Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
How COVID-19 stole Christmas: How the pandemic shifted the calculus around social media Self-Disclosures

Teagen Nabity-Grover a, Christy M.K. Cheung b, Jason Bennett Thatcher c,☆

a Department of Information Technology and Supply Chain Management, Boise State University, United States
b Department of Finance and Decision Sciences, Hong Kong Baptist University Kowloon Tong Kowloon, Hong Kong
c Department of Management Information Systems, Temple University, Alter Hall, 1801 Liacouras Walk, Philadelphia, PA 19122, United States

ARTICLE INFO
Keywords: Social Media COVID-19 Pandemic Shocks Privacy Calculus Social Calculus Self-Disclosure

ABSTRACT
During the COVID-19 pandemic, social media use increased significantly, and news media also reported increased levels of social shaming for behaviors that were now deemed high-risk for spreading or contracting the virus. This study examines how this pandemic-affected environment changed what and how individuals disclosed online during the 2020 holiday season. Using data collected at two time periods in December 2020 from Facebook and Instagram users, the data show that social calculus constructs comprise most of the significant predictors for online self-disclosure; evaluation apprehension is also a significant moderator. In a post-hoc analysis with 2019 disclosure data, this study finds that most of the significant predictors of behavior arise from privacy calculus, providing evidence of a shift in the salient predictors of online self-disclosure. The implications of this research to businesses and future research directions are discussed.

1. Introduction

The COVID-19 pandemic swept across the globe in the spring of 2020, leading government leaders to introduce a variety of measures to slow the spread and protect their constituents. Among these measures were varying levels of social distancing – from encouraging individuals to avoid leaving home unless necessary to enforcing city-wide lockdowns (Price & Myers, 2020). Such measures meant people needed to find entertainment and social connection in other ways. For many, social media – Internet-based channels that allow users to conveniently and selectively interact with each other via user-generated content (Carr & Hayes, 2015) – became the solution, enabling them to connect with family and friends, stay apprised of developments in the news, and seek various forms of entertainment. Nielsen data also indicated that social media apps accounted for 25 % of all mobile app usage among US adults beginning in mid-March 2020, up from around 20 % on January 1, 2020 (Fischer, 2020). A wide range of social media platforms reported increased usage from February to April 2020, including Facebook and Instagram (40 %), WhatsApp and Facebook Messenger (70 %), Weibo and WeChat (58 %), YouTube and Tik Tok (15 %), and social gaming (31 %) (Holmes, 2020; Koeze & Popper, 2020; Nabity-Grover et al., 2020; Perez, 2020a, 2020b). News outlets attributed the increased time online to combatting depressive episodes and increased levels of anxiety caused by the pandemic and social distancing (Harris, 2020; Snyder, 2020; St. Michel, 2020).

However, the increased usage was paralleled by a reported rise in social shaming for previously common behaviors that were deemed socially unacceptable in the context of a pandemic due to the risk of contracting or spreading the virus – such as dining out and traveling (Brown, 2020; Fox, 2020; Harris, 2020; St. Michel, 2020). Against a backdrop of changing prescriptions from healthcare agencies (Brooks Pierce et al., 2020; World Health Organization, 2021), a patchwork of state level actions (Price & Myers, 2020), and conflicting information from government leaders (Kolata & Rabin, 2020), social media users actively engaged in conversations about (in)appropriate behaviors during the pandemic. In the United States, masks were a particularly divisive topic, with some individuals believing wearing a mask was socially responsible and others believing it was a symbol of government overreach (McKelvey, 2020). This combination of factors – increased usage of social media and the perceived increase in social shaming – has likely impacted how individuals use and interact with others on social media by making users more aware of evaluations by their social
networks.

This research conducted a longitudinal, quasi-experimental study with Facebook and Instagram users during the 2020 winter holiday season in the United States to explore the predictors of online self-disclosure – the communication of personal information to others online (Nabity-Grover et al., 2020) – during the COVID-19 pandemic. The holidays are typically viewed as a time for reconnecting with one’s extended social circle (Searle-Chatterjee, 1993), so this was a prime time to explore patterns of online self-disclosure because it is a construct central to relationship development and management (Altman & Taylor, 1973). Regardless of how the pandemic may have changed disclosive behaviors, the holidays presented an opportunity when online self-disclosures would be common because of the desire to connect with loved ones. Therefore, it was determined the data would demonstrate adequate variance in the dependent variable (online self-disclosure) to test the proposed model.

Prior self-disclosure research used privacy calculus to study how users evaluate the personal costs and benefits of revealing personal information online (Cheung et al., 2015; Krasnova et al., 2009; Wang et al., 2016). While privacy calculus may still influence disclosure decisions, this study introduces a social calculus lens to account for the social costs and benefits of self-disclosure. This enables the development of a contextualized understanding of online self-disclosure during the pandemic-afflicted holiday season because it accounts for the reported increase in social pressure to adopt and signal preventive behaviors and to avoid (or at least suppress discussion of) behaviors that may contribute to spreading the virus. As such, it affords opportunities to understand how future global health crises impact what and why individuals self-disclose on social media.

The present study focuses on three categories of information social media users may disclose online during the holidays: holiday-related, socially desirable, and socially undesirable (the last two as determined by the pandemic context). The study explores the influence of privacy and social calculus constructs on self-disclosure behaviors, as well as the moderating effect of evaluation apprehension – a social facilitation mechanism on behavior decisions during winter 2020. It also conducts a post-hoc analysis with 2019 disclosure data to further understand the effects of the pandemic context on the results. Accordingly, there are two research questions (RQs):

RQ1: How do privacy calculus and social calculus constructs affect online self-disclosure behaviors during the COVID-19 pandemic?

RQ2: How has the pandemic environment impacted self-disclosure behaviors on social media?

Answering these RQs provides insight into how the broader offline and online environments shape social media users’ decisions to share information. This enables researchers to understand how COVID-19 has affected social media use and, thus, indicates the boundary conditions under which the data are useful and trustworthy. Such insight is important because it affects the reliability of social media data used to inform marketing, advertising, and other business decisions. Although these data are specific to the COVID-19 pandemic, the results are likely valuable in predicting behavior during future emergencies and health crises spurred by an increasingly integrated and interdependent global community.

2. Literature review

2.1. Online Self-Disclosure

Online self-disclosure is defined as any message about the self communicated to another via an online medium (Nabity-Grover, 2020); this behavior is crucial to relationship development and maintenance as it is how an individual enables another person to learn about them (Altman & Taylor, 1973). Social media environments provide users with the ability to exercise greater control over their online presence, enabling them to participate to varying extents (Choi & Bazarova, 2015) – ranging from passive content consumers to active content creators – and present only their perceived best features (Gibbs et al., 2006; Wenninger et al., 2019). Despite this, the norm of reciprocity still exists in online environments, encouraging individuals to engage with their community to nurture relationships (Altman & Taylor, 1973) and reap social benefits (Ellison & Vitak, 2015).

