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Self-promotion and online shaming during COVID-19: A toxic combination

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ABSTRACT

A public shaming frenzy has spread through social media (SM) following the instigation of lockdown policies as a way to counter the spread of COVID-19. On SM, individuals shun the idea of self-promotion and shame others who do not follow the COVID-19 guidelines. When it comes to the crime of not taking a pandemic seriously, perhaps the ultimate penalty is online shaming. The study proposes the black swan theory from the human-computer interaction lens and examines the toxic combination of online shaming and self-promotion in SM to discern whether pointing the finger of blame is a productive way of changing rule-breaking behaviour. A quantitative methodology is applied to survey data, acquired from 375 respondents. The findings reveal that the adverse effect of online shaming results in self-destructive behaviour. Change in behaviour of individuals shamed online is higher for females over males and is higher for adults over middle-aged and older-aged.

1. Introduction

When many people from Wuhan Hubei province in China started reporting serious health symptoms in December 2019, the coronavirus pandemic (hereafter, COVID-19) has formally begun, and since then it has spread all over the world (Koch et al., 2021; Mahdikhani, 2022; Ridhwan & Hargreaves, 2021). The COVID-19 pandemic was deemed a public health emergency of international concern by the World Health Organization (WHO) in January 2020, posing a significant risk to nations with vulnerable health systems (Karami et al., 2021). The pandemic has shocked the world by surprise, infecting a sizable population in 213 countries (Mehra et al., 2021). With the aim of halting the spread of this new disease, many countries imposed restrictions on travel (Fauci et al., 2020). A large number of people were exposed to COVID-19, even with strict travel restrictions imposed, which contributed to the global spread of the virus (Chinazzi et al., 2020). Since COVID-19 is zoonotic, it seemed possible that people who handle animals could contract the virus and become ill (Chauhan et al., 2021). Due to the disruption of activity, several industries have suffered immensely, which has further impacted the economies (Chakraborty & Kar, 2021; Sarkar et al., 2021). While many businesses have been forced to shut down or drastically scale back operations, those that have remained in business have to function in a changing environment with new procedures and practises (Dwivedi et al., 2020).

In the absence of an appropriate vaccine, many countries imposed lockdowns to minimize the transmission of COVID-19 (Ghosh & Sanyal, 2021; Obembe et al., 2021; Sardar et al., 2020). Contact tracing has been implemented in many countries to prevent the transmission of infectious diseases (Spears & Padyab, 2021). Social distancing has been the most widely used prevention and control technique to slow the spread of COVID-19 (Ferguson et al., 2020). As social creatures, such limitations can lead humans to feel resentment, dissatisfaction, loneliness and depressive symptoms (Grover et al., 2020). Furthermore, lockdown led to panic and the stockpiling of basic commodities (Varalakshmi & Swetha, 2020). In this respect, a lockdown has a degrading effect on the general public's psyche (Grover et al., 2020). However, owing to COVID-19 restrictions, self-promotion changes entirely on social media (henceforth, SM).

Self-promotion is the practice of publicizing oneself or self-activities, especially in a powerful manner to present oneself as highly competent to other people. SM such as Facebook, Twitter and Instagram provide individuals with a platform for expressing themselves and maintaining their online social relationships (Moon et al., 2016; Reveilhac & Blanchard, 2022). With the advent of social technologies accessible to the Internet, SM offers areas for relationship building, enjoyment and self-presentation (Rui & Stefanone, 2013a). SM plays an important role in the everyday lives of people by enabling them to exchange knowledge at any time and communicate with people worldwide (Adikari et al., 2021; Ge, 2020), which has the effect of creating enjoyment (Kim et al., 2019), and building relationships (Camarero et al.,

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2018). Self-presentation is very relevant in SM (Gomez et al., 2022). The study advocates that relationship building, enjoyment and self-presentation trigger self-promotion in SM.

In India, police publicly shamed self-presenting lockdown violators by posting photos of them on SM, which was done after they discovered that people were going out of their homes by violating the lockdown guidelines. It has also been reported that some donors of foods and farm products distributed to the needy have been taking photos of the goods and uploading them on SM, which is an offence due to the violation of social distancing (PTI, 2020). Such action triggers online shaming in SM. Online shaming is a practice in which people participate in SM through shaming transgressions (Skoric et al., 2010). Users have gradually moved to online services due to the COVID-19 lockdown, and a rise in SM use has also been noted, contributing to the suspicion that online shaming has also increased (Das et al., 2020; Karmakar & Das, 2020). Indeed, the past decade has seen growing cases of online shaming in many countries, where multiple angry and abusive comments are posted on the personal websites of those who are targets of mockery and social condemnation (Hou et al., 2017). Consequently, there have been significant threats to people's personal lives and the social order itself (Cheung, 2014; Ronson, 2016) e.g., loss of reputation, running careers, being targeted, loss of sense of belonging to the community. The study advocates that such threats can lead to self-destructive behaviour such as self-harming, eating disorders, emotional suffering, bad behaviour, and extreme dieting.

