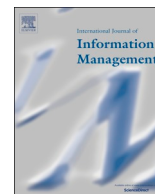




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## Opinion Paper

# Inside out and outside in: How the COVID-19 pandemic affects self-disclosure on social media



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## ABSTRACT

As social distancing and lockdown orders grew more pervasive, individuals increasingly turned to social media for support, entertainment, and connection to others. We posit that global health emergencies - specifically, the COVID-19 pandemic - change how and what individuals self-disclose on social media. We argue that IS research needs to consider how privacy (self-focused) and social (other-focused) calculus have moved some issues outside in (caused by a shift in what is considered socially appropriate) and others inside out (caused by a shift in what information should be shared for the public good). We identify a series of directions for future research that hold potential for furthering our understanding of online self-disclosure and its factors during health emergencies.

## 1. Introduction

The COVID-19 pandemic has changed how we interact. In many countries, people were recommended or required to socially distance. This means people were asked to either physically distance when meeting in-person (i.e. stay at least six feet apart) or stay at home (i.e. leave their home only for essential activities; Williams, 2020). This change has been abrupt, with some governments initially declaring the measures unnecessary and then suddenly demanding people stay at home (Kent, 2020). The change has also been of uncertain length; the initial calls for social distancing were for a few weeks, but the social isolation has extended into several months, and the rules for social distancing seem to be ever evolving (Kamin, 2020).

People around the world have eased the transition to social distancing by spending more time online. Social media platforms have seen a 61 % increase in usage as people use the platforms to stay connected with family, friends, and colleagues (Holmes, 2020). Facebook and Instagram saw more than a 40 % increase worldwide from February to March 2020; messaging on Facebook Messenger, WhatsApp, and Instagram increased 70 % during this period, and views on live streams doubled. China's local social media apps (i.e. WeChat and Weibo) saw usage climb by 58 % (Perez, 2020c). Between February and April 2020, U.S. children ages 4–15 spent 13 % more time on YouTube, 16 % more time on TikTok, and 31 % more time on the social gaming app Roblox (Perez, 2020b). In early June 2020, Twitter saw record new

downloads and daily active users, believed to be driven by the desire for updates on the COVID-19 pandemic and the Black Lives Matter protests (Perez, 2020a).

Social media's explosive growth can be at least partially explained by the worldwide social distancing directives and lockdowns. Individuals are compensating for reduced access to their usual support networks by using a range of electronically mediated communication technologies to connect and engage with others (Fox, 2020; Harris, 2020). Adopting these technologies was necessary to mitigate the possible depressive episodes and increasing levels of anxiety resulting from abrupt restrictions in how we interact with others (Harris, 2020; St. Michel, 2020).

Social media are Internet-based channels allowing users to conveniently and selectively interact with each other and derive value from user-generated content (Carr & Hayes, 2015). User-generated content often requires some form of self-disclosure - the communication of personal information to others online. By sharing details of their lives, individuals promote interpersonal connectedness and relationship development. For example, something as simple as sharing a picture of helping your children with homework and an anecdote about the nonsensical math problem of the day can make people feel closer to you and your family. These self-disclosures of the everyday activities - from what is eaten for breakfast to the latest television show addiction - are the core of social media use.

However, the pandemic may have changed the risks associated with

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**Table 1**  
Common Cost and Benefit Antecedents of Online Self-Disclosure.

