

# Lessons in Loneliness



A report from roundtables on  
the Future of Social Connection, Loneliness, and Technology

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Table of Contents

Foreword	3
Key Takeaways	5
Part 1. What we know about loneliness	6
Part 2. What we learned about loneliness, social connection, and technology	10
Part 3. Designing Digital Tools	15
Stakeholder Responsibilities	19
References	22

## Foreword

The human condition is inextricably linked to our ability to connect with the world around us. From the people we share meals with to the voice on the other side of the phone, humans are psychologically, emotionally, and physiologically wired to connect with one another. 2020—which has been marked by a global pandemic, economic instability, and societal reckoning with racism—provides a stark reminder of what happens when meaningful social relationships are disrupted.

Yet, as lockdowns and physical distancing have limited our ability to interact in person, human resilience finds its way. Coupled with advancements in technology, people have found novel methods to connect despite the physical distance—such as [Love is Quarantine](#), [TikTok cloud raves](#), [virtual happy hours](#), [QuarantineChat](#). As the timeline for the pandemic drags on and certain daily interactions remain shifted online, the idea that technology will play a core role in our future connections and relationships seems inevitable. To prepare for this, it is imperative to explore the degree to which technology may influence an individual's emotional, psychological, and behavioral well-being.

The following report is the beginning of a journey to understand the relationship between social connection, technology, and loneliness. In an effort to deepen our understanding, Aspen Digital and Facebook formed this collaboration to support and engage with the various communities who best understand this topic.

Our intent is to listen and learn.

Why does this matter to institutions such as ours? In many ways, we converged on this topic from separate paths. Aspen Digital's purpose is to bring about social change through the responsible stewardship of technology. Facebook's mission is to give people the power to build community and bring the world closer together. Addressing loneliness and the associated feelings of disempowerment and disconnection is core to achieving both of our goals. How loneliness is defined, experienced, measured, and mitigated in a digital environment are some of the key questions we explore.

The following report features three main parts. Part one provides context and background scientific study on the concept of loneliness. Part two dives into key learnings drawn from a series of in-depth discussions we held with researchers, academics, clinicians, and technologists during three closed-door roundtable sessions and one public panel, all held in the summer of 2020. Part three offers different approaches and considerations for designing and developing technologies in this space. The report concludes with a set of recommendations for a variety of stakeholders, such as the tech industry.

While questions remain, the aim of this effort is to complement existing research, catalyze a community of interest, and influence the design and build of products, tools, and services that support human well-being.

## Acknowledgements

Aspen Digital and Facebook thank each of the 2020 roundtable participants for their time, expertise, and candor. We recognize the tremendous amount of work that is already being done, and we value your perspectives in helping us further our understanding. Most importantly, we hope that these conversations will promote cross-sector collaboration for the field at-large.

Thank you, also, to Dr. Kristine Gloria, our rapporteur, for capturing the various dialogues, debates, and nuanced view-points of participants. As typical of Aspen Institute roundtables, this report is the rapporteur's distillation of the conversation. It does not necessarily reflect the opinion of each participant in the meeting. Finally, we would like to thank Beth Semel, Program Manager, and Carner Derron, Marketing and Communications Manager, with Aspen Digital for their work on the roundtables and bringing this report to fruition.

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## Key Takeaways

The following key learnings are drawn from a series of in-depth discussions held with researchers, academics, clinicians, and technologists during three closed-door roundtable sessions and one public panel, all held in the summer of 2020.

### **There is no strong evidence that indicates levels of loneliness have increased globally during the pandemic.**

Despite initial expectations of COVID-19 physical distancing requirements potentially sparking an increase in loneliness, we do not have evidence that mean levels of loneliness have neither increased or decreased throughout various world regions during the crisis. However, certain populations (vulnerable populations and life stages) are more likely to experience loneliness (before and during COVID), such as younger adults, people who live alone, and people who have gone through major life events.

When designing tech for people who are experiencing loneliness, precision is key. Technology companies can focus on the general population but can also consider the specific experiences of certain subpopulations when designing and developing products.