The existing research on online shaming has examined changes in shaming with the introduction of the widespread use of computer networking, concentrating in particular on administrative structures (Oravec, 2020); explored how the public humiliation activities of fans may be impacted by the gender of professional athletes (MacPherson & Kerr, 2020); and examined factors such as socioeconomic status and how a belief in a just world contributes to online shaming (Hou et al., 2017). Online shaming is portrayed as a destructive and serious threat with significant consequences such as ruining reputations and careers, and experiencing depression, negative thoughts, social isolation and negative self-perception (Muir et al., 2021). However, as yet there are no studies that empirically validate the toxic combination of self-promotion and online shaming in the context of COVID-19. The toxic combination infers how self-promotion of toxic people (i.e., COVID-19 lockdown violators) poses a threat of online shaming on SM and how online shaming can change their toxic behaviour.

With the considerations of the above arguments, we were unable to uncover literature that has empirically measured the structural relationship of relationship building, enjoyment and self-presentation with self-promotion; discuss black swan theory (hereafter, BST) (Taleb, 2007) through the human-computer interaction (hereafter, HCI) lens; empirically measure the structural relationship of self-promotion with online shaming; empirically measure the structural relationship of online shaming with self-reported behaviour. Self-reported behaviour is the degree to which an individual reports on their own actual behaviour. With respect to the gaps, studies have emphasized future research on online shaming i.e., future research is required to gain an understanding of the online shaming perspective amongst younger and older adults (De Vries, 2015). Instead of actual behaviour in a real-life setting, online shaming has been measured as a pattern in a hypothetical situation to empirically develop more elaborate boundary conditions; therefore, the issue requires further research (Ge, 2020). The gaps and need for future research justify the motivation of the study.

In terms of problematization, the research on online shaming is important in 21st century. Online shaming during this pandemic has become a vehicle for discontent with disruptive public health measures implemented to control COVID-19 as well as anxieties and doubts regarding the disease (Dolezal et al., 2021). People who oppose vaccinations or masking later post that they have contracted the virus and social media users have been quick to criticise them or point out their faults rather than provide them with consolation or support. The COVID-19 pandemic has elevated information and communications technologies (ICTs) to the forefront of daily life, for better or worse (Barnes, 2020), and the study argues that online shaming presents an ethical/unethical dilemma, in which justice/injustice arguments are made. Online shaming brings rapid, powerful, and frequently unfair retribution. The study thus aims to increase public awareness of online shamers by gathering evidence from theories and building knowledge about the topic. Therefore, the objective of the study is to use BST through the HCI lens to investigate the toxic combination of online shaming and self-promotion on SM to discern whether pointing the finger is a productive way to change the behaviour of online shamers during the COVID-19 pandemic. Therefore, the study attempts to address the following research questions (RQs):

RQ1: How do factors such as relationship building, enjoyment and self-presentation influence self-promotion?

RQ2: How does self-promotion influence online shaming?

RQ3: How does online shaming influence changes the behaviour of online shamers?

The theoretical implication is to propose BST from the HCI lens. The managerial implication intends to discuss consequences of online shaming for the individuals who are the victim.

This paper is organised into six sections: Section 2 outlines the theoretical framework and Section 3 formulates the hypotheses. Section 4 presents the research methodology. In Section 5, the experimental results are presented and Section 6 contains a discussion of these results. Finally, the research is concluded in Section 7.

2. Theoretical framework

The effects of online shaming are reported to be substantial and far-reaching, although there has been little empirical research on the subject so far, with most coverage being anecdotal and media-based (Muir et al., 2021). Therefore, a theoretical background is required to explain and understand the phenomena of online shaming during COVID-19.

2.1. Theoretical background

There are few studies that have focused on the correlation between people and their likelihood of perpetrating online shaming. Via a thorough literature review, Social Cognitive Theory (SCT) (Bandura, 1982) was identified as being the fundamental theoretical framework for determining the likelihood of a person committing online shaming. SCT has been applied to both offline and online to investigate and clarify the acts of bullying and harassment (Bjärehed et al., 2021; Farooq et al., 2021; Wachs et al., 2020; Xiao & Wong, 2013); investigated the impact of the community environment on the intention to share information in virtual communities (Cai & Shi, 2022); investigated the factors that influence students' intention to continue using blogs to learn (Tsai & Cheng, 2012). According to SCT, human motivation and behaviour are extensively controlled by forethought, and this anticipatory control system includes expectations that may refer to the effects of a particular action (Bandura, 1982). The theory identifies a variety of main factors that affect actions, such as perceived self-efficacy, outcome expectations and sociostructural factors. SCT also includes goals, perceived impediments and opportunity structures.

There are several limitations of SCT. These include the theory that implies that environmental changes can lead to changes in the individual automatically, when this may not always be true; the theory is loosely structured, based solely on the complex interplay between person, actions and the environment. The degree to which each of these factors becomes real actions and whether one is more influential than another is uncertain; the theory does not focus on emotion or motivation; rather, it uses analogy to previous experience. These factors receive limited attention; the theory is broad-reaching, so it can be hard to completely operationalise; the theory does not explain the likelihood and predictability

of behavioural changes during highly impactful events such as COVID-19. Therefore, the BST by Taleb (2007) from the HCI lens is the basis on which this research adopted its model.