Antecedent	Definition	Findings
Privacy Risk	The expectation of losses related to self-disclosure in SNSs (Cheung et al., 2015)	Negative (Krasnova et al., 2010; Liu et al., 2016; Posey et al., 2010; Sun et al., 2015) Non-significant (Cheung et al., 2015)
Perceived Anonymity	The degree to which a communicator perceives the message source to be unknown and unspecified (Liu et al., 2016)	Negative (Liu et al., 2016) Non-significant (Lapidot-Lefler & Barak, 2015; Posey et al., 2010)
Convenience for Relationship Maintenance	The ease of reciprocating information disclosures with others due to technical features of the platform (derived from Liu et al., 2016)	Positive (Cheung et al., 2015; Heravi, Mubarak, & Choo, 2018; Min & Kim, 2015) Non-significant (Liu et al., 2016)
Relationship Building	The ability to build new connections to others via SNS (Liu et al., 2016)	Positive (Cheung et al., 2015; Heravi et al., 2018; Krasnova et al., 2010; Liu et al., 2016)
Enjoyment	The extent to which the activity is perceived to be pleasant and entertaining (Krasnova, Veltri, & Günther, 2012)	Positive (Cheung et al., 2015; Krasnova et al., 2010, 2012; Liu et al., 2016)
Self-Presentation	An attempt to control or guide the impression that others might make of a person by using verbal and nonverbal signals (Kramer & Haferkamp, 2011)	Positive (Cheung et al., 2015; Crabtree & Pillow, 2018; Hooi & Cho, 2014; Liu et al., 2016; Wang, Duong, & Chen, 2016) Non-significant (Krasnova et al., 2010)

what and how we disclose information on social media. On one hand, it was once common to discuss going out and dining in restaurants, and now such revelations are met with vitriol and condemned as selfish (Brown, 2020; Fox, 2020; Harris, 2020; St. Michel, 2020). For some, this may lead to more mindful online self-disclosures to avoid negative evaluations and backlash from their communities and network. On the other hand, it has become more common to discuss one's health status and preventive behaviors (e.g. wearing masks, buying sanitizing products); sharing such information is now regarded as responsible and socially acceptable behavior because it contributes to the public good. This results in some individuals being mindful of providing health updates or tips on how to navigate the pandemic.

We believe the pandemic has changed how people reach the decision to self-disclose. Where traditional research has a "self-focus" (privacy calculus) - directing attention to how social media users perceive anticipated personal benefits and risks associated with self-disclosure - we believe that researching pandemic-related self-disclosure requires taking an "other-focus" (social calculus) - considering others' perspectives in evaluating the costs and benefits of sharing information (Buller & Burgoon, 1996). Such external benefits and costs include the anticipated utilitarian or hedonic value of self-disclosures (external benefits) and predicting negative emotional impacts - including backlash or negative evaluations by others - resulting from self-disclosures (external costs). There is a dearth of research about how assessments of external benefits and costs impact individuals' decisions to communicate personal information on social media.

As the COVID-19 pandemic unfolds, we have an opportunity to investigate how pandemics change the risk calculus and the underlying mechanisms that drive online self-disclosure, particularly when comparing the "before time" to the "pandemic time." To take advantage of that opportunity, we propose a research agenda that delineates the characteristics of self-disclosure on social media during pandemic circumstances. Rooted in this agenda, we identify research opportunities of online self-disclosure that could shed light on how pandemics affect users' decisions to disclose information on social media.

In the following pages, we concisely review the concept of online self-disclosure and summarize literature relevant to studying this construct during a pandemic. We draw on the ideas of self-focus and other-focus to explain self-disclosure on social media during the pandemic. We conclude with a series of questions and topics that have the potential to shed theoretical and practical insights on information disclosure.

## 2. Online self-disclosure

Self-disclosure refers to communicating any information about the self to another person (Huang, 2016; Keith et al., 2015; Krasnova,

Spiekermann, Koroleva, & Hildebrand, 2010; Leung, 2002; Maltseva & Lutz, 2018). It was first studied in the psychology and communications disciplines and has since been adapted to understand topics such as online social interactions, privacy, e-commerce, and cybersecurity. Studies have examined disclosures across a variety of social media platforms, including online dating sites (Gibbs, Ellison, & Lai, 2011; Gibbs, Ellison, & Heino, 2006), instant messaging (Brunet & Schmidt, 2007; Lapidot-Lefler & Barak, 2015; Leung, 2002), discussion fora (Barak & Gluck-Ofri, 2007; Jiang, Suang Heng, & F Choi, 2013; Kordzadeh & Warren, 2017), and social network sites (Alsarkal, Zhang, & Xu, 2017; Cheung, Lee, & Chan, 2015; Christofides, Muise, & Desmarais, 2009; Misoch, 2014; Park, Jin, & Jin, 2011; Pu, Li, & Thatcher, 2017). While some studies focused on the difference between online and offline disclosive behaviors (Bateman, Pike, & Butler, 2011; Schouten, 2007; Valkenburg & Peter, 2011), others integrated self-disclosure into various theoretical models (Cheung et al., 2015; Krasnova et al., 2010; Posey, Lowry, Roberts, & Ellis, 2010; Yang, Gong, Zhang, Liu, & Lee, 2020).