### **Loneliness is shaped not just by individual factors but by social constructs and the environment in which we live.**

While much of the scientific literature points to the biological and psychological factors that contribute to loneliness, it is critical that we also recognize and give weight to the social, political, and economic factors in play. The question “*Whose loneliness matters?*” requires a deep reflection on the power structures that give rise to feelings of loneliness, particularly in marginalized communities. To mitigate the experience of loneliness requires responsibility and accountability of all stakeholders, such as governments, civic institutions, and tech companies.

Technology is one piece of the puzzle. Technology solutions should be developed in concert with other key stakeholders. Moreover, one role technology companies should play is to consider how power dynamics may manifest in the products they design and build to help people navigate feelings of loneliness. The same technology that can help people in times of loneliness can also simultaneously alienate them (e.g., the use of online comments to bully others).

### **The impact of social media on loneliness demands further study.**

Scientific evidence on the causal impact of social media on an individual’s subjective well-being, such as feelings of loneliness, is sparse. There continues to be significant questions around metrics and measurement tools as well as gaps in data, which has challenged the efficacy of certain results.

The research picture is incomplete. In order to build better digital tools, further investment in research must be made, both financially and collaboratively, with other researchers.

## What We Know About Loneliness

Loneliness is not a new concept. Its complexity is mirrored in the many different disciplines and lenses applied to its understanding. In general, loneliness is defined as a “distressing feeling that accompanies the perception that one’s social needs are not being met by the quantity or especially the quality of one’s social relationships.”<sup>1</sup> This elicits a normal human emotional response that is sometimes paired with feelings of anxiety, fear, and shame. A person may appear to be very social and outgoing but can nevertheless feel lonely. And, as we have seen during the pandemic, living in a shared space with others may not necessarily result in being less lonely. *But, why?*

### Loneliness and the individual

Loneliness is associated with several major factors: individual (e.g., biology); situational (e.g., life transitions); social (e.g., quality of interactions); and structural (e.g., culture). Let’s begin with the individual, situational, and social factors. The Cacioppo Evolutionary Theory of Loneliness (ETL) addresses the adaptive functions of loneliness that “[foster short-term survival](#)” of an organism. It is an adaptive signal in response to an adverse state, like hunger or pain, that prompts us to renew the connections we need in order to survive as well as “[promote social trust, cohesiveness, and collective action.](#)” Matthew Lieberman, Professor and Social Cognitive Neuroscience Lab Director at the UCLA Department of Psychology, Psychiatry and Biobehavioral Sciences, [underscores](#) that, “to the extent that we can characterize evolution as designing our modern brains, this is what our brains were wired for: reaching out to and interacting with others. These are design features, not flaws.” Thus, in the context of our exploration, Julianne Holt-Lunstad, Professor of Psychology and Neuroscience at Brigham University, summarized it best: if loneliness is synonymous with an adverse state like hunger, then how do we avoid creating the technology equivalent to junk food (convenient but not nourishing)?

Loneliness is also known to be a subjective feeling. Feelings of loneliness may vary in frequency, duration, and intensity among individuals. They can be acute or chronic, occasional and/or transient. For example, major life events, such as moving, pregnancy, divorce, and death, can trigger one’s experience in and/or out of loneliness.

<sup>1</sup> For additional definitions see [here](#)

Moreover, the consequences of loneliness are well-documented. Current research indicates that the negative experience of feeling alone is not just influential to our psychological or emotional well-being but is also a major risk to physical health. Specifically, [studies examining mortality](#) have found that experiencing loneliness or social isolation increases risk for earlier death (by 26 percent for loneliness; 29 percent for social isolation) regardless of the subject's age, gender, location, or culture. Lastly, studies have also pointed to the impact loneliness has on mental acuity and health, particularly in the elderly population. Feeling lonely [has been found](#) to increase cognitive decline, depression, and dementia.

Loneliness also does not discriminate. Several sources estimate the prevalence of chronic loneliness at about 10 percent. According to a [May 2020 study](#), survey responses from 237 countries, islands, and territories (collected prior to the pandemic) indicate that age, gender, and culture all interact to predict loneliness. Specifically, several past studies have found [elevated levels of loneliness](#) in adolescence or young adulthood as well as in older populations.<sup>2</sup> Furthermore, [a meta-analysis](#) of 75 longitudinal studies that examined the same individuals over time found that loneliness did not vary significantly by age. Instead, [other factors](#) like genetics, personality traits, and situational factors had more impact on loneliness than age.