Although this research struggled to find studies concerning self-disclosure during a pandemic, it found relevant studies given what news outlets have reported about individuals and their motivations for using social media during this historic time. Specifically, prior studies have found that feelings of loneliness (Al-Saggaf & Nielsen, 2014; Lee et al., 2013; Valkenburg & Peter, 2007), the frequency and duration of social media use (Chang & Heo, 2014; Leung, 2002; Walrave et al., 2012), and relationship maintenance motivations (Heravi et al., 2018; Hollenbaugh & Ferris, 2014; Min & Kim, 2015) are positively related to self-disclosure. This means individuals are more likely to share personal information online when they 1) feel lonely, 2) use the social media platform often and for extended periods of time, and 3) want to nurture and/or deepen relationships. Conversely, individuals are less likely to share personal information online if they suspect unwanted audiences may access their content (Zhao et al., 2012).

Furthermore, a recent publication posited that the pandemic made individuals more aware of how others evaluate what they disclosed on social media. This phenomenon – referred to as inside-out (i.e., topics not previously common to disclose are now socially encouraged) and outside-in (i.e., topics previously common in disclosures are now discouraged) – indicates that individuals consider more than personal benefits and costs in self-disclosure decisions; they are likely to apply an other-focus perspective (or social calculus lens) in determining what information to share and when (Nabity-Grover et al., 2020).

The literature search uncovered very few studies on self-disclosure around the holidays, which was surprising given the importance of holidays for connecting and reconnecting with extended social circles (Searle-Chatterjee, 1993). As such, it is unclear the role social media plays in facilitating those connections. One study on holiday ecards found physical cards were preferred for nearby relations and friends; ecards were only acceptable for far-flung connections (Gooch & Kelly, 2016). Because the pandemic increased the importance and prevalence of computer-mediated communications in daily life, it is possible these perceptions have changed, and online communications are more acceptable around the holidays.

Another study investigated Twitter activity around the Christmas holiday. It found nearly-one million Christmas-related tweets are posted per day by December 8; this number steadily increased from December 14 through December 24 (Christmas Eve). These tweets decreased significantly after December 26 (Hu, 2013). This behavior follows a similar pattern from a study of social media use around vacations. Before a vacation, social media use focused on finding activities and seeking recommendations from one’s network. Approximately half of the respondents used social media during their vacation to stay connected with friends and four-fifths of the respondents posted about their experience immediately after the vacation ended (Fotis et al., 2011). These studies focused on Christmas-specific and vacation-specific content, respectively, ignoring other information that may have been shared online during these times.

The present study adds to the self-disclosure literature by further exploring online self-disclosure during the holiday season. It also addresses the narrow focus of prior Christmas and vacation studies by collecting data on disclosures about a wider range of activities. Furthermore, by examining self-disclosure during the pandemic, it also tests the boundary conditions under which prior studies are applicable.

2.2. Evaluation apprehension

Evaluation apprehension refers to individuals’ concerns about how others evaluate them and their actions (Manstead & Fischer, 2001); this
concern is severe in the context of self-disclosure on social media because the information shared is traceable and users’ interactions are readily observed on social media platforms. In other words, users are aware of the presence of others (i.e., an audience) and will thus consider how other users judge them and their actions on social media platforms (Wong et al., 2021). Prior information systems (IS) research examined the effect of social influence on online self-disclosure. For example, Cheung et al. (2015) found that social influence exhibits the strongest effect on self-disclosure on social networking sites (SNS) – a subset of social media platforms where users have a unique profile with a viewable list of formal connections (boyd & Ellison, 2007; Ellison & boyd, 2013). Similarly, Wirth et al. (2019) showed that subjective norms have the strongest effect on SNS self-disclosures.

Less is known about the role of evaluation apprehension in social media self-disclosures. However, the effect of evaluation apprehension has been examined in various other IS contexts, including electronic brainstorming systems (Pinsoneault et al., 1999), group support systems (Pinsoneault & Heppel, 1997), and online reporting systems (Wong et al., 2021). This study posits that evaluation apprehension is particularly relevant in the context of self-disclosure on social media platforms during pandemics because of a reported rise in social shaming for behaviors deemed socially unacceptable during a health emergency (Nabity-Grover et al., 2022). The result is that users become more aware of what they disclose on social media platforms.

Previous studies primarily explained evaluation apprehension through the social facilitation mechanism (Wicklund & Duval, 1971). That is, individuals pay attention to themselves and compare themselves with standards of correctness. They then perform more in line with the correct standards in order to reduce the discrepancy between their performance and these standards. The social facilitation mechanism is also applicable in the context of self-disclosure on social media platforms. By considering socially appropriate content (e.g., wearing masks) as the corrected standard among online crowds, users adjust what they share on social media platforms to align with social norms.

2.3. Pandemic shocks to behavior

Shocks refer to jarring events that disrupt routines, present challenges (Morgeson, 2005), and can evoke changes in how individuals interpret and interact with the environment (Lee & Mitchell, 1994). COVID-19 and government responses created shocks that changed how individuals perceived sharing information on social media (Nabity-Grover et al., 2022). As people withdrew from the workplace and complied with strict government guidelines around social interaction, they turned to online platforms to interact with colleagues, keep up with family, and maintain relationships. Where before social media complemented in-person interaction in individuals’ daily work and personal lives, it became the primary means for many individuals to share information with important people in their lives. This shift in the salience of social media – from complementary to equal or even more important – likely had consequences for individuals’ emotional well-being, their perceived relationships with their employers and other connections, and how they found information.

As the COVID-19 pandemic jarred individuals out of their habits and routines, it likely created significant alterations in how they perceived social support (Cooke & Rousseau, 1983), requiring them to adjust expectations and behaviors (Bhagat, 1983; Pillow et al., 1996) in offline and online environments. In offline environments, fear of transmitting the virus changed how individuals greeted each other, making handshakes, hugs, and other forms of contact problematic. As the pandemic unfolded, handshakes converted to fist bumps, hugs became uncomfortable, and other forms of personal touching were uncomfortable (Matschke & Rieger, 2021). Additionally, COVID-19 changed what individuals posted online. Where individuals previously shared about eating together in person, they now posted about virtual dinner parties or what they ate at home (Heil, 2020).

More than changing routines, environmental shocks, such as COVID-19, can also influence a person’s anxiety (Hu et al., 2020) or emotional state (Min et al., 2021), leading to changes in behavior. Evidence suggests that jarring events can cause individuals to change their premises or calculations when evaluating the performance of a behavior or question their motivation for maintaining relationships. For example, shocks can cause individuals to change their brand preferences (Mathur et al., 2003), or their relationship with their employer (Carnahan et al., 2017). More importantly, for this paper’s purposes, these emotional changes have been found to affect how individuals use technology (Serenko & Stach, 2009; Stein et al., 2015).

The next section develops the model and hypotheses for how the shock of the COVID-19 pandemic changed the drivers of self-disclosure on social media.

3. Research model and hypotheses

Fig. 1 depicts the research model. The model adopts a dual lens of privacy (Cheung et al., 2015; Wang et al., 2016) and social (Wagner et al., 2018) calculus to examine the impact of the pandemic on online self-disclosures during the holidays. It also explores how evaluation apprehension moderates relationships between social capital and online self-disclosure behavior given the pandemic shocks as the contextual background.

3.1. The privacy calculus perspective

Privacy calculus is an economic-based perspective (Culnan et al., 2010) commonly applied in the online self-disclosure literature. Studies typically identify constructs to represent personal costs and benefits that motivate disclosures on SNS. Because of its prevalence in the literature, this study attempts to replicate previously established relationships between privacy calculus constructs and online self-disclosure.

