generate a certificate of completion, which students can download and submit to instructors who offer extra credit for workshop participation. This privacy-affirming proof of participation is offered in lieu of collecting and reporting student attendance.

Workshop facilitators were eager to explore this new dimension of privacy literacy with students and the campus community in March 2020. With its intentional focus on privacy and digital wellness across the lifespan; its participant-centered approach; its respect for participants' individual values, experiences, and digital wellness priorities;

and its born-digital teaching materials, the Digital Wellness Workshop was flexible by design. Still, workshop facilitators did not anticipate how agile the workshop would need to be—or how their own approach to digital wellness as technology minimalism would soon be challenged.

From "Digital Detox" to "Social Distancing"

The inaugural Digital Wellness Workshop was scheduled for the first week of remote learning at Penn State. With exactly one week to reframe their approach and philosophy, workshop facilitators had to respond quickly with a considerable mental shift. Suddenly a workshop inspired by Sherry Turkle's *Alone Together*—intended to encourage attention autonomy, a return to authentic relationships, and increased non-tech-mediated life experiences—needed to accommodate a whole new lived reality that everyone, instructors included, still grappled to understand.

Fortunately, this mental shift was the only major adjustment that required immediate attention. The authors had already incorporated best practices of instructional design into their teaching habits, which included creating and housing all workshop content and materials in a contained online ecosystem. Workshop slides, activities, and handouts were all embedded in the Springshare LibGuides environment. The only adaptations required were to convert the Digital Wellness Wheel worksheet, which would typically be a paper handout in face-to-face sessions, into a fillable PDF, and to migrate the opening reflection questions from large sticky notes posted around a physical classroom into an online posting wall in Padlet. These changes were easily accomplished within the one-week preparation time frame. The sudden shift to remote teaching reinforced the value and importance of these instructional practices.

As the campus community began to move to an online learning environment, campus partners quickly recognized that digital wellness was a highly relevant and beneficial topic. With promotion and advocacy from Student Affairs, Counseling Services, and the Aspiring Scholars Program,[98] the Digital Wellness Workshop had 19 participating students, making it one of Thun Library's best-attended freestanding workshops despite the pandemic. In fact, the entire cocurricular Privacy Workshop Series delivered virtually in the fall of 2020 drew higher attendance than previous face-to-face offerings. This unexpected turn of events has led the authors to reconsider future iterations of the workshop series with the possibility of fully online or hybrid offerings. Hybrid or online workshop delivery has the added benefit of inviting participation from students studying at other locations or fully online. In response to this increased attendance and positive student feedback, further experimentation and exploration of delivery modalities are warranted.

As the campus community began to move to an online learning environment, campus partners quickly recognized that digital wellness was a highly relevant and beneficial topic.

The transition to widespread remote learning, working, and socializing exacerbated society's reliance on technology; what was once viewed critically through the lens of compulsive dependency became essential to staying connected in a time of forced separation. While the authors' approach always acknowledged that personal technology use can significantly impact wellness, both positively and negatively, it had not accounted for life during a pandemic. Rapidly, the authors had to adopt a mental shift in their approach to wellness and technology use—from "digital detox" to "staying social while social distancing."

The transition to widespread remote learning, working, and socializing exacerbated society's reliance on technology; what was once viewed critically through the lens of compulsive dependency became essential to staying connected in a time of forced separation.

Accepting that technology use would increase due to physical distancing, the authors decided to address heightened use from a privacy values-based perspective that acknowledged the shadow text of companies' (and universities') data collection practices. This privacy literacy approach challenged the authors to reconstruct their understanding of digital wellness and ground their teaching more fully in theory. Content was reframed to emphasize such concepts as the attention economy, the extraction imperative, information asymmetries, and alienation.[99] Rather than encourage popular digital detox and minimalist practices, the authors instead urged conscientious connectivity through notions of attention autonomy and informed refusal while acknowledging the larger issues of control and systemic coercion of digital participation under surveillance capitalism.[100] This methodology highlights the hidden harms of technology use while refusing to place sole responsibility on individual users, which is increasingly shown to be limited. While still empowering individual choices, it advocates dispositions and behaviors that acknowledge the limitations of front-end privacy choices so as not to encourage a false sense of control.[101]