Finally, it is important to distinguish loneliness from other forms of aloneness. In 1958, philosopher [Paul Tillich](#) famously wrote, "Loneliness expresses the pain of being alone and solitude expresses the glory of being alone." As we have discussed, loneliness is the perception of social isolation. Social isolation is the objective quantitative measure of the number of relationships someone has (not the quality of those relationships). Solitude, on the other hand, is a positive affirmation for being alone. These distinctions are critical to differentiating the social factors that may contribute to loneliness. As Sherry Turkle, Abby Rockefeller Mauzé Professor of the Social Studies of Science and Technology in the Program in Science, Technology, and Society at MIT, noted, "There is a real opportunity to take someone who is alone because of a situation, like the pandemic, and to give them the tools they may not have to live more constructively in solitude rather than loneliness." Where these states intersect with social and political realities is the next layer to unpack.

<sup>2</sup> Perlman, D.H., Ph., D., & Peplau, L.A. (2009). Chapter 2 Loneliness Research: A Survey of Empirical Findings; see also Dugan E, Kivett VR. The importance of emotional and social isolation to loneliness among very old rural adults. *Gerontologist*. 1994 Jun;34(3):340-6. doi: 10.1093/geront/34.3.340.

## Loneliness and society

While loneliness is rooted in an innate signal, the external influences of modern life, such as community, play a significant role in its experience. Now, more people are living longer and further apart from core relationships, such as family.

The prevalence of one-person households is increasing across the world and [correlates](#) with a country's increase in GDP per capita. Naturally, this leads to the question of whether living alone significantly contributes to the loneliness epidemic. Evidence, however, suggests that living alone, by itself, is a poor predictor of loneliness. Instead access to [increased income and freedom of choice](#) may be more likely part of the reason why more people choose to live alone today.

Findings from ["Loneliness Around the World"](#) sought to answer the question "How does culture affect loneliness?" This [research suggests](#) that people in individualistic countries, such as the United States, (versus collectivist ones) reported higher rates of loneliness, irrespective of age. Results show that [loneliness is equally frequent](#) for both men and women, but "the effect of culture was stronger for males." Accordingly, the [authors state](#), "[We] found the most vulnerable to loneliness were younger men living in individualistic cultures." The dichotomy of individualistic versus collectivist cultures is just one dimension. Thus, these findings should be interpreted with caution and serve to provide direction for future work. While not conclusive, research into cultural differences reinforces the notion that loneliness does not discriminate. Instead, the frequency, intensity, and duration of the feeling provides additional clues for how to mitigate its impact.

[Socio-economic factors](#) contribute to feelings of loneliness to a certain degree. Changes to the infrastructure of our contemporary lives are also key. None is more salient to modern day individuals than the introduction of the Internet, which has dramatically transformed the way many people connect, work, socialize, and learn. Now, people who live physically apart from core relationships may leverage various digital tools to connect, regardless of distance. One could argue that this is a positive outcome of digitally mediated social connection. At the same time, news coverage and anecdotal evidence would suggest that these types of interactions—and the social media platforms that facilitate them—may be also negatively impacting both our mental and physical health. And, here we arrive at the crux of our exploration: *Are social media platforms positively or negatively impacting loneliness?*



At this point, we would be remiss to ignore comments that expose loneliness as both being informed by socio-economic factors as well as informing how we may understand systemic structures of oppression. One example reflects the current social and political climate, which has made solitude difficult for some. "It is important to underscore that we currently live in a state of emergency," noted Turkle of MIT, referring to the COVID-19 pandemic. "Creative solitude, which was once a possibility for people living alone, is not possible in a state of heightened anxiety. We wonder, 'Will the government protect my health? Will the government protect the safety of the food supply?' The problem of loneliness cannot be separated from things like this."