The personal benefits chosen for this study are self-enhancement and self-presentation. Self-enhancement is the pleasure derived from sharing information of which one is proud and that helps improve their self-concept (Wagner et al., 2018). Self-presentation is the behavior of individuals to intentionally regulate their image as perceived by others (Wang et al., 2016). Prior research has established a positive impact of these constructs on online self-disclosure (Almakrami, 2015; Crabtree & Pillow, 2018; Hooi & Cho, 2014; Wagner et al., 2018). This means that the more a person is motivated by self-enhancement and/or self-presentation needs, the more likely they are to post information online.

For personal costs, this study focuses on privacy concern and trust. Privacy concern is the degree to which a person is concerned about website practices for the collection and use of their personal information (Hong & Thong, 2013). Although the literature has seen varying results for privacy concern’s influence on self-disclosure, most studies report a negative relationship (Ampong et al., 2018; Jiang et al., 2013; Krasnova et al., 2009; Min & Kim, 2015; Tsay-Vogel et al., 2018; Zlatolas et al., 2015), meaning the more concerns an individual has about how their data will be collected and used, the less likely they are to post information online. On the other hand, trust is one’s willingness to be vulnerable to another person/party/platform on the basis that the trustee will act according to the trustor’s expectations (Dimoka, 2010). Unlike privacy concern, trust generally has a positive influence on online self-disclosure (Chen & Sharma, 2013; Osatuyi et al., 2016; Taddei & Contenza, 2013). Consequently, the more trust an individual has in a platform or online community, the more likely they are to share information online.

Although suspecting the social calculus constructs will be more salient than the privacy calculus constructs in the 2020 pandemic context, this research assumes these relationships will replicate. Thus, it hypothesizes:
H1a. Self-enhancement will have a positive relationship with online self-disclosure.
H1b. Self-presentation will have a positive relationship with online self-disclosure.
H1c. Platform trust will have a positive relationship with online self-disclosure.
H1d. Community trust will have a positive relationship with online self-disclosure.
H1e. Privacy concern will have a negative relationship with online self-disclosure.

3.2. The social calculus perspective

Although social exchange perspectives, including social exchange theory, are not uncommon in the online self-disclosure literature (Cheung et al., 2015; Liu et al., 2016; Posey et al., 2010), social calculus is understudied. Whereas privacy calculus is concerned with personal costs and benefits, social calculus considers interpersonal costs and benefits arising from social interactions. Put simply, privacy calculus is self-focused (intrapersonal), and social calculus is other-focused (interpersonal; Nabity-Grover et al., 2020; Wagner et al., 2018). Given this, this research identifies three constructs that should reasonably belong to a social calculus perspective.

In terms of social benefits, the study identifies utilitarian value and social capital as predictors of online self-disclosure. Utilitarian value is the usefulness or relevance of shared content to others (Wagner et al., 2018). During the pandemic, social media was a hub for social interaction as well as sharing news and other updates with family and friends. Although the recommended precautionary measures had stabilized by the 2020 holidays, the earlier chaos had enduring effects on the US population, with many individuals distrusting the CDC, the WHO, and scientists (Simmons-Duffin, 2021). Social media continued to be a space for sharing news and perspectives related to the recommendations and personal anecdotes about the perceived safety of returning to a sense of normalcy amid loosening government restrictions. Transparency in one’s activities (regardless if those activities are viewed as socially acceptable or not) may have also served to help friends and families gauge the risk of exposure to the virus should they encounter an individual. Therefore, this research anticipates finding a positive relationship between utilitarian value and online self-disclosure.

H2: Utilitarian value will have a positive relationship with online self-disclosure.

Social capital is defined as the social networks and associated norms of reciprocity that generate personal relationships and the resulting benefits (Williams, 2006). Ko and Kuo (2009) split social capital into social bonding (individuals sharing an intimate and reciprocal relationship), social bridging (individuals from different networks enabling network members to share diversified resources), and social integration (an evaluation of an individual’s relationship quality to a community). Reciprocity is central to social capital, representing the give and take of relationships. However, the relationship must bring mutual benefit in order to generate social capital. Given this, individuals concerned with maintaining or building their social capital are more likely to acquiesce to societal expectations of their behaviors. This means they should be
more likely to discuss socially desirable behaviors and less likely to
discuss socially undesirable behaviors online. Because of the general
importance of holidays – especially winter holidays – among many so-
cial groups, it is also reasonable to expect a societal expectation to
acknowledge and celebrate the season – possibly even more so given
many typical traditions were canceled or altered in light of the
pandemic. Therefore, the following is hypothesized:

- **H\(_{5a}\)**: Social capital will have a positive relationship with socially
desirable and holiday-related self-disclosures.

- **H\(_{5b}\)**: Social capital will have a negative relationship with socially
undesirable self-disclosure.

Lastly, the social cost identified for this model is fear. Fear is defined
as the aroused response to a situation judged as dangerous (Boss et al.,
2015). It is not a common antecedent in self-disclosure research, but it is
relevant to various situations where individuals share information. It is
envisioned here as the fear that information shared online is unpro-
tected, implying unintended audiences could access the information and
use it in unanticipated ways. Concerns about unwanted audiences lead
to lower levels of disclosure online (Zhao et al., 2012) because the
ramifications of and reactions to such disclosures become unknown. For
example, an individual may be concerned that unfamiliar social media
users (e.g., friends of friends) might misconstrue an online post about in-
person gift exchanges, leaving vitriolic comments and further circu-
lating the misrepresented post to others on the platform; to avoid this
potential situation, the individual chooses not to post about the ex-
change. Given the politicized nature of the pandemic in the United
States (Kolata & Rabin, 2020; McKelvey, 2020), this study posits that
such fear will result in fewer self-disclosures. Stated formally:

- **H\(_{4c}\)**: Fear will have a negative relationship with online self-disclosure.

### 3.3. Evaluation apprehension

Evaluation apprehension represents another aspect of social influ-
ence beyond social calculus. While still focused on others, it has
exhibited a disruptive influence on the intention-behavior relationship
of online self-disclosures during the pandemic (Nabity-Grover et al.,
2022). This suggests that evaluation apprehension may be a secondary
consideration arising before an individual acts. As this form of social
influence involves the social facilitation mechanism (Wicklund & Duval,
1971), its effects are anticipated to be most salient within the social
calculus lens.

Of the social calculus constructs, it is most reasonable to hypothesize
a moderated relationship between social capital and online self-
disclosure specifically. This construct is most directly concerned with
benefits from fostering relationships. Such relationship goals can be
damaged or bolstered based on how individuals conform to social norms
and expectations. When users have more apprehension about social
evaluations, they are more likely to perform in line with the correct
standards. Thus, evaluation apprehension will either weaken or
strengthen the relationship between social capital and online self-
disclosure, based on the nature of the information shared.

Holiday-related behaviors often focus on gathering with loved ones
to celebrate the season, which potentially goes against guidelines for
reducing the spread of the virus. By definition, socially undesirable be-
aviors are also contrary to recommended behaviors to slow the spread
of COVID-19. As such, both kinds of disclosures may result in negative
evaluations from individuals' social networks and negatively impact
their relationships. Conversely, socially desirable behaviors align with
recommended precautionary actions and may give rise to praise and
positive reinforcement from one’s social network. Given this, the study
hypothesizes:

- **H\(_{3a}\)**: Evaluation apprehension will weaken the relationship between
social capital and holiday-related self-disclosures.