Students engaged with the workshop content and participated fully in opportunities for discussion. They made abundant contributions in both anonymous (Padlet) and identifiable (Web conference chat, audio, and video) formats, which seemed to serve as a therapeutic outlet for voicing their anxieties over their new lived realities and unknown futures. Participants pinpointed socialization, mental health, excessive screen time, living with family while attending classes, and curtailed access to physical fitness opportunities as sources of uncertainty and concern. Due to the workshop's built-in discussions and metacognitive reflections, students essentially drove the session and allowed the instructors

Rather than encourage popular digital detox and minimalist practices, the authors instead urged conscientious connectivity through notions of attention autonomy and informed refusal while acknowledging the larger issues of control and systemic coercion of digital participation.

to responsively address specific wellness issues and any identified misunderstandings. Furthermore, the timing of the workshop—during the first week of remote learning—along with the options for anonymous participation helped to build a sense of trust and community that is typically difficult to develop during a one-shot workshop. Considering this positive student response, the Digital Wellness Workshop was adapted for prospective students, staff, faculty, and community members as part of the public-facing Penn State Berks LionSide Chats initiative. It was also included as a standard offering in the Privacy Workshop Series provided each fall in observance of Cybersecurity Awareness Month.[102]

Participants pinpointed socialization, mental health, excessive screen time, living with family while attending classes, and curtailed access to physical fitness opportunities as sources of uncertainty and concern.

Voluntary assessment data suggested that students valued the options for anonymous participation, which allowed them to feel comfortable discussing highly sensitive topics and voicing personal concerns, and they enjoyed the metacognitive, active learning workshop format. Particularly in later iterations in the summer and fall of 2020, students indicated that they experienced Zoom fatigue and that the highly interactive format was refreshing and preferable to continued lectures. This feedback reinforced the authors' teaching philosophy and approach to remote instruction while also dispelling myths about active participation and the necessity for coercive "cameras-on" policies. A workshop that provided dynamic and varied opportunities for student contributions and allowed facilitators to address participants' interests and concerns led to engaging and impactful learning experiences for students and instructors alike.

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Conclusion

The Digital Wellness Workshop was designed to respect students and their dignity, autonomy, and lived experiences. These goals informed the choice to provide opportunities for both anonymous and identifiable participation, and inspired the metacognitive reflection questions and discussion prompts that resulted in students generating much of the workshop content. This approach also necessitated trusting students to engage meaningfully with largely self-directed learning activities during the workshop. These instructional choices were baked into the design of the Digital Wellness Workshop prior to the U.S. outbreak of the COVID-19 pandemic and the resulting sudden shift to remote teaching and learning. The librarian facilitators' shared bias toward digital wellness as digital minimalism was also integrated into the workshop's initial design.

While the transition to physical distancing and remote instruction demanded little of the librarians in terms of instructional redesign with respect to the Digital Wellness Workshop, it did present an inflection point that challenged their preconceptions of digital well-being as primarily achievable through offline experiences. With a week to prepare, workshop facilitators had to decide between delivering the workshop content as planned or updating their sense of the possibilities for digital wellness in the context of lives lived almost entirely online. Sharing the conviction that humility is central to an ethical teaching practice—and sensing that updating their approach to digital wellness was the best way to sustain the relevance of the workshop in the new reality of the pandemic—the librarians opted to revise their approach to digital well-being by placing a greater emphasis on the positive role that technology could, and indeed now must, play in personal and social health. By sharing this mental shift openly with students during the workshop, the librarians modeled intellectual humility, and this authenticity contributed to a shared sense of safety for participants to express emotional vulnerability and uncertainty in relation to both the pandemic and the digital wellness concepts under discussion.

Responsiveness in library instruction can address students' needs in the context of real-world events. Programming that considers the personal, technical, and social factors of digital well-being during prolonged physical distancing offered an opportunity for librarians to serve the whole student while providing a lens for greater understanding of the current macro-environment. Librarians' subject matter expertise on information flows and digital technologies, their participation in disciplinary and cocurricular campus collaborations, and a professional ethic of care positioned them well to develop digital wellness programming and resources tailored to the needs of their campuses.

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This article summarizes the relevant literature on college students' mental health, the impact of technology on well-being, and current examples of library programming for wellness and digital citizenship. It presents a case study of a novel approach to digital wellness programming grounded in privacy literacy concepts and an ethic of care for students. As institutions of higher education seek to incorporate well-being into their campus cultures and student experience, librarians can be leading voices in the pursuit of digital well-being.[103] The call for opportunities to cultivate digital wellness is loud and clear: how will librarians respond?

Alexandria Chisholm is a reference and instruction librarian in the Thun Library at Penn State Berks in Reading; she may be reached by e-mail at: aec67@psu.edu.