*Summary.* Loneliness is complex. It is a personal, subjective, and negative feeling that is experienced by everyone, sometimes chronically. It can be associated with other emotions, such as depression, abandonment, and shame. The causes for loneliness, as far as we know, are rooted in our biology, our situational experiences, our quality of relationships, and our social environment. Its impact when pervasive and chronic may lead to deleterious mental, cognitive, and physiological effects. More critically, loneliness serves as a mirror of the human condition. It provides an additional analytical lens through which to examine the social forces on which it feeds. Social upheaval, mandated physical distancing, economic instability, and loss of control and trust in our institutions are all likely contributors to one's feeling of loneliness. "The question of loneliness does not exist in a vacuum," summarized Turkle. And, as we explore next, neither do the solutions to and approaches for helping each other navigate the experience.

**The question of loneliness does  
not exist in a vacuum.**

**- Sherry Turkle**

## What We've Learned

The motivation for this inquiry is the hypothesis that technology may have both a positive and or negative impact on loneliness and social connection. The question is whether we are equipped with the right tools, methods, and language to systematically examine this phenomenon. This next section highlights what we've learned from our discussions with experts throughout the summer and what are potential next steps towards helping people better navigate the experience of loneliness.

### **There is no strong evidence that indicates levels of loneliness have increased globally during the pandemic.**

Human connection serves us in many powerful ways. For example, despite physical distancing and mandated lockdowns during the COVID-19 pandemic, multiple studies suggest loneliness has not only [leveled out](#) but, in certain cases, improved. Why? These [findings](#) are echoed in studies conducted both in the UK and in Germany. Some researchers posit a ["sense of solidarity"](#) and our innate urge to connect with others to have mitigated some of the effects of being unable to come together physically. Other [potential reasons](#) may also include the ways in which people have created moments of interaction (e.g. virtual happy hours or birthday parties); a shift in populations reporting being newly lonely; and or likely discrepancies in the methodologies used (e.g. timeframes, location).

However, certain populations (vulnerable populations and life stages) are more likely to experience loneliness (before and during COVID), such as younger adults, people who live alone, and people who have gone through major life events. It should also be noted that [some research](#) suggests levels of stress, anxiety, and depression to be on the rise since the start of the pandemic. And while loneliness and depression are highly correlated, they are not the same. Loneliness, as described above, is a motivational drive and natural reaction by humans. As Cacioppo & Patrick (2008) point out: "loneliness reflects how you feel about your relationships. Depression reflects how you feel, period."<sup>3</sup>

<sup>3</sup> Cacioppo, J. T., & Patrick, W. (2008). Loneliness: Human nature and the need for social connection, New York: W.W. Norton & Company, Inc. p. 317.

We highlight this learning for two reasons. First, it illustrates the [complexity of studying loneliness](#) over time and its potential sensitivity to changes in question-ordering, procedures, and sampling. Longitudinal studies of loneliness are scarce, and for the majority of research that has looked at this issue over the past couple of decades, loneliness is reported to [remain relatively stable](#). So, is loneliness on the rise? Current research does not suggest a dramatic rise of loneliness in the past decade. Given this and because loneliness is so subjective and context-dependent, a writ-large technology across populations is likely to leave many users feeling unsatisfied. This means tailoring tech for device accessibility, and life phase (including historically marginalized experiences), and reflect the many different ways individuals interact with specific technologies.

### **Loneliness is shaped not just by individual factors but by social constructs and the environment in which we live.**

To understand loneliness and potential solutions requires an examination at multiple levels—from an individual’s sense of self and identity, to their relation within a community, to the social and structural factors that contribute to loneliness. Yet, as we learned, equity and inclusion are often overlooked components in the study of loneliness and social connection. To mitigate the experience of loneliness requires action and accountability by a variety of stakeholders, such as technologists, industry, government, and researchers.

Furthermore, we learned from experts that current loneliness measures may not fully represent what is happening in these communities. Take for example the delineation between solitude, social isolation, and loneliness. Missing from this list is the feeling of alienation. Cirecie West-Olatunji, Professor at Xavier University in Louisiana, noted that there is a critical need to recognize if and how being alienated—from people, resources, and/or capacity—may or may not impact a specific community’s well-being. This is best illustrated in how practices of exclusion directly and indirectly influence health-promoting pathways, such as access to therapy, which are further complicated by the multiple social forces that shape both our identities and experiences. Loneliness can therefore serve as a powerful reflexive instrument for how systematic structures reinforce the condition.