BST is founded upon a metaphor that represents an incident that comes as a surprise, has a significant impact and is rationalized after the fact with the aid of hindsight. It refers only to large-scale and consequential unpredictable events and their dominant position in history; such events are considered extreme outliers and play vastly greater roles collectively than normal occurrences (Taleb, 2007). In other words, a black swan is an event with the three attributes (Taleb, 2007): it is an outlier as it lies beyond the realm of regular standards, and nothing can convincingly point to its potential in the past; it involves an extreme effect; despite its outlier position, human nature formulate reasons for its occurrence after the reality, making it explainable and predictable. This paper argues that the COVID-19 pandemic meets the following three-level attributes to be termed a black swan event.

Attribute 1: Although infectious diseases and pandemics have occurred frequently over the past few decades, a pandemic of the scale and lethality of COVID-19 has not occurred since the Spanish Influenza pandemic of 1919, and so it was hard to predict its devastating potential. **Attribute 2:** COVID-19 has a major impact on people, i.e. the economic and social disruption caused by the pandemic was devastating. In addition, COVID-19 has had a massive impact on health, which had a major impact on psychosocial wellbeing.

Attribute 3: As per Peeri et al. (2020), after the occurrence of the COVID-19 pandemic, many have rationalized that the pandemic should have been predicted because it is not the first pandemic civilization has faced nor it will be the last. In 2004, virologists warned the US government about a novel strain of the swine flu virus. However, their warnings were profoundly ignored and five years later, the H1N1 influenza virus emerged, instigating the first worldwide flu pandemic in more than 40 years. Notably, virologists have alerted governments about corona viruses such as SARS and MERS; yet the warnings have been disregarded.

The key takeaways of BST and its alignment to HCI in the context of online shaming and the black swan event are discussed below. The user, the computer, and how users interact with computers constitute the HCI components (Alkatheiri, 2022). In the context of this study, users are the individuals who shame others on SM or the receiver of online shaming; the computer is the machine (e.g. laptop, desktop, mobile, etc.) to share content on shaming or receiver of such content. Users interact with SM by liking posts who violate COVID-19 protocols, leaving product or service reviews of the business who does not adhere to COVID-19 guidelines, reporting issues for violating guidelines for COVID-19, sending private messages to thank police and hospital workers, following influencers who provide COVID-19 updates, tagging useful COVID-19 content in their posts. Furthermore, HCI focuses on the specific functionality of computers as well as their role in collaboration with humans. The study advocates the fulfillment of the following takeaways of BST in HCI lens.

Takeaway 1: A black swan event with serious consequences is an exceptionally unusual occurrence, and cannot be anticipated in advance, though many falsely claim that it should have been predictable after the fact. In the modern age, it is commonplace to see an open forum where people can communicate with each other. On a blog or SM post, it is not unusual to scroll down the comments and witness people name-calling, outsmarting and belittling one another.

Takeaway 2: Black swan events can cause catastrophic damage. The study argues that online shaming can cause this kind of damage. Online shaming either psychologically affects the person or causes them to become more entrenched in their opinions and behaviours. It can result in the loss of jobs or income and damage an individual's reputation.

Takeaway 3: Black swan events potentially increase vulnerability by propagating risk. Online shamers also put themselves at risk. There is an inherent risk in the tactic of shaming people by sharing videos or photos on SM. This can ruin people's lives, because there is the risk of getting it wrong. There is also a risk that as people becomes more irritated and express anger against those who violate the rules as the lockdown continues, this may have the opposite impact to what the shamers intended.

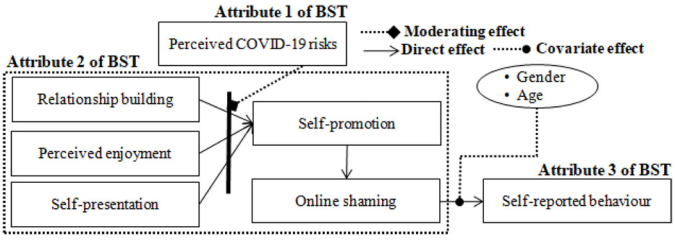

Fig. 1. The proposed theoretical model (Adapted from Taleb, 2007).

The proposed theoretical model showcasing attributes, constructs, direct, moderating and covariate effects is depicted in Fig. 1. In the figure, perceived COVID-19 risks represent Attribute 1 of BST; the amalgamation of relationship building, perceived enjoyment, self-presentation, self-promotion and online shaming represent Attribute 2 of BST and self-reported behaviour represents Attribute 3 of BST. In the model, perceived COVID-19 risks represent the moderating effect, and gender and age represent the covariate effect.

All the constructs for this study are defined in Table 1. Since BST is thought-provoking, esoteric, normative and couched at a societal level of analysis, therefore, theory building in the context of HCI requires careful development by justifying the rationale behind the constructs and covariates. So, they are further justified to set the context for the theoretical support and logical construction. In addition, the relevance of these constructs and covariates to the psychological or behavioural phenomena that occur in social life is discussed.