Economic-based perspectives, including privacy calculus theory (Culnan & Armstrong, 1999), are common in the self-disclosure literature. These studies often identify antecedents as costs or benefits that influence disclosure on social network sites (SNSs). Costs typically include perceived privacy risks - including privacy concerns (Wang, Yan, Lin, & Cui, 2017) and privacy value (De Souza & Dick, 2009) - and perceived anonymity (Cheung et al., 2015; Liu, Min, Zhai, & Smyth, 2016; Posey et al., 2010). Benefits include the convenience of maintaining a relationship, the desire to build a relationship, enjoyment, and self-presentation (Cheung et al., 2015; Liu et al., 2016). When there are fewer costs and greater benefits, we see more online self-disclosive behavior. The results from studies using these antecedents are summarized in Table 1.

Social exchange perspectives offer additional insight into individuals' motivations to share information online. As explored by Wagner, Krasnova, Abramova, Buxmann, and Benbasat (2018), social exchange theory - or the specific privacy calculus perspective - only focuses on internal assessments of costs and benefits (i.e. self-focus influences). From this perspective, researchers have identified some of the intrapersonal factors that impact self-disclosure decisions under normal circumstances - including motives of pleasure and communicating with friends (Bazarova & Choi, 2014; Choi & Bazarova, 2015) and concerns about privacy and information access (Jiang et al., 2013; Masur & Scharrow, 2016; Special & Li-Barber, 2012; Sun, Wang, Shen, & Zhang, 2015).

Self-disclosure, though, particularly on social media, requires an audience and enables individuals to take actions to control the impression their audience forms of them (Gibbs et al., 2006; Kramer & Haferkamp, 2011). For example, successful social media users disclose

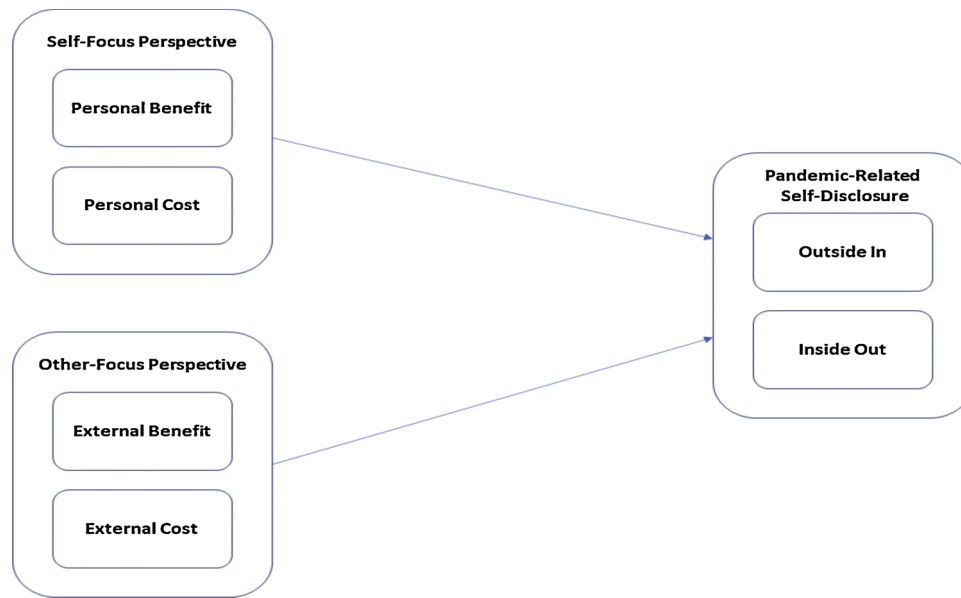


Fig. 1. Pandemic-Related Self-Disclosure.

information as a means to win followers on Twitter and Facebook. Given that managing a presence requires users to manage how others perceive their online activities, fully capturing the social nature of self-disclosure in the context of social media requires considering the interpersonal factors of external costs and benefits - "other-focus" influences (social calculus perspective).