With this, a key question then arises, “*Whose loneliness matters?*” To answer this, we should consider: Who has built ‘capacity’ or the ability to navigate for loneliness, culturally, and why? Who benefits from the othering that burdens marginalized communities? And what is the social responsibility of those in power? In order to address this requires the activation of various stakeholders, from academia to tech to governments.

### The impact of social media on loneliness demands further study.

What we know and understand of the impact of social media platforms, on our mental and emotional well-being is inconclusive.<sup>4</sup> Specifically, research into an individual’s subjective well-being consists of multiple domains, of which loneliness is one. In some cases, studies include loneliness within the subjective well-being measure, while others measure loneliness independently. For some research, the scientific evidence suggests correlative associations between social media use and negative subjective well-being.

## Whose loneliness matters?

For example, a [study featuring three large surveys](#) of adolescents in two countries (the U.S. and UK) found that light users of digital media (use of smartphones, computers, social media, gaming, and Internet for less than one hour per day) reported substantially higher psychological well-being (e.g., happiness) than heavy users (more than 5 hours per day). In another study, data from the [UK Millennium Cohort](#) suggests that greater social media use correlates with higher depressive symptoms for girls than boys.

On the other end of the spectrum, numerous studies suggest little or no association between social media and its impact on psychological well-being.

<sup>4</sup>For a more comprehensive review of research in this space, see “[Social Media Use and Mental Health: A Review](#),” Haidt, J., & Twenge, J. (2019). *Social media use and mental health: A review*. Unpublished manuscript, New York University

For example, a [2017 UNICEF report](#) featuring an evidence-focused literature review of studies of children and time spent using digital technologies found little evidence suggesting it had a direct impact on children's physical activity but that digital technology seems to be beneficial for their social relationships. Additionally, the report suggests the use of digital technologies may support a U-shaped relationship to children's mental well-being, "where no use and excessive use (of digital technologies) can have a [small negative impact on mental well-being](#), while moderate use can have a small positive impact." More recently, [Hunt Alcott, et. al](#), conducted a large-scale randomized evaluation of the welfare impacts of Facebook, which featured a four-week "detox" of the platform prior to the 2018 U.S. midterm elections. The experiment resulted in both positive and negative effects. For example, participants who gave up Facebook reported [significantly reduced knowledge](#) of and attention to politics. The [authors conclude](#) by stating: "The estimated magnitudes imply that these negative effects are large enough to be real concerns, but also smaller in many cases than what one might have expected given prior research and popular discussion."

Research specifically examining the relationship of social media (several of which feature Facebook) to loneliness can be split into the following categories: *time spent* and *activities*. With regards to time spent, a common finding in [cross-sectional studies](#) suggest one causal direction: lonely people use Facebook, rather than Facebook increasing feelings of loneliness in its users. In addition to time spent, there is evidence that certain kinds of activities on Facebook may make loneliness better or worse. For example, [past studies](#) have found that when people use Facebook for social purposes, it can make loneliness better over time, but when people passively use Facebook, it can make loneliness worse over time.

Whether it is illustrating associated correlations or causal effects, the research remains far from definitive. Instead, there are notable limitations and gaps that need to be addressed. Specifically, a more robust understanding of the effects and unintended consequences requires the inclusion of a diverse set of social media platforms, more causal research, longitudinal studies, different measurement approaches (such as quality of relationships and mechanisms of loneliness), use of passive sensing measures, log data, etc. Further, emphasizing only loneliness—and not the other elements of social connection (e.g., cohesion versus polarization)—obscures potential factors that may be useful to understanding how to mitigate effects of loneliness.

According to Robert Kraut, Hebert A. Simon Professor Emeritus of Human-Computer Interaction at Carnegie Mellon University:

We need much more detailed understanding of the nature of the social interactions that build interpersonal connections. We don't know what those magic ingredients might be, but just putting people together, with technology or not, is insufficient given the wide variety of ways people can interact with each other.

Moreover, there are also significant gaps in access to and opportunities for scientists to partner with social media companies, part of which is due to a reluctance by private industry to share datasets as well as legal limitations to data-sharing such as privacy regulations. This alludes to a larger concern related to trust and industry motivation for pursuing this research. Even if researchers could use the best metrics and had access to large, rich datasets (provided by social media companies, like Facebook), would the field deem the results valid? What ethical considerations does this present? We address these questions in the final section.