Rationale behind consideration of relationship building: SM provides fertile ground for the growth and preservation of relationship building from a public relations perspective, because constant interactions and conversation are cornerstones of any satisfying relationship (Taylor et al., 2001). Relationship building is a natural fit in SM (Wallace et al., 2011), and SM support relationship marketing (Hou, 2018). There is a strong association between social relationship building and psychosocial wellbeing (Fatahi & Økland, 2015). One of the most popular HCI applications available to users in SM is Facebook (Fu et al., 2020). Based on the above theoretical support, it can be concluded that relationship building fits into Attribute 2 of BST in HCI lens. The study advocates that in a professional setting, relationship building facilitates collaboration, idea sharing, and feedback, as well as stress reduction through social support. Building effective professional relationships and trusting connections can be formed by actively seeking two-way discussion, presenting insightful questions, and making a conscious effort to acknowledge and accept feedback from others.

Rationale behind consideration of perceived enjoyment: Enjoying using SM while spending time with friends and enjoying helping others are two perspectives on perceived enjoyment (Moghavvemi et al., 2017). The effect of perceived enjoyment on Internet usage is significant (Teo et al., 1999). The perceived enjoyment is a potential SM facilitator (Sullivan & Koh, 2019). Prior HCI and technology acceptance literature has primarily argued that perceived enjoyment has importance to determine the intention to use new systems and applications (Davis et al., 1992; Van der Heijden, 2004; Venkatesh, 2000, 2012), such as SM. Perceived enjoyment has an effect on health belief (Astrini et al., 2021). Based on the above theoretical support, it can be concluded that perceived enjoyment fits into Attribute 2 of BST in the HCI lens. The study advocates that SM has made it feasible to engage people's lives virtually. Individuals benefit and enjoy themselves when they use SM to communicate, which leads to increased emotional well-being.

Rationale behind consideration of self-presentation: Self-presentation is the primary motivation for using SM (Seidman, 2013). Posting images, profile information, and wall posts are all exam-

Table 1
Construct definition and reference.

Construct	Definition	Refs.
Relationship building	Opportunity for individuals to collaborate, share ideas, get feedback and feel valued as crucial contributors to relationships on SM during the COVID-19 restrictions.	Kietzmann et al. (2011)
Perceived enjoyment	Degree to which an individual believes using SM is enjoyable while spending time with others and helping others during the COVID-19 restrictions.	Moghavvemi et al. (2017)
Self-presentation	Opportunity for the individual to present an enhanced, positive self-image in SM to seek favourable self-relevant information and maintain the stability of pre-existing self-views during the COVID-19 restrictions.	Seidman (2013)
Perceived COVID-19 risks	Individual's perception of the risks associated with risky behaviour in SM during the COVID-19 restrictions, which can result in online shaming from others.	Yıldırım & Güler, 2022
Self-promotion	Act of promoting or publicizing individual activity in SM during the COVID-19 restrictions.	Moon et al. (2016)
Online shaming	Act of targeting and humiliating an individual on the internet via SM platforms (e.g. Facebook, Twitter, Instagram, etc.) during the COVID-19 restrictions.	Norlock (2017)
Self-reported behaviour	Degree to which an individual reports directly on their actual behaviour without interference during the COVID-19 restriction. The examples are changes in inappropriate or lifestyle-related behaviour or manners.	Brown et al. (1986)

ples of SM behaviours that help with self-presentation (Zhao et al., 2008). Popularity-seeking users are more likely to share personal information on SM, participate in strategic self-presentation and enhance their profiles (Seidman, 2013). Profiles on SM represent accurate self-presentation (Back et al., 2010). Self-presentation behaviours are related to social network characteristics (Rui & Stefanone, 2013b) and the HCI characteristics influence SM software adoption (Chou & Chou, 2009). Self-presentation is linked to psychosocial wellbeing (Michikyan et al., 2015). Based on the above theoretical support, it can be concluded that self-presentation fits into Attribute 2 of BST in HCI lens. The study advocates that SM provides an infinite number of options for self-presentation. Self-presentation on SM is an important aspect of social life, and it is primarily a parasocial technique for individuals to negotiate social interactions.

Rationale behind consideration of self-promotion: Self-promotion on SM is basically the art of strategic self-presentation (Goffman, 1978; Jones & Pittman, 1982). Importantly, self-promotion is easy to accomplish on popular SM platforms for maintaining relationships (Brzozowski, 2009; Mueller et al., 2011; Murthy et al., 2013). Self-presentation can take the form of narrowcasting, which involves sending content to a single recipient, or broadcasting, which involves sending content to multiple recipients simultaneously (Barasch & Berger, 2014). The aim to share news and information has a considerable positive correlation with status-seeking in SM, which is closely related to self-promotion (Thompson et al., 2019). Self-promotion relates to psychosocial well-being (Selim, Scott & Kaye, 2021). Based on the above theoretical support, it can be concluded that self-promotion fits into Attribute 2 of BST in HCI lens. The study advocates that self-promotion on SM is essential for business/personal growth, especially if an individual is a startup founder or entrepreneur or competes against others in a good job or looking for an attractive partner. Research suggests that self-promotion on SM can make individuals more vulnerable to negative outcomes such as addiction and fear of missing out (Tandon et al., 2021).