- **H\(_{3b}\)**: Evaluation apprehension will weaken the relationship between
social capital and socially undesirable self-disclosures.

- **H\(_{3c}\)**: Evaluation apprehension will strengthen the relationship
between social capital and socially desirable self-disclosures.

### 4. Method

Data were collected from a panel recruited on Prolific (https://www.
prolific.co/) using two surveys. Prolific is a platform designed to connect
researchers with individuals willing to participate in academic studies. It
is a well-regarded means for gaining access to a diverse participant pool
composed of individuals who are intrinsically motivated to contribute to
knowledge creation. The platform enabled limiting participants to those
who currently reside in the United States and use either Facebook or
Instagram, as well as limiting the follow-up survey to only those who
completed the initial survey. A survey was considered acceptable, given
it is the method of choice in approximately 80 % of studies that measure
online self-disclosure (Nabity-Grover, 2020).

Respondents were limited to the United States in order to reduce the
impact of unmeasured factors in their external environments, given that
different countries had variable responses to the pandemic. Facebook
and Instagram were selected because they attract different kinds of user-
generated content (Instagram is primarily visual whereas Facebook is
more text-driven, though it enables sharing a wide range of media) and
are perceived to have different user demographics, which should ensure
a broad representation of US adults in the study and indirectly account
for differences based on the medium of online communication. Addi-
tionally, both are owned by the same parent company, which controls
for any differences during the pandemic that may be attributed to the
platforms’ ownership.

The first survey collected responses on December 19 and 20, 2020;
this survey included items for the independent variables and moderator
in the model, in addition to reported disclosures during the 2019 holiday
season. Before asking about 2019 disclosures, participants read a short
primer reminding them of “business as usual” and were encouraged to
revisit their timeline on either Facebook or Instagram. The follow-up
survey collected responses from December 28, 2020 to January 1, 2021
and measured reported disclosures during the 2020 holiday sea
son. Participants who completed both surveys were compensated £3.75
– approximately 5USD.

Among Instagram users, 85 % of initial respondents completed the
follow-up survey; Facebook users fared slightly better at a 91 % response
rate on the follow-up survey. Responses that failed multiple attention
checks, averaged less than two seconds per response, gave 19 or more
repeated consecutive responses, or failed to complete the follow-up
survey were removed. After the listwise deletion and data cleaning,
the data contained 497 usable responses – 258 from Facebook users and
239 from Instagram users. The following subsections describe the par-
ticipants and the survey instrument in more detail.

#### 4.1. Participants

Table 1 presents the demographic data for the sample. Between
platforms, there was not a statistical difference in age. The average age
was 30.6 (s.d. = 10.9) for Instagram users and 37.8 (s.d. = 12.2) for
Facebook users; these averages fall within one standard deviation of
each other. However, a larger proportion of the Instagram users were
students (23.4 %) as compared to Facebook users (9.3 %), and more
Facebook users were employed full time (44.6 %) as compared to
Instagram users (36.0 %). The two groups were otherwise similar.

#### 4.2. Measures

Most of the measures used in this study came from prior research.
The study endeavored to identify high-quality measures and adapted
most of them to directly reference Facebook or Instagram. For the
exception of prior negative experience, neuroticism, and the self-
disclosure measures (which are discussed more below), each item used
a seven-point Likert scale. A complete list of items and sources for each
measure are available in Table A1 of the Appendix.

Self-enhancement and self-presentation are the two measures of personal benefit from privacy calculus. The self-presentation items remained essentially unchanged from the measure for perceived impression management capabilities developed by Wilson et al. (2014); the only change made was to indicate Instagram instead of Facebook for the survey distributed to Instagram users. The self-enhancement measure was modified from the one used in Wagner et al. (2018) to remove explicit mentions of travel, given the pandemic context of the study. One item was dropped that referenced a vacation that, when adapted, would have been quite similar to another item.

The measures of personal costs included two types of trust (online community members and social media platform) and privacy concern. The trust measure was adapted from Fang et al. (2014). For trust in online community members, one item was excluded that better described an organization than individual people; one item was also shortened to remove a conjunction that made the item double-barreled. Trust in the platform used four shorter items inspired by the original instrument to more succinctly measure trust. This was done because it was believed community trust would be more salient and to manage the overall survey’s length. Lastly, the privacy concern measure developed by Hong and Thong (2013) was greatly modified. Their instrument is designed to measure six first-order factors of a third-order privacy concern construct. To control the length of the overall survey, the highest loading items for each first-order factor from the original study were retained; this includes two items from the secondary usage factor because they had the same reported loading value. This approach enabled the study to represent the multiple dimensions of privacy concern in a shorter measure.

Social capital and utilitarian value are the two constructs representing social benefits, and fear represents social costs. Social capital was originally represented by three subconstructs (social bridging, social bonding, and social integration) as modeled in Ko and Kuo (2009). The three social integration items from Keyes (1998) were used. For social bridging and social bonding, the measures from Williams (2006) were selected and reduced to the five highest loading items from the original study. After pretesting the instrument, the social bonding items failed to load at an acceptable level on a single factor, as did most social integration items. However, one of the social integration items loaded well with the five social bridging items. As such, these six items were retained to represent social capital as a single construct in the study. The measure for utilitarian value was selected from Wagner et al. (2018); during instrument development, two new items were added to this measure to represent the utility of information as educational and thought-provoking (the original items already represented information as relevant, useful, and interesting). These other aspects of information’s utility made the measure more reflective of the construct. After pretesting, only three items were retained and used in the final survey. Lastly, the measure of fear from Boss et al. (2015) was adapted. The items in that study reference losing data from one’s computer; to adapt these items to the SNS context, the stem was changed to “information shared to [Facebook/Instagram] is unprotected” as a way to represent potentially unintended audiences accessing shared information.

The measure for evaluation apprehension, the proposed moderator and a representation of social facilitation in the model, was adapted from La Greca and Lopez (1998). The three highest loading items were retained from the original study. One of the items was modified to refer to support instead of liking so that it was more generalized – whereas liking is a previously used term specific to Facebook.

The online self-disclosure measure was developed for this study. Although the construct is generally considered to be multi-dimensional, this research is primarily concerned with capturing the kind of information being shared rather than measuring general tendencies to share. As such, this study followed examples from the literature (Attrill & Jall, 2011; Ma et al., 2016) and developed a list of nine behaviors varying in level of perceived risk of COVID-19 exposure or transmission that might be shared on social media. The measure included three items classified as “new and good” behaviors based on CDC recommendations (Weiner & Telford, 2020), and two each considered low-, moderate-, and high-risk behaviors based on the categorization used by the British Heart Foundation (2020). In a separate pretest on Mechanical Turk, respondents were asked to rate the degree to which they would feel judged or punished by other people online if they shared each behavior. The results revealed no significant differences between the moderate- and high-risk behaviors and between the “new and good” and low-risk behaviors, though these two groups were significantly different from each other. As such, the study reclassified the moderate- and high-risk behaviors as socially undesirable, and the “new and good” and low-risk behaviors as socially desirable. Then, three additional items focused on holiday-specific behaviors – such as attending outdoor festivities or a holiday party – were developed.