*Summary.* The study of loneliness is complex. As we've seen with the pandemic, some mechanisms may affect loneliness sometimes do not manifest as expected. Because loneliness reflects various factors, from individual to structural, pinpointing specific causes is challenging. Moreover, there is a limited amount of evidence on whether technology makes loneliness better or worse—and how. One immediate step is for further investment into scientific research, both financially and collaboratively, with other researchers. Specifically, in order to design and develop better technologies in this space, researchers should examine the following: measuring loneliness more generally and understanding how it is changing over time (particularly as one transitions from life stages); looking at specific subpopulations that fall below the aggregate; and examining social media specifically, focusing on different research methods and pursuing more causal research.

## Designing Digital Tools

In this section, we shift from problem-articulation to problem-solving. How can we create digital tools to help us navigate feelings of loneliness? In the non-digital realm, there are numerous coping strategies against loneliness. Mindfulness and positive psychology are also [approaches](#) to reducing the psychological aspects of loneliness that are backed by research evidence. Interventions on loneliness typically address: “(a) social cognitive changes; (b) social access (opportunities for connection); and (c) provision of social resources/support,” added Louis Tay, Associate Professor of Industrial-Organizational Psychology at Purdue University. “Meta-analyses show that the most successful interventions are around social cognitive changes, but these interventions seem to integrate b and c, as well. Thus, new technologies will likely need to consider all three.”

The following section outlines key themes to consider in developing potential digital tools that may be helpful in navigating experiences of loneliness. While the themes are partitioned into categories, any future digital tool will likely require an overlap of one or more themes.

### Identity and social comparison

One particular avenue for exploration includes further research on the role that social comparison and identity play when it comes to feelings of loneliness online. Research on [social comparison and the fear of missing out](#) suggest that both relate to the link between passive social media use, depressive symptoms, and self-perceptions. Given what we understand of loneliness as part expectation-setting, it is reasonable to question whether social media amplifies or reduces the gap between reality and expectation, exacerbating social comparison. Take for example a situation in which a “platform defines ‘social’ as someone with X number of followers or online friends,” described Stephanie Cacioppo, Assistant Professor of Psychiatry and Behavioral Neuroscience at the University of Chicago. “And you only have ‘X-1 online friends,’ then it is reasonable to believe that you might feel lonely. If social media would define ‘social relationship’ by quality rather than the number, perhaps it would reduce loneliness.”

If social media would define 'social relationship' by quality rather than the number, perhaps it would reduce loneliness.

- Stephanie Cacioppo

Additional points include a need to determine the intended outcome and exact function that a social media service provides for its users. One example is whether social media aims to maximize connection, build richer relationships, or provide a space for people to recognize their own value. If the latter, the key is to develop technologies that enable individuals to safely share their authentic selves with others online. This safe space could also enable people to reflect deeply on their own identities and find what brings them joy, which leads us to the theme of meaning and purpose.

### Meaning and purpose

Appealing to a person's meaning and purpose in life may help mitigate loneliness. The 2006 [Blue Zones study](#), which has identified nine lifestyle habits of the world's healthiest, longest lived people, suggests that "knowing your sense of purpose is worth up to seven years of extra life expectancy." Where do people find meaning in life? For some, this includes religious affiliations, artistic innovation, or community engagement. "Life meaning does not obviously inherently depend on social relations. Yet, in practice, it seems likely that people find meaning in their social relations," wrote [Tyler F. Stillman, Roy Baumesiter, et.al](#), in the *Journal of Experimental Social Psychology*. Purpose, efficacy, value, and positive self-worth have all been identified as [key criteria](#) of a meaningful life and must be achieved through one's actual daily experiences.

One specific example can be found in the work of the AARP Foundation. Since 2016, the AARP Foundation has led the way in researching and developing digital tools to help their community navigate feelings of loneliness and social isolation. A 2018 study found that 1 in 3 adults ages 45 and older are lonely. In addition, social isolation and loneliness have serious economic implications. For example, a study found that Medicare spends an [estimated \\$6.7 billion](#) each year on socially isolated older adults.