Rationale behind consideration of online shaming: Online shaming is often unconstrained by time, place or scale, its consequences are unpredictable i.e., it may fade away with no bad effects, it may trigger a shaming backlash, or it may end in a shame pile-on with devastating and long-term consequences (Dolezal et al., 2021). While online shaming someone can sometimes result in beneficial transformation, it is more likely to result in defensiveness, anxiety, social withdrawal or bad repercussions on one's mental health (Dolezal et al., 2021). While online shaming is not a new phenomenon, the information technology (IT) used in modern shaming is new and evolving (Laidlaw, 2017). Based on the above theoretical support, it can be concluded that online shaming fits into Attribute 2 of BST in HCI lens. The study advocates that depression, negative thoughts, social isolation, and a negative self-perception may be experienced by victims of online shaming. However, it is an effective deterrence against COVID-19 rule-breaking behaviour.

Rationale behind consideration of self-reported behaviour: Individuals' beliefs about their own probability of becoming infected predict greater self-reported engagement in protective behaviour with individuals engaging in risk-prevention behaviours as their own risk increases (Wise et al., 2020). Based on this theoretical support, it can be concluded that self-reported behaviour fits into Attribute 3 of BST in the HCI lens. The study advocates that when people see that they are shamed on SM, it can affect their thoughts and feelings, as well as their physical health, which may lead to changes in behaviour. In such circumstances, they are asked to report on self-reported health-risk behaviours (e.g., alcohol use, drug use, and smoking), specifically amongst high school students.

Rationale behind consideration of perceived COVID-19 risks: As the COVID-19 pandemic risk spreads, people's concerns about their health and access to care are growing and all of this adds up to devastating health and societal implications (Cousins, 2020). Innovative technology can reduce risk (Adam, 2015). The use of new IT systems can help to reduce the perception of health risk (Shin & Kang, 2020). Based on the above theoretical support, it can be concluded that perceived COVID-19 risks fit into Attribute 1 of BST in the HCI lens. The study advocates that adults, children and adults with diabetes, asthma, chronic lung illness, sickle cell disease, or who are victims of online shaming on SM are at risk of becoming very sick from COVID-19.

Rationale behind consideration of covariates: With the growth of the Internet, gender-based online shaming has changed dramatically (Dolezal et al., 2021). In the context of COVID-19, gender has been considered as a covariate (Yang et al., 2022) and age has been considered as a covariate (Sun et al., 2022). Based on the above theoretical support, BST in HCI lens considers gender and age as the covariate between online shaming and self-reported behaviour.

2.2. Conceptual model

The conceptual model, based on hypotheses and constructs, is shown in Fig. 2. Hypotheses such as H1 to H5 represent the direct effect. H6a to H6c represent the moderating effect in the conceptual model.

Gender and age represent the covariate effect on the relationship between online shaming and self-reported behaviour. The + sign represents the positive links between the constructs.

3. Hypotheses development

The result of the hypotheses is used to validate the RQs. Therefore, the hypotheses H1 to H3 validate RQ1, H4 validates RQ2 and H5 validates RQ3. Each hypothesis is discussed below.

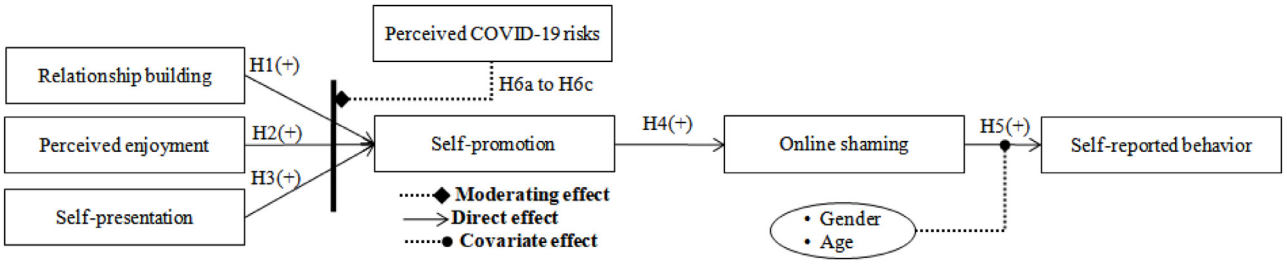

Fig. 2. Conceptual model (Adapted from Taleb, 2007).