For each self-disclosure item, respondents were asked to indicate if they shared the information online (yes/no) and how frequently they would share each behavior. The disclosure items ranged from zero to five. Final values for the disclosure items ranged from zero to five.

Lastly, the instrument included several controls. The platform control is a binary code with one representing Instagram users and zero representing Facebook users. Older is a binary code as well. Each respondent was asked for their age in an open-ended question; the average age was calculated and each respondent was assigned a one (if older than the average) or a zero (if younger). Negative prior experience was a single yes/no question included to control for the influence of past experiences of shaming or other negative experiences online. Neuroticism, a measure of emotional instability and reactiveness, was adopted from Tiwari et al. (2009); after pretesting, the originally 12-item measure was reduced to five items that loaded well together. Given the reported effects of the pandemic on mental health, it was important to control for differences in emotional stability among the participants. The last control is online self-efficacy, which captures a user’s confidence in their ability to apply privacy settings to protect their information while

Table 1
Demographics of Survey Sample.

| Employment Status | Religion                      | Race                     | Plan to Celebrate in 2020 | Typically Celebrate Holidays | Gender                          | Plan to Celebrate in 2020 |
|-------------------|-------------------------------|--------------------------|---------------------------|------------------------------|--------------------------------|---------------------------|
| Full Time         | Christianity                  | White                    | 71.6 %                    | Plan to Celebrate in 2020    | Male                            | 42.7 %                    |
| Part Time         | Judaism                       | Asian                    | 15.3 %                    | Plan to Celebrate in 2020    | Female                          | 54.1 %                    |
| Student           | Hinduism                      | Black or African American| 7.2 %                     | Plan to Celebrate in 2020    | Genderqueer                     | 4.2%                      |
| Temporary         | Buddhism                      | American Indian or Alaska| 0.6 %                     | Plan to Celebrate in 2020    | Nonbinary                       | 2.8 %                     |
| Unemployed        | Islam                         | Native                   | 15.3 %                    | Plan to Celebrate in 2020    | Race                            | 0.8 %                     |
| Other             | Fagan                         | Multiracial              | 4.4 %                     | Plan to Celebrate in 2020    | Ethnicity                       | 0.6 %                     |
|                   | Spiritual                     | Other                    | 0.6 %                     | Plan to Celebrate in 2020    | Hispanic, Latinx, or Spanish    | 6.8 %                     |
participating in online environments (Ng et al., 2009). This construct has the potential to provide an alternate explanation of any observed phenomenon, so it was included as a control using the measures from Compeau and Higgins (1995) and Venkatesh and Davis (1996). Based on the social media context, the four items that seemed most applicable were retained and an additional four items focused on one’s confidence in using the social media platform to share information and connect with others were developed. Following the pretest, three of the original items and one of the new items were retained for the online self-efficacy measure.

Following the second round of data collection, the measures were evaluated for reliability and convergent and discriminant validity. Most of the Cronbach’s alpha reliabilities are above the 0.700 threshold. The exceptions were socially undesirable (0.608) and holiday behaviors (0.512); although these are lower than most recommended cutoffs, these are new measures and all factors loadings exceeded 0.404 (Thatcher et al., 2018) with no significant cross-loading, so it was determined these levels were acceptable enough to continue the analyses.

Using correlation analysis to assess convergent validity (Hinkin, 1998; Kazdin, 1995; Singleton Jr & Straits, 2010), two possible concerns were identified due to correlations greater than 0.600: socially undesirable and holiday disclosures, and fear and privacy concern. In the latter case, the AVE for each measure is greater than 0.500, indicating the items explain the majority of variance in each construct, and the square root of the AVE for each is higher than the correlation – indicating good discriminant validity (Mackenzie et al., 2011). The high correlation is likely due to the similar nature of these constructs as they both represent costs (or risks) to the individual, though they are ascribed to different calculus models. The former case is more complex because the AVE for each is below 0.500 and the correlation is higher than the square root of each construct’s AVE – indicating inadequate discriminant validity. When attempting to load the items together on a single construct, they loaded poorly. In further analysis, an ANOVA for socially undesirable and holiday disclosures found significant differences between the means (p < 0.000). Because of this, it was decided to continue with the analyses while fully acknowledging that more work should be done to refine the measures of these two constructs for future use.

The correlation matrix and measures of reliability are available in Table A2 of the Appendix.

5. Results

The data were analyzed using repeated measures ANOVA in SPSS 26 and structural equation modeling with the lavaan package in R 4.1.1.

Before running the analyses, the data were tested for common method bias using two procedures described in Podsakoff et al. (2003). Using Harman’s single factor test, the unrotated first factor explained 18% of the variance, accounting for approximately-one quarter of the total variance explained by the items. In the second procedure – the partial correlation procedure with an unrelated marker variable – the marker variable had minimal effect on the standardized coefficients; all coefficients retained their level of significance with and without the marker variable present. Both of these tests indicate common method bias is not a concern in the data.

5.1. ANOVA results

To determine if there were significant differences between the three categories of disclosures and between reported disclosures in 2019 and 2020, two sets of repeated measures ANOVA were conducted in SPSS. In all of the analyses, the assumption of sphericity was violated (p < 0.000), so the Huynh-Feldt correction is reported herein (Field, 2013); this statistic was significant (p < 0.000) in each run, indicating there were significant differences between the means.

In the first set of analyses, the different disclosure behaviors at each point in time were analyzed. The 2019 responses showed no statistical difference between socially desirable and undesirable behaviors (p = 0.172); however, holiday disclosures were significantly higher than the other two categories (p = 0.000). The 2020 responses showed no statistical difference between the holiday and socially desirable behaviors (p = 0.119), but socially undesirable behaviors were significantly lower than the other two categories (p = 0.000).

The second set of analyses compared each category of behavior across the two time periods. For socially undesirable disclosures, the 2019 behaviors were significantly higher than those reported in 2020 (p = 0.000). Holiday disclosures revealed a similar trend, with significantly higher reported disclosures occurring in 2019 than in 2020 (p = 0.000). However, the socially desirable disclosures exhibited the opposite effect, with 2019 behaviors significantly lower than those reported in 2020 (p = 0.000).

In summary, the ANOVA analyses revealed that holiday disclosures dominated 2019 behaviors, but occurred at similar levels to socially desirable disclosures during the 2020 holiday season. Holiday and socially undesirable disclosures both experienced significant decreases from 2019 to 2020, while socially desirable disclosures experienced a significant increase during that time. To better understand these results, a post-hoc analysis was conducted of the same model for 2020 disclosures using the 2019 disclosure data; that analysis is discussed in section 5.3.

5.2. Structural equation modeling

Using the lavaan package in R, the structural equation model was run to test the model presented in Fig. 1. The model met the cutoffs for good model fit (CFI greater than 0.900, TLI greater than 0.900, RMSEA < 0.050, SRMR < 0.080; Kenny, 2015). The results are summarized in Fig. 2. Results that are significant at the 0.05 significance level are denoted with an asterisk.