In 2019, the AARP Foundation initiated [a pilot program](#) to investigate the viability of using hands-free, voice-activated technology to maintain sustained social connectedness for low-income older adults (age 50+) living in independent housing or federally subsidized rental properties. The pilot was implemented across five communities in the Baltimore, Maryland, and Washington, D.C. areas. Key outcomes focused on social interaction, subjective social support, and loneliness. Learnings from this pilot study included the need for a [“shared journey of learning”](#) in order to increase the comfort with and knowledge of devices, apps, and skills. This raises the question: How can digital tools help the lonely (at any age) find meaning and/or the ability to connect with an identity greater than themselves?

### Social connection

Like loneliness, language explaining what “social connection” online is and how it is measured remains in debate. It should be noted that what constitutes a [“meaningful social interaction”](#) is most likely tied to the impact generated from the interaction, itself, not necessarily whether or not the interaction involves technology. Robert Kraut of Carnegie Mellon University described two routes for connecting with a community:

The first is a connection to the cause, the belief, or mission of a community.  
The second is a set of personal ties that are enabled by being part of the community. The first of those connections [connection to the collective] isn’t being changed very much by the reduction of mobility. For the second, technology [the how] is less important than the people one is connecting with [the who] and the content of an interaction [the what].

This was echoed by Sue Phillips, Co-founder of Sacred Design Lab, who suggested that “content is the most important question” when establishing a social connection. Phillips described social media as offering high-volume, but largely low-value, content. The need is to encourage the sharing of content that provides meaning and belonging to users in a safe and trustworthy space. Related is the need to examine how reciprocity impacts the ways in which loneliness is shared and experienced by people. The hypothesis is that, in some cases, a person’s perceived weaknesses (e.g. feeling unhappy) can be useful for others as a learning experience. In a similar spirit, there is a need to consider how we may leverage our own experience of loneliness to help destigmatize the experience for others, and whether this could be considered a shared opportunity and/or meaningful content among those users.

It is true that social connection provides promising strategies. Yet, as Brittney Cooper, Associate Professor at Rutgers University, stated during the [public webinar](#) *Virtually Alone*: “Being connected is not the same as staving off loneliness.” Instead, we must recognize that feeling lonely is also a sense that “there is no one in your life that is a witness to it,” said Cooper. “So in a moment, where everyone has access to the platform that Facebook, Twitter, and Instagram allows many of us to have, it doesn’t seem to combat people’s deep sense that they are misunderstood or unheard, and that they want to have a voice in the world, and that they want that voice to be valued.”

Cooper [also raised](#) an important point that, in some cases, finding your group is based on an unhealthy connection. “When we combat loneliness through connection, sometimes the basis of that connection can be unhealthy. People are connected by their anger and their fear, so we need to figure out how to mediate the unhealthy emotions that undergird the basis of the connection.”

Can decisions in the design of a platform or online interaction address these concerns? Possibly. One recommendation is to design technology that is a supplement to our social infrastructure and that allows us to move between modes of social connection (e.g., from online social media to offline discussions or from one social platform to the other).

**Being connected is not the same as  
staving off loneliness.**

**- Brittney Cooper**

### Hybrid models

The role technology can and should play in mitigating feelings of loneliness and social isolation is in facilitating both online and offline social interactions. In the same study on [“meaningful social interactions.”](#) findings suggest that the communication medium (e.g., offline versus online) may be less important than other interaction characteristics, such as strong or weak ties, synchronicity, and whether or not people captured the interaction interaction through photos or videos.

Examples of this hybrid model can be seen in online group fitness classes, virtual happy hours, and the coordination of public protests. While we see many examples like these surfacing during the pandemic, challenges in equity and access limit the efficacy of this approach across populations. For a hybrid model to effectively reach all communities with high-risk factors for loneliness and social isolation, we must also address resource and capacity needs.

*Summary.* Given the complex and interrelated nature of loneliness, new and innovative technology-driven solutions should reflect a comprehensive approach that incorporates what we understand more broadly about human well-being, such as authenticity, reciprocity, meaning, and purpose. Moreover, despite the numerous online channels available for people to be heard, the structure of these digital tools and the spaces they provide may result in power imbalances. Take for example Twitter's blue verified badge, which is used to indicate the authenticity of an account to the general public. This demarcation separates legitimate versus illegitimate voices. Lastly, hybrid approaches to social connection that utilize technology to facilitate offline social life can be fruitful. The key is to "establish and enforce boundaries between the online and the offline social life, recognizing the strength of both and finding ways to have the online not distract from the offline," as Julianne Holt-Lunstad of Brigham Young University, noted.