### 3. Self-disclosure on social media during pandemics

The pandemic may have made individuals more aware of what they disclose on social media during the pandemic - particularly as it pertains to their personal health, how their behavior impacts others, and how their views about health and protective behaviors are perceived by others. As a result, we suspect that individuals now more aggressively self-monitor their pandemic-related self-disclosures due to the normal self-focus influences (i.e. personal benefits and costs) and the increased salience of other-focus influences (i.e. external benefits and costs). Fig. 1 depicts an organizing and emergent research model.

To describe how the privacy disclosure calculus has changed, we use the terms outside-in and inside-out. *Outside-in* describes topics people used to regularly disclose that are now frowned upon. Although people are sharing more pictures, stories, and videos of their lives during the pandemic, content perceived as disobeying public health guidance - such as going out for ice cream, gatherings even when properly distanced, spring break photos, pulling pranks, spending time outside, etc. - have become taboo and are increasingly the target of vitriol (Brown, 2020; Fox, 2020; Harris, 2020; St. Michel, 2020). Thus, the outside-in self-disclosure decisions during the pandemic go beyond the anticipated personal benefits and personal costs (self-focus perspective). Social media users are likely to take the other-focus perspective to evaluate whether their shared content will result in negative affect for others.

*Inside-out* describes topics people did not previously tend to disclose that are now socially encouraged. We suspect this shift has occurred because users either fear being perceived as putting others at risk of infection or seek to protect others from this highly communicable virus. Health information - once considered private and sensitive (Kordzadeh & Warren, 2017; Lin, Zhang, Song, & Omori, 2016) - seems to be shared more readily in the name of public welfare. There is a sense of public responsibility to share one's COVID-19 diagnosis with the community - when available. Early in the pandemic, many individuals also shared about existing health conditions that made them potentially vulnerable to severe illness as a way to pressure others into taking the pandemic

seriously. Thus, the inside-out self-disclosure decisions during the pandemic also emphasize the other-focus perspective and consider the anticipated utilitarian value of information for others.

### 4. Research agenda for pandemic-related self-disclosure on social media

Understanding of pandemic-related self-disclosure on social media is still emerging. To advance this understanding, we propose a number of future directions (Table 2) for research aimed at understanding the concept and mechanisms of pandemic-related self-disclosure.

### 5. Implications for practice

Understanding how the COVID-19 pandemic has affected online self-disclosures informs our approach to marketing, data protection, and studying new cultural norms. Social media data has allowed marketers to serve targeted advertisements based on interests and online sharing behaviors (Khobzi, Lau, & Cheung, 2019; Segal, 2017). However, due to social pressures and fear of shaming, many consumer spending habits may be less apparent - especially in the cases of dining and travel - making social media a less reliable source of consumer data. Studying self-disclosures during a pandemic will help indicate the reliability of this data for marketing purposes.

From a security and data protection perspective, novel contact tracing apps introduce new concerns (Trang, Trenz, Weiger, Tarafdar, & Cheung, 2020), particularly with government surveillance. At least one app reports limiting the information collected in a centralized repository to promote information privacy (Albergotti & Harwell, 2020; Bond, 2020; Daskal & Perault, 2020). For apps collecting location data and storing it in a centralized repository, it isn't clear how the data is protected or what the ramifications of a data breach would be. This raises questions about location data shared to social media and how it may be collected for the purposes of contact tracing. Given the potential for increased government surveillance and data leaks, it would be interesting to understand how a pandemic impacts the self-focus costs - primarily privacy concerns and risks - influencing decisions to disclose location data and other potentially pandemic-related information online. This may have direct effects on the perceived trustworthiness of social media platforms and their ability to continue attracting user-generated content if they readily share consumer data with government and health organizations despite user discomfort. Alternatively, such