Most of the antecedents were non-significant predictors of the self-disclosure behaviors (SDB), resulting in relatively low levels of variance explained in each dependent variable by the model (20%, 18%, and 14% for holiday-related (Hol), socially desirable (SD or Des), and socially undesirable self-disclosure behaviors (SU or UnDes), respectively). However, there is support for the importance of studying the social calculus perspective in this context as utilitarian value (Hol: $\beta = 0.228, p = 0.003; SD: \beta = 0.133, p = 0.034; \text{SU}: \beta = 0.156, p = 0.024$) and social capital (Hol: $\beta = 0.190, p = 0.032; SD: \beta = 0.185, p = 0.012$) were the primary significant predictors of self-disclosure behavior; this means $H_2$ and $H_5a$ were supported, but $H_3b$ and $H_4$ were unsupported. Only socially undesirable behaviors had a significant predictor from the privacy calculus constructs (self-enhancement; $\beta = 0.203, p = 0.004$), so most of the privacy calculus relationships were not replicated as anticipated; as such, $H_{1a}$ was partially supported but the other subparts of $H_1$ were unsupported. In terms of controls, the platform (Instagram or Facebook; Hol: $\beta = 0.111, p = 0.060; SD: \beta = 0.028, p = 0.568; \text{SU}: \beta = 0.040, p = 0.459$) and a prior negative experience online (Hol: $\beta = 0.087, p = 0.134; SD: \beta = 0.039, p = 0.420; \text{SU}: \beta = 0.051, p = 0.336$) had no significant effects on disclosure behaviors. Older respondents were less likely to disclose socially desirable ($\beta = -0.161, p = 0.001$) and undesirable information online ($\beta = -0.171, p = 0.001$). Respondents who scored higher on the neurotic scale were less likely to disclose socially desirable information ($\beta = -0.172, p = 0.005$) and respondents with higher levels of online self-efficacy were less likely to disclose socially undesirable information ($\beta = -0.152, p = 0.008$).

Additionally, evaluation apprehension was a significant negative moderator on the relationship between social capital and holiday-related disclosures ($\beta = -0.151, p = 0.011$), supporting $H_{3b}$. This means that the effect of social capital on discussing holiday-related information on social media was weaker for individuals who were concerned with how their networks would judge them. However, the other moderated relationships for socially desirable and undesirable disclosures were non-significant, meaning $H_{5b}$ and $H_{5c}$ were unsupported. A chart
showing the significant moderating effect is presented in Fig. 3. To create this chart, the relevant items for social capital and evaluation apprehension were averaged for each respondent. Based on the average across all respondents for each construct, individuals were categorized as low (below average) or high (above average).

5.3. Post-Hoc analysis

Inspired by the results of the repeated measures ANOVA and the lack of significance of the privacy calculus constructs in the proposed model, a post-hoc analysis was performed of the same model but with 2019 reported behaviors instead of 2020 reported behaviors. It is important to acknowledge that the behaviors in each category are the same in both cases, but the social desirability of the behaviors is determined based on the pandemic setting; as such, what is socially desirable in 2020 was not necessarily socially desirable in 2019, and the same is true of the socially undesirable behaviors. As with the proposed model, the fit statistics met all of the recommended cutoffs. The results are summarized in Fig. 4, with results significant at the 0.05 level denoted by an asterisk.

Most notably, the privacy calculus constructs are more often significant predictors of self-disclosure behaviors. Holiday-related disclosures are influenced by self-presentation ($\beta = 0.138, p = .034$) and self-enhancement ($\beta = 0.217, p = .001$). Socially undesirable behaviors are influenced by self-enhancement ($\beta = 0.203, p = .009$) and privacy concern ($\beta = -0.194, p = .042$). Socially desirable behaviors are influenced by privacy concern ($\beta = -0.156, p = .044$). The only social calculus construct to remain a significant predictor is utilitarian value (SD: $\beta = 0.178, p = .003$; SU: $\beta = 0.251, p = .001$). Also of note is that evaluation apprehension moderated the relationship between social capital and
socially desirable behaviors ($\beta = -0.101$, $p = 0.035$) in addition to the relationship between social capital and holiday-related disclosures ($\beta = -0.122$, $p = 0.014$). However, the key finding here is the increased significance of privacy calculus to predict 2019 disclosures compared to its general non-significance in predicting 2020 behaviors.

6. Discussion

Motivated by a desire to understand how the COVID-19 pandemic affected self-disclosure on social media, this study set out to answer two research questions. First, it asked how privacy and social calculus constructs affect online self-disclosure behaviors during the COVID-19 pandemic. To answer this question, a quasi-experimental study was used to collect survey data at two different times during the 2020 holiday season. Using social calculus and an evaluation apprehension moderator to address the first question, the study found that utilitarian value and social capital predicted various kinds of self-disclosure behavior; evaluation apprehension also weakened the relationship between social capital and holiday self-disclosure behavior. During the pandemic-afflicted holidays, it is notable that privacy calculus constructs ($H_1$) were largely non-significant, indicating that social factors were the primary drivers of online disclosive behaviors.

Second, the study asked how the pandemic environment impacted online self-disclosure behaviors. To answer this question, this research applied repeated measures ANOVA and a post-hoc analysis of 2019 reported behaviors. The ANOVA revealed the pandemic led to significant decreases in disclosing holiday-related and socially undesirable (by pandemic standards) behaviors; conversely, disclosing socially desirable behaviors (also by pandemic standards) increased significantly. This provides evidence that what people communicated online during the holidays changed, and at least some of that change was based on what was perceived as appropriate given the pandemic setting. The post-hoc analysis with 2019 data provided further explanation when compared to the 2020 data. Privacy calculus was the primary driver of disclosive behaviors during 2019 except for utilitarian value; this is in stark contrast to the 2020 disclosive behaviors, which were primarily driven by social calculus. This indicates that the pandemic not only affected what was disclosed, but also how individuals decided to disclose information on social media.

This said, there were unsupported hypotheses and surprising results from the analysis. $H_4$ predicted that fear would negatively influence self-disclosure behaviors, but was non-significant in every case. It is possible that the study employed a poor operationalization for fear in the instrument. Equally possible is that, against the backdrop of the pandemic, the fear of being socially judged did not exert a pervasive effect on social media user behavior; simply put, social media users had more salient fears in their offline environment than that of unprotected online activity. Nonetheless, there were some concerns with convergent validity between fear and privacy concern. Although there are indicators to justify continuing the analysis, that issue may have resulted in the non-

Fig. 4. Results of Post-Hoc Analysis with 2019 Behavior Data. Hol is short for holiday-related disclosures. Des is short for socially desirable disclosures. UnDes is short for socially undesirable disclosures. Asterisks denote significance at the 0.05 level.
Due to the pandemic, social media users generally disclosed less information. The findings demonstrate a clear shift from ego-centric privacy calculus to other-centric social calculus in the psychological processes informing online self-disclosure decisions. As such, there is a need for multi-year studies to examine the breadth and ephemeralization of changes and disruptions wrought by COVID-19, especially in regards to self-disclosures (Nabity-Grover et al., 2020).

Third, more work needs to be done to understand how different calculi shape social media users’ information sharing and well-being. This may impact recent research on the rise of cyberchondria and misinformation, and prescribed remedies (Laato et al., 2020; Mena, 2020). Social calculus may reinforce information sharing prescriptions, but the underlying mechanisms require further consideration and study.

Lastly, as the pandemic enters an endemic state, researchers need to evaluate the interplay between different calculi in driving self-disclosure decisions. Although fear did not influence self-disclosure in this study, it would be interesting to investigate other negative emotions (e.g., uncertainty, anxiety, boredom; Li et al., 2021) and their impact on disclosure behaviors. There is a need to evaluate how individuals weight privacy versus social calculus in disclosure decisions and whether attributes of the sociotechnical system shape the relative importance of each calculus.