3.1. Relationship building and self-promotion

Self-promotion in SM is a subtle art and is about building foundations and relationships, i.e. listening and connecting with others, and explaining to others where necessary. Prior research has found that self-promotion in SM for relationship building is a contentious topic as numerous positive and negative effects have been linked to it (Islam et al., 2019). In turn, self-disclosure is positively linked to establishing meaningful and interpersonal relationships in SM (Bae et al., 2013; Janssen et al., 2014). People create early impressions on SM platforms (Utz, 2010); these impressions are crucial for any relationship to be successful. An impression management technique is self-promotion. Self-promotion from the viewpoint of relationship-building is a practice in which people highlight their strengths and abilities, credit their successes internally rather than externally, take pride in their achievements, and emphasise the positive rather than negative aspects of themselves (Heine et al., 2001; Mezulis et al., 2004). Relationship building encourages users of SM to engage in active behaviours such as self-promotion as part of content creation (Kar, 2021). Women entrepreneurs in their SM profiles use self-promotion and relationship building with customers and the compelling urge to put intimate selves on compulsory visibility (Mohanty & Mishra, 2020). This paper argues that during the COVID-19 pandemic, it is important to focus on building relationships with the audience and learn to listen and engage authentically in order to self-promote on SM platforms. To foster the overall relationship, it is desirable to advise, post or tell the audience where to find COVID-19 related health information. Therefore, it is hypothesized:

H1. *During the COVID-19 pandemic, relationship building is positively linked to self-promotion.*

3.2. Perceived enjoyment and self-promotion

SM was created for enjoyment, and active posting on SM makes a difference to online visibility. A high-quality post allows the audience to enjoy reading and sharing the content. Prior research has found that engaging in activities such as status updates, posting photos and check-ins are motivated by the exhibitionistic characteristics of the individual, which results in enjoyment and self-promotion and impacts the subjective vitality of using SM (Islam et al., 2019). Enjoyment of helping others in SM is the motivational factor (Lin, 2007), and self-promotion is the driver for extrinsic motivation (Frey, 2002). Individuals on SM contribute to the content creation process for reasons such as self-promotion, intrinsic enjoyment and a desire to change public perceptions (Schivinski & Dabrowski, 2016). Consumers' motivations for engaging brand communities in SM are primarily motivated by characteristics such as intrinsic enjoyment and self-promotion (Scaraboto et al., 2020). Multiple forms of engagement on Twitter, such as self-promotion, asking or responding to questions, and exchanging educational ideas, were reported in the content analysis of education-related tweets (Carpenter et al., 2021). This paper argues that during the COVID-19 pandemic, helping others to know more about COVID-19 creates enjoyment. The more one supports others, the more credibility one will enjoy, and this credibility is useful for self-promotion. Therefore, it is hypothesized:

H2. *During the COVID-19 pandemic, perceived enjoyment is positively linked to self-promotion.*

3.3. Self-presentation and self-promotion

Goffman (1959) was amongst the first researchers to acknowledge that people should present themselves as suitable to others; he explained how a fundamental motivational centre is the self-as-performer, as well as how individuals can be strategic in managing the impressions they present. The popularity of SM platforms is an important venue for self-presentation, and self-presentation tactics better connect with others and promote self. However, self-promotion can be difficult, and too much self-promotion can be harmful to a person's reputation. Hence, the presentation of self plays a pivotal role as individuals adopt different social roles in a different context. Prior research has identified that SM has become valuable places for creating and presenting self (Hall et al., 2014; Yu et al., 2015; McAndrew & Jeong, 2012). Instagram is used as a tool for self-presentation and self-promotion and for publicity (Chatchaiyan, 2017). SM represents the ideal venues for self-presentation; indeed, self-presentation is one of the key tactics in SM (Huang, 2014). Self-presentation is the process of constructing a specific self-promotion that influences how others view and treat oneself (Li et al., 2022). Self-promotion is a type of strategic self-presentation in which people choose to purposefully offer self-enhancing information (Valsesia et al., 2021). This paper argues that during the COVID-19 pandemic, self-presentation in SM should be practiced in a responsible way for self-promotion. Therefore, it is hypothesized:

H3. *During the COVID-19, self-presentation is positively linked to self-promotion.*

3.4. Self-promotion and online shaming

During the COVID-19 pandemic, one of the key methods of self-promotion in SM has been service to others and helping others by spreading feel-good positive news, becoming a volunteer crisis counsellor, etc. However, self-promotion in SM can appear awkward and arrogant if shameful and unhealthy pandemic practices are followed. Prior research has concluded that social networking has been a crucial tool for self-promotion (Naftali et al., 2018). Self-promotion in SM can lead to public shaming, i.e. individuals who spend considerable time sharing selfies and making offhand remarks about the pandemic increase their chance of being publicly shamed (Gordon, 2015). Self-promotion involves altering one's appearance (through dieting, use of cosmetics and other means) and tends to be the most successful tactic of attracting a partner (Vaillancourt, 2013). Pernicious forms of bullying, usually involving fat-shaming and slut-shaming (i.e. derogatory remarks on the body shape and sexual conduct of the target) are prevalent in SM (Pilch & Turska, 2015; Valentine et al., 2018). Negative characteristics of behaviour are reflected in self-promotion (Finney et al., 2021), which can be shaming in SM. People who are driven by self-promotion and have poor self-control are more prone to post unverified information, which

contributes to SM fatigue and shame (Islam et al., 2020). This paper argues that during the COVID-19 pandemic, online shaming has been effective in most cases and has led to a favourable result for COVID-19 violators who engaged in self-promotion or disgraceful and deleterious practices. Therefore, it is hypothesized:

H4. *During the COVID-19 pandemic, self-promotion is positively linked to online shaming.*

3.5. Online shaming and self-reported behaviour

Online shaming helps to hold individuals to account for poor behaviour and, consequently, to tackle the challenging issues presented by COVID-19. For worthy causes, it leads to positive outcomes in individual behaviour. However, prior research has examined whether related to state-sanctioned shame penalties or online shaming, such sanctions are particularly objectionable because they allow people to resort to dehumanizing and brutalizing behaviour against criminals or social delinquents (Flanders, 2006). Although online shaming can favourably motivate people to alter their behaviour in compliance with socially acceptable norms, an online 'pitchfork mob' has also arisen that can have a real effect on the livelihoods and general well-being of individuals (Gallardo, 2016). Norm enforcement, which is indeterminate, uncalibrated and sometimes veers into punishment in its own right, is the result of anonymous, instant and pervasive access to the Internet, and thus creates a debate about whether the state should intervene to curtail online shaming (Klonick, 2015). In SM, (Forbes, 2020), shame causes frustration amongst individuals. SM can be extremely effective at instilling shame and causing humiliation (Walby & Joshua, 2021). Shame responses in SM are independently linked to compulsive and avoidance behaviours (Visvalingam et al., 2022). This paper argues that during the COVID-19 pandemic, online shaming can be destructive and can also accomplish positive things by holding individuals responsible for uncivil behaviour. Although SM offers a modern, instantaneous outlet, there is nothing new about human behaviour that fuels online shaming. Therefore, it is hypothesized:

H5. *During the COVID-19 pandemic, online shaming is a predictor of self-reported behaviour.*

3.6. Moderating role of perceived COVID-19 risks

SM has encountered serious challenges in recent times despite maintaining its popularity. SM platforms have been blamed for violence and disorder, ruining children's lives and abundant social ills, in addition to fake news and identity theft. Perceived COVID-19 risks can have a moderating effect on relationship building, perceived enjoyment, self-presentation and self-promotion. For instance, if the perceived COVID-19 risk is high, the risk of negative self-promotion will be high. In the COVID-19 pandemic, individuals tend to maintain a positive online presence by responding in an authoritative and consistent manner to comments and feedback. However, with the uncertainty of various narratives related to COVID-19, there is always a risk that one's interpretation of a certain narrative can be misunderstood by others in SM.

Prior research has found that the time has never been more opportune for favourite stars to alleviate the world once again, and unfortunately for those with blue checkmarks on Twitter and Instagram, the age of star-studded thoughts and prayers seems to be over (Thawani, 2020). Despite the risk of unfair shaming if the shamers turn out to be wrong, online shaming campaigns arguably play a part in uncovering alleged social or moral offenses (Kitchin et al., 2020). The risks associated with whether and how information is disclosed on SM have changed during the COVID-19 pandemic, and this has led to more conscious relationship building, enjoyment and self-presentation to prevent negative assessments and backlash from communities and networks (Nabity-Grover et al., 2020). Online shaming, including de-contextualizing distortion or outright misrepresentation, can involve reputational negative, defamatory and stigmatizing actions (Milbrandt, 2017).

In continuation, although the presumed distance of a harasser making threats to kill or rape on SM may reduce the likelihood of violence, the anonymity or diffused identities of online harassers create increased fear for the targets of such threats, meaning that their proximity, relationship to the victim and/or willingness to act on the threat are all unknown (Henry & Powell, 2016). The risks of COVID-19 are prominent (Gultekin et al., 2022) and its risk perception is considered to be a significant factor (Chi, 2022). As a necessary precaution to limit the risk of COVID-19 infection, social isolation has negative consequences in the form of home confinement (Aksüt et al., 2022). A number of studies have looked into the moderating impact of COVID-19 risk perception (Chi, 2021; Velásquez & Lara, 2021).

This paper argues that during the COVID-19 pandemic, self-promotion for unacceptable behaviour created an increased risk of harm. Although COVID-19 uncertainty continues across the globe, the risk associated with SM is different across countries. Therefore, it is hypothesized:

H6a. *During the COVID-19 pandemic, perceived COVID-19 risks moderated the relationship between relationship building and self-promotion.*

H6b. *During the COVID-19 pandemic, the perceived COVID-19 risks moderated the relationship between perceived enjoyment and self-promotion.*

H6c. *During the COVID-19 pandemic, perceived COVID-19 risks moderated the relationship between self-presentation and self-promotion.*

4. Methodology

The quantitative research methodology facilitates a strong conceptual understanding of the research hypotheses and provides adequate support for decision makers (Anderson et al., 2012). Therefore, the study has adopted a quantitative methodology by organising it into seven subsections i.e., it first discusses data sources followed by data collection procedure. Next, it discusses respondents' demographic profile followed by sampling. Subsequently, it discusses measurement instruments followed by common method bias. Finally, data analysis and robustness checks conclude the section. The structural flow of the subsections aims to justify the robustness of the methodology i.e., to address the bias, choice of sampling and research strategy, development and piloting of research methods and options associated with data analysis.