Sarah Hartman-Caverly is a reference and instruction librarian in the Thun Library at Penn State Berks in Reading; she may be reached by e-mail at: smh767@psu.edu.

Appendix

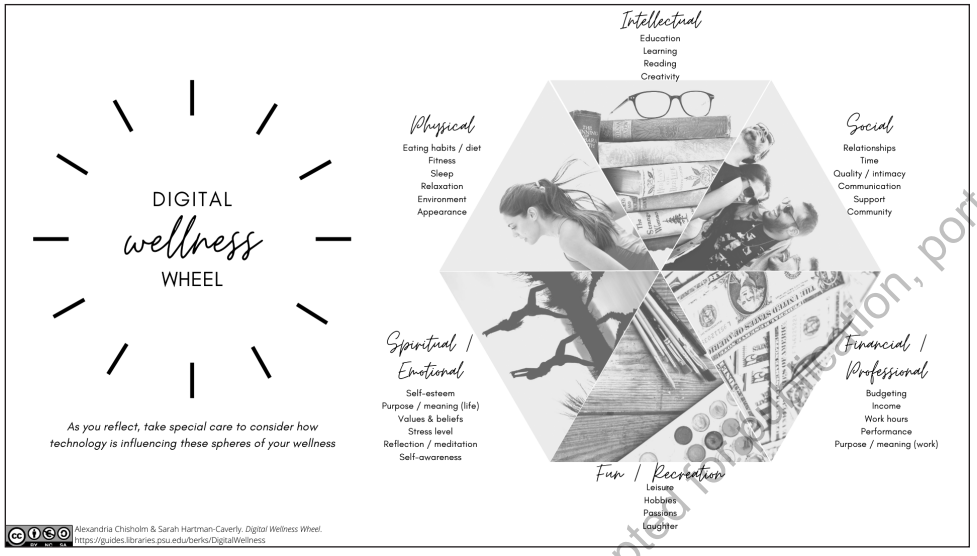

Figure 2. The Digital Wellness Wheel introduced in the Digital Wellness Workshop at Penn State Berks depicts six interrelated wellness areas: physical, intellectual, spiritual/emotional, social, financial/professional, and fun/recreational. The exercise asks students to reflect on how technology influences each sphere of their wellness.

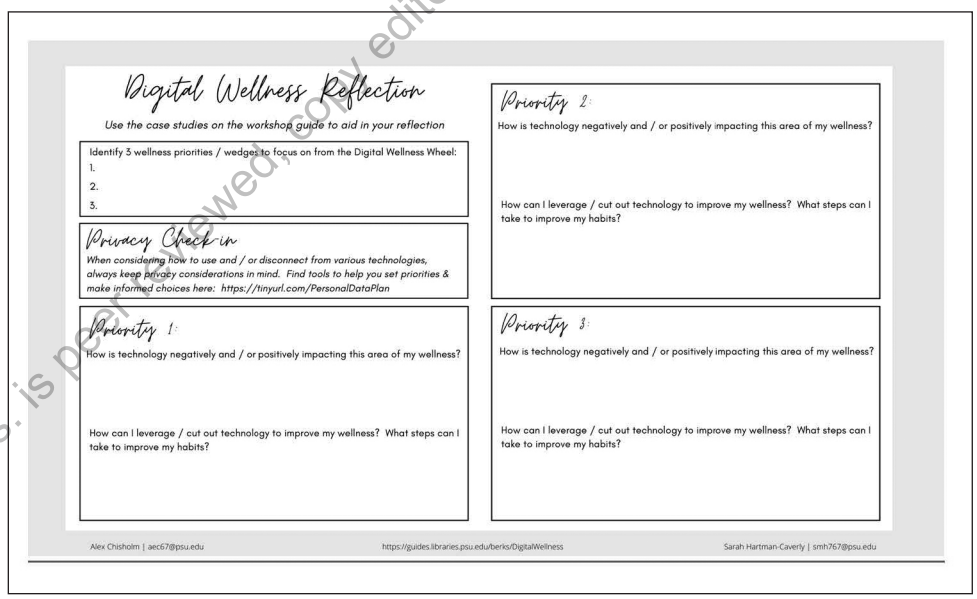

Figure 3. The second page of the Digital Wellness Wheel worksheet asks participants to brainstorm how they can leverage or reduce their use of technology to improve their habits. The worksheet also encourages a "Privacy Check-In" that scaffolds to the facilitators' Privacy Workshop.

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