6.3. Limitations and future directions

This research, as with all research, is not without limitations. First, it relies on self-reported behaviors for both the 2019 and 2020 holiday seasons. Priming was implemented to help respondents recall life before the pandemic and encouraged them to revisit their posts from that time – though it is not possible to verify if any did so. As such, the quality of the 2019 reported behaviors is more difficult to ascertain. However, the 2020 reported behaviors were collected shortly after most of the winter holidays concluded, so these data may be more trustworthy due to recency bias (Martin, 2006).

Second, the study did not collect micro-geographic data on the respondents. Participants were required to be current residents in the United States, which helps limit some of the variety in government responses to the pandemic. However, there were still interstate and even intercity differences in pandemic responses across the United States (Price & Myers, 2020). This was a conscious decision, though, to protect the anonymity of participants and prevent potential reidentification given the variety of demographic variables collected.

The results and these limitations give rise to future research directions. Primarily, online self-disclosure researchers should continue studying the impacts of social calculus on behavior and intention. This study indicates that, during the pandemic, the more often used privacy calculus theory held little influence. It also demonstrates that social calculus may have some influence during non-pandemic times. As such, these relationships should be explored further as they help researchers understand differences in disclosure behaviors.

Additionally, this study explored the idea of some behaviors being socially (un)desirable in a particular context. Future research may continue to explore what makes some disclosures desirable and others undesirable. Social calculus may provide a valuable framework for evaluating shared information perceptions and the motives behind the behaviors, particularly in various contexts and settings. Such research would probe the boundaries of extant knowledge about online self-disclosure and help identify when the context reasonably changes the expectations about behavior.

7. Conclusion

The COVID-19 pandemic has dramatically impacted the lives of people across the globe (Choudrie et al., 2021). This longitudinal, quasi-experimental study offers a contextualized understanding of online self-disclosure during the pandemic-affected holiday season. In particular, social calculus became more salient – and the more traditional privacy calculus became largely non-significant – in driving self-disclosures on social media. Additionally, the moderating effect of evaluation apprehension weakening and strengthening the relationship between social capital and socially undesirable and socially desirable behaviors, respectively. The variance in socially undesirable behaviors was low, especially compared to the other two kinds of disclosure behaviors; this means that the effect (if any) would be quite small, indicating the study lacked the adequate power to detect an effect if one exists. Socially desirable disclosures present a separate issue. Because these behaviors were already established social norms – given the pandemic had been affecting the United States for approximately-nine months at that time – evaluation apprehension may have had minimal additional influence on the perception of socially desirable content complying with norms of behavior.

Of the results, the online self-efficacy control presented the most surprising result. Although traditionally a positive antecedent of self-disclosure, the result here is a negative relationship. This suggests that as individuals feel more capable of using social media platforms, they also understand the challenge of protecting their user information; as such, they post less content online. It would be interesting to investigate if this change is specific to the pandemic or an enduring change.

6.1. Implications for practice

This study presents several implications for practice. Primarily, the pandemic has raised concerns with the reliability of social media data. Due to the pandemic, social media users generally disclosed less information – especially about previously commonplace and seasonal behaviors. This has potentially serious implications for training algorithms and predicting consumer trends based on social media data. Considerable effort may be required to correct archival social media data collected after March 2020 so as to limit the effects on analytical models and algorithms. In the short-term, this requires managers to exercise caution in interpreting and using data gathered from employees and customers during the pandemic.

In the long-term, it may require managers to assess the value of social media data given its susceptibility to shocks and shifts in the underlying calculus mechanisms. Further consideration and research will assist in gleaning policy-informing insights into effective responses to this challenge. Such consideration will help clarify if these behavior changes in consumers were evoked by the pandemic or by a combination of shocks. For example, the United States population contended with Black Lives Matter protests (Dave et al., 2020; Kanik, 2021), a disputed national election (Fandos & Schmidt, 2020; Mascaro et al., 2021), and economic uncertainty (Pata, 2020; Pazzanese, 2020; Stroploli, 2020), in addition to COVID-19. Given the frequency of shocks in the broader environment, this study encourages managers to consider the big picture and how shocks change the balance between privacy and social calculus as they formulate strategies, plan for future disruptions, and use social media data to learn about and target consumers.

6.2. Implications for research

This research creates new opportunities for studies on online self-disclosure, particularly during crises such as the COVID-19 pandemic. First, this research supports the intuition in prior studies about the impacts of shocks on individual behavior. It was found that jarring events disrupt well-established patterns of behavior – specifically in online self-disclosure. While it is not possible to project if behavioral patterns will return to pre-pandemic states, the findings imply researchers should probe whether, when, and why established knowledge of online social phenomena apply in this rapidly changing environment (Weick, 1996).

Second, researchers need to examine if changes in established nomological networks due to the pandemic will persist. The findings demonstrate a clear shift from ego-centric privacy calculus to other-centric social calculus in the psychological processes informing online self-disclosure decisions. As such, there is a need for multi-year studies to examine the breadth and ephemeralization of changes and disruptions wrought by COVID-19, especially in regards to self-disclosures (Nabity-Grover et al., 2020).

Third, more work needs to be done to understand how different calculi shape social media users’ information sharing and well-being. This may impact recent research on the rise of cyberchondria and misinformation, and prescribed remedies (Laato et al., 2020; Mena, 2020). Social calculus may reinforce information sharing prescriptions, but the underlying mechanisms require further consideration and study.

Lastly, as the pandemic enters an endemic state, researchers need to evaluate the interplay between different calculi in driving self-disclosure decisions. Although fear did not influence self-disclosure in this study, it would be interesting to investigate other negative emotions (e.g., uncertainty, anxiety, boredom; Li et al., 2021) and their impact on disclosure behaviors. There is a need to evaluate how individuals weight privacy versus social calculus in disclosure decisions and whether attributes of the sociotechnical system shape the relative importance of each calculus.
apprehension on holiday-related self-disclosures was significant during the 2020 holidays. Collectively, these findings create new opportunities for research on online self-disclosure; they also provide important implications for how managers use and interpret social media data from the pandemic years in formulating strategies, making decisions, and understanding consumers and trends.

CRediT authorship contribution statement

Teagen Nabity-Grover: Writing – review & editing, Writing – original draft, Software, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. Christy M.K. Cheung: Writing – review & editing, Writing – original draft, Resources, Methodology, Conceptualization. Jason Bennett Thatcher: Writing – review & editing, Writing – original draft, Methodology, Conceptualization.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jbusres.2022.113310.