4.1. Data source

As per Ramakrishnan (2020), transgressors were made to do sit-ups and push-ups, crawl on the street, and wear humiliating posters and signs as a result of police officers publicly shaming them for violating COVID-19 protocols. Furthermore, police officers have posted videos on the Internet showing transgressors receiving humiliating punishment as 'atonement' for their actions. Individuals who engage in undesirable or inappropriate behaviour are subjected to online shaming (Dolezal et al., 2021). Therefore, the data for this study came from individuals in India who did not follow the rules of the pandemic. These included restaurant and brick-and-mortar store owners not following social distancing and COVID-19 restrictions; travellers, commuters and athletes shown not wearing facemasks, frontline workers who were negligent in the duty; people who mocked police and health workers; people from small businesses such as dry cleaners, computer repair services, mobile marketing, photographers, videographers; food delivery services, printing services, commercial real estate agents, small business lenders and commercial insurance agents who violated the COVID-19 restrictions after being placed under forced quarantine.

4.2. Data collection procedure

An online survey was used to gather the data in two stages i.e., stage 1 (10 April 2020 to 7 September 2020) and stage 2 (27 October 2020 to 8 December 2020). Participants who could comfortably take part in

Table 2
Respondent's demographics profile.

Category	Number of respondents	% of respondents	Age					
			Adult	% of adult	Middle	% of middle	Senior	% of senior
Male	185	49%	68	37%	53	29%	64	34%
Female	190	51%	65	34%	55	29%	70	37%
Total	375	100%	133	35%	108	29%	134	36%

the study were chosen since India was on lockdown. The data were collected through personal contact with the state-run facilities and authorities. The inclusion criteria for the survey participants were as follows: aged ≥ 21 years on the date of survey; read and write in English and Hindi; authentic SM account holder on Facebook, Twitter, Instagram, or LinkedIn; and Indian citizenship.

Several challenges were faced while collecting consistent and quality data and, therefore, a practical, law-compatible process was followed which involved appropriate precautions being taken, such as keeping the language and format of the survey simple, ensuring the anonymity of respondents when recording and sharing of the conversations, ensuring limited participation in the video calls, providing time breaks during the interview, offering technical support while responses were filled in, remaining flexible regarding survey time, translating questions to Hindi by professional translators, and maintaining professionalism during the video call. Of note, video calls were incorporated to accommodate respondents who requested live surveys. This has been made possible by the availability of digital technologies.

The sole alternative was a remote virtual survey because site visits and travel were not possible due to lockdown. The surveys were conducted over video calls by three interviewers, who were well trained for conducting the personal survey in English. The interviewers received the survey's questions and the respondents' email addresses through email. The interviewers contacted the participants and collected responses via email in two stages. Low response rates in the first stage led to the interviewers periodically following up in the second stage to ensure that data collection was finished on time.

4.3. Respondents' demographics profile

Table 2 lists the responders and their demographics profiles. In the Table, 51% of the respondents were female, and the remaining 49% were male. Similarly, the age characteristics of the respondents are listed in the table. The adult respondents were between 20 and 39 years, middle- aged adult respondents were between 40 and 60 years and senior adult respondents were more than 60 years old.

4.4. Sampling

India has been struggling with the COVID-19 pandemic and similar situations have been encountered globally. Owing to COVID-19, the government has imposed a lockdown and people are forced to stay at home, which has created separation from family and friends. In such circumstances, the respondents were contacted by email or SM (WhatsApp, Facebook, LinkedIn, etc.) through personal and professional networks of authors. Therefore, due to lack of physical accessibility, the combination of convenience and snowball sampling was used for data collection. The convenience sampling approach has been generally accepted and is cost-effective (Ruhl, 2004). In addition, the sample size boosts the statistical power of convenience sampling (Etikan et al., 2016). The snowball sampling is acceptable when researchers collect data in an acceptable amount of time and at a lower cost (Beldad & Hegner, 2017).

The sampling formula used was $n = \frac{N}{[1+N*e^2]}$ where n is the sample size, N is the population and e is the margin of error. A total of more than 2000 participants (population) agreed to participate, and a total of 375 responses (sample size) were considered for further analysis. The rest did not submit in due time or did not complete the survey or did not complete it correctly or provide similar responses, and hence such data were discarded for analysis. The value of e is 5%, indicating a 95% confidence level. The formula for sampling is derived from Bag et al. (2020).

4.5. Measurement instruments

The five-point Likert scale questionnaire was designed considering the COVID-19 situation, from strongly disagree (marked as '1′) to strongly agree (marked as '5′). The five-point Likert scale was chosen because it is easy to understand and complete, and it takes less time and effort (Chatterjee et al., 2022). In addition, respondents can also choose to remain neutral on this scale by responding 'neither disagree nor agree' (Motamarri et al., 2020). The questionnaire was created with the use of existing literature-based measures. The questionnaire was then