**Table 2**  
Research Directions for Pandemic-Related Self-Disclosure on Social Media.

Research Topic	Possible Research Questions
Effects on and of Self-Disclosure	<ol style="list-style-type: none"> <li>1 How does the information disclosed before a pandemic compare to that disclosed during a pandemic?</li> <li>2 How does the decision of outside-in disclosures differ from inside-out disclosures during a pandemic?</li> <li>3 What factors influence one's propensity to self-disclose on social media during a pandemic?</li> <li>4 What are the relative impacts of self-focus and other-focus antecedents on pandemic-related self-disclosures on social media?</li> <li>5 What are the outcomes of pandemic-related self-disclosures on social media?</li> <li>6 What are the enduring effects of a pandemic on online self-disclosures?</li> </ol>
Socially Responsible and Appropriate Disclosures	<ol style="list-style-type: none"> <li>1 What kinds of disclosures are considered inappropriate since the pandemic began?</li> <li>2 What influence does social responsibility have on the perceived sensitivity of self-disclosures?</li> <li>3 How are hedonic self-disclosures viewed during a pandemic?</li> <li>4 What is the impact of social reactions (e.g. shaming, support) on pandemic-related self-disclosure?</li> <li>5 Which perceptions of social responsibility to disclose endure after a pandemic? Which perceptions of socially appropriate disclosures endure after a pandemic?</li> </ol>
Emotional Drivers of Negative Evaluations of Disclosures	<ol style="list-style-type: none"> <li>1 Based on another's self-disclosure, what emotions lead to positive and negative evaluations of that person?</li> <li>2 How do individuals react to different kinds of information shared on social media? How does this differ from before a pandemic?</li> <li>3 What is the effect of negative evaluations on self-disclosure behaviors?</li> <li>4 What kinds of pandemic-related self-disclosures induce envy or aspiration? How do these differ from before a pandemic?</li> <li>5 What kinds of self-disclosures are discouraged during a pandemic due to the fear of negative evaluations by others? How do these differ from before a pandemic?</li> </ol>
Mental Wellness during a Pandemic	<ol style="list-style-type: none"> <li>1 What are the impacts of self-disclosure on mental health outcomes during a pandemic? How do these compare with outcomes before the pandemic?</li> <li>2 How does an overflow of pandemic-related self-disclosure affect social media users' mental wellness? Does it create social media fatigue?</li> <li>3 How do social media users cope with pandemic induced stress and anxiety through self-disclosures?</li> <li>4 How do negative reactions to pandemic-related self-disclosures affect mental health outcomes?</li> </ol>
Accessibility of Self-Disclosures	<ol style="list-style-type: none"> <li>1 How has a pandemic affected the way individuals manage others' access to their content on social media?</li> <li>2 How does attribution (being able to identify who shared the content) affect decisions to disclose during a pandemic?</li> <li>3 How do pandemic-related self-disclosures in private groups differ from those made on public pages?</li> <li>4 How do pandemic-related self-disclosures contribute to the spread of misinformation/disinformation?</li> </ol>

self-focus costs may be offset by other-focus factors, thereby bolstering the reputations of social media platforms contributing to contact tracing efforts.

Lastly, the COVID-19 pandemic appears to have shifted perceptions of what constitutes sensitive or private information, particularly regarding personal health information (PHI). This shift may have major implications for social media platforms regarding data protection practices and security given that PHI is still heavily regulated information. Such a change could lead to more regulations for social media channels and increased pressures to dispel misinformation shared on the platforms.

## 6. Conclusion

Because of its reach and ferocity, COVID-19 has been characterized as a once in a century pandemic; however, it is not the first pandemic of the modern era. SARs, AIDS, Ebola and more have struck across the globe, each presenting a risk to public health and limiting how people interact with each other. In this paper, we describe how the pandemic may have changed some topics from private to public knowledge (inside-out) and from readily shared to hidden (outside-in), and we articulate a research agenda for examining pandemic-related self-disclosures. Given these changes, we suggest that research and practice need to revisit commonly held assumptions about self-disclosure, its motivators and costs, and what is considered appropriate and necessary to disclose. By understanding pandemic-related self-disclosures, we believe we will be able to better craft studies that accurately capture why and what people communicate during health emergencies.

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