References

Al-Saffad, Y., & Nielsen, S. (2014). Self-disclosure on Facebook among female users and its relationship to feelings of loneliness. Computers in Human Behavior, 36, 460–468. https://doi.org/10.1016/j.chb.2014.04.014
Almalkawi, H. A. (2015). Online Self-Disclosure Across Cultures: A Study of Facebook Use in Saudi Arabia and Australia [Queenland University of Technology]. http://eprints.qut.edu.au/8449/4/Hasem Almalkawi Thesis.pdf.
Altman, I., & Taylor, D. A. (1973). Social penetration: The development of interpersonal relationships. Holt, Rinehart & Winston.
Ampong, G. O. A., Mensah, A., Adu, A. S. Y., Addae, J. A., Omorogie, O. K., & Ofori, K. S. (2018). Examining self-disclosure on social networking sites: A flow theory and privacy perspective. Behavioral Sciences, 8(6), 58–74. https://doi.org/10.3390/bs8060059
Attrill, A., & Jalil, R. (2011). Revealing only the superficial me: Exploring categorical self-disclosure online. Computers in Human Behavior, 27(5), 1634–1642. https://doi.org/10.1016/j.chb.2011.02.001
Bharti, S. S. (1983). Effects of Stressful Life Events on Individual Performance: AN 1983. https://www.jstor.org/stable/2582657.
Bos, S. R., Galletta, D. F., Benjamin Lowry, P., Moody, G. D., & Polak, P. (2015). How Large U.S. Companies Can Use Twitter and Other Social Media to Gain Business Value. MIS Quarterly Executive, 9(4), 243–259. http://misq.org/ojs2/index.php/misq/article/viewFile/392/255.
Dave, D. M., Friedson, A. I., Matsuzawa, K., Sabia, J. J., & Safford, S. (2020). Black Lives Matter Protests, Social Distancing, and COVID-19. https://www.cato.org/research-brief-economic-policy/black-lives-matter-protests-social-distancing-covid-19.
Dimoka, A. (2010). What Does the Brain Tell Us About Trust and Distrust? Evidence from a Face-to-Face Neuroimaging Study. MIS Quarterly, 34(2), 237–296. https://doi.org/10.25300/MISQ/20721433.pdf?refreqid=excelsior%3A99e161a16f095fd4f11b0f758f47d3f4.
Ellison, N. B., & Boyd, dana m. (2013). Sociality Through Social Network Sites. In W. H. Burton (Ed.), The Oxford Handbook of Internet Studies. Oxford University Press. https://doi.org/10.1007/9781848264564.d9.
Fandos, N., & Schmidt, M. S. (2020, December 13). Trump Allies Eye Long-Shot Election Reversal in Congress, Testing Pence. The New York Times. https://www.nytimes.com/2020/12/13/us/politics/trump-allies-election-overturn-congress-pence.html.
Feng, Y., Qureshi, I., Sun, H., McCole, P., Ramsey, E., & Lim, K. H. (2014). Trust, Satisfaction, and Online Repurchase Intention: The Moderating Role of Perceived Effectiveness of e-Commerce Institutional Mechanisms. MIS Quarterly, 38(2), 407–409. https://libdata.lib.uiowa.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=bxn&AN=105754055&site=eds-live&scope=site.
Field, A. (2013). Discovering Statistics Using IBM SPSS Statistics (4th ed.). SAGE.
Fischer, S. (2020, April 24). Social media use spikes during pandemic. Axios. https://www.axios.com/social-media-overs-use-spikes-in-coronavirus-pandemic-764b384a-a40e-4787-bd19-7e279786fe0c.html.
Fotis, J., Buhalis, D., & Rossides, N. (2011). Social Media Impact on Holiday Travel Planning: The Case of the Russian and the FSU Marketers. International Journal of Online Marketing, 1(4), 1–19. https://doi.org/10.4018/jiornal.2011100101.
Fox, L. (2020, April 22). COVID fears spark social media shaming. The Alpena News. https://www.therealpenanews.com/news/local-news/2020/04/covid-fears-spark-social-media-shaming/
Gibbs, J. L., Ellison, N. B., & Heino, R. D. (2006). Self-Presentation in Online Personal: The Role of Anticipated Future Interaction, Self-Disclosure, and Perceived Success in Internet Dating. Communication Research, 33(2), 152–177. https://doi.org/10.1177/0093650205285360.
Gooch, D., & Kelly, R. (2016). Season’s greetings: An analysis of Christmas card use. Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems, 07–12-May, 2105–2111. https://doi.org/10.1145/2858182.2892341.
Harries, M. (2020). April 28). Coronavirus has amplified online shaming — not just for influencers. Insider. https://www.insider.com/coronavirus-shaming-viral-callout-online-pandemic-behavior-2020-4.
Hell, E. (2020, March 21). Eating alone, together: Virtual dinner parties are helping people fight isolation. The Washington Post.
Hervai, A., Mubarak, S., & Choo, K.-R. (2018). Information privacy in online social networks: Uses and gratification perspective. Computers in Human Behavior, 84, 441–459. https://doi.org/10.1016/j.chb.2018.01.016.
Hinkin, T. R. (1998). A Brief Tutorial on the Development of Measures for Use in Survey Questionnaires. Organizational Research Methods, 1(1), 104–121.
Hollenbaugh, E. E., & Ferris, A. L. (2014). Facebook self-disclosure: Examining the role of traits, social cohesion, and motives. Computers in Human Behavior, 30, 50–58. https://doi.org/10.1016/j.chb.2013.07.055.
Holmes, R. (2020, April 24). Is COVID-19 Social Media’s Leveling Up Moment? Forbes. https://www.forbes.com/sites/roehyolmes/2020/04/24/is-covid-19-social-medias-leveling-up-moment/. https://doi.org/10.25300/MISQ/32602256c60.}

Chen, R., & Sharma, S. K. (2013). Self-disclosure at social networking sites: An exploration through relational capitals. Information Systems Frontiers, 15, 269–279. https://doi.org/10.1007/s10796-011-9235-8.
Cheung, C., Lee, Z. W. Y., & Chan, T. K. H. (2015). Self-disclosure in social networking sites: The role of perceived cost, perceived benefits and social influence. Internet Research, 25(2), 279–299. https://doi.org/10.1108/10949471511535338.
Choi, Y. V., & Bazarova, N. N. (2015). Self-Disclosure Characteristics and motivations in Social Media: Extending the Functional Model to Multiple Social Network Sites. Human Communication Research, 41(4), 480–500. https://doi.org/10.1111/hcrr.12453.
Choudrie, J., Ramos, L., Georgiadou, A., Chong, A., & Germelmann, C. C. (2021). Will trust, risk, culture, the digital divide and resistance to change feature in workplace productivity: An after and during the Covid-19 lockdown and social distancing context. Critical Call for Papers. Journal of Business Research.
Compeau, D. R., & Higgins, C. A. (1995). Computer Self-Efficacy: Development of a Measure and Initial Test. MIS Quarterly, 19(2), 189–211. http://libdata.lib.uiowa.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=bu&AN=9507062452&site=eds-live&scope=site.
Coe, R. A., & Roussas, D. M. (1983). Relationship of life events and personal orientations to symptoms of strain. Journal of Applied Psychology, 68(3), 446–458. https://doi.org/10.1037/0021-9010.68.3.446.
Cullen, M. A., & Pillow, D. R. (2018). Extending the Dual Factor Model of Facebook Use: Social motives and network density predict Facebook use through impression management and open self-disclosure. Personality and Individual Differences, 133, 34–40. https://doi.org/10.1016/j.paid.2017.06.017.
Cullen, M. J., McHugh, P. J., & Zubillaga, J. J. (2010). How Large U.S. Companies Can Use Twitter and Other Social Media to Gain Business Value. MIS Quarterly Executive, 9(4), 243–259. http://misq.org/ojs2/index.php/misq/article/viewFile/392/255.

Chang, C.-W., & Heo, J. (2014). Visiting theories that predict college students...