### Stakeholder Responsibilities: Whose Loneliness Matters?

In many ways, this effort emerged from a summer's worth of discussions that were filled with both more questions and more information than we had anticipated. We are struck by the various, interrelated conditions—individual, situational, social, and structural—that may influence a lonely experience. Specifically, it is the environmental or structural factors that perpetuate power dynamics and systematic discrimination for certain communities experiencing loneliness that resonated loudest. Coupled with today's social and political climate, it is critical that we shine a light on the built structures, whether in technology design or public health systems, that create barriers to equitable social connection. The question *Whose loneliness matters?* should serve as a powerful reminder and guide. If we are indeed at the precipice of a "loneliness epidemic," then prioritizing access to the right tools, digital or not, should be of concern for all stakeholders, from civil society to government to the tech industry. To emphasize, it will take the talent and expertise of various actors from across domains to deliberately and thoughtfully aid in addressing the experience of loneliness.

Moving forward, it is necessary to also consider the roles and ethical responsibility of these stakeholders. In places such as the United Kingdom, where a Minister of Loneliness is the gold standard, government officials have provided a strong signal for the recognition, validation, and public support for combating loneliness and social isolation for its citizens. Moreover, the coronavirus pandemic has shifted how people perceive and speak about issues related to mental health and well-being, particularly loneliness and social isolation. Therefore, there is a need to both raise awareness of its commonality and to provide “the language that makes people feel safe to talk about issues they might feel ashamed of,” as said Diana Barran, UK Minister for Civil Society and Loneliness. Will other governments follow suit?

For technology companies, the role and responsibilities can be murkier. To address this, roundtable participants offered several suggestions. First, there is a need for increased private-public-academic partnerships and a shared common ground with researchers. To this end, it is necessary to evaluate and consider approaches to ensuring that a diverse set of perspectives and voices are equitably represented and included throughout the research and design process. In addition, some roundtable participants offered the critique that any company that profits from an individual’s digital connection must be forthright about their research motivations and must be willing to be held accountable by a third party. All of which must also take into account any technical, ethical, privacy, and legal challenges faced by the technology company.

We began this exploration asking: To what extent does technology ameliorate or exacerbate feelings of loneliness? What materialized is a trove of ideas and insights that could fill far more than the pages included in this report. And, while we identify and speak to many of the gaps in and challenges to research, it is clear that solution-oriented pathways can and will be explored by technologists, governments, and researchers. This is just the beginning of the journey to understand and better prepare for our digital future. Our intent is to draw attention to the topic and to raise pertinent questions.

**We began by asking: To what extent does technology ameliorate or exacerbate feelings of loneliness?**

Most importantly, we urge each stakeholder to consider and undertake the following commitments:

**The Public:** Raising awareness of the prevalence of loneliness and its associated negative health effects, and prioritizing to seek meaningful connections, whether in-person or virtually.

**Technologists:** Co-creating ethically aligned and socially conscious digital tools with specific communities of impact in order to emphasize more meaningful connections, mitigate unintended consequences (such as bias or safety), and or more hybrid interactions

**Industry:** Developing a transparent and accountable research agenda that articulates motivation, ethical considerations, and potential use of research in product development, as well as working closely with academic institutions, research labs, and community organizations via partnerships and data-sharing. This requires the collaboration of cross-industry stakeholders, from technology to healthcare.

**Government:** Utilizing public health resources to raise awareness of and promote the understanding of loneliness and social isolation issues. Specific policy recommendations from other efforts can be found [here](#).

**Civic Institutions:** Elevating key questions of, opportunities for, and challenges to loneliness for all segments of the population, with a specific focus on historically marginalized communities.

**Researchers:** Broadening approaches for examining the potential impact of technology on our subjective well-being. This includes a call for use of casual oriented research. different metrics, frameworks, and instruments for measurement that reflect the diverse social media ecosystem, consumer behavior, and historically underrepresented communities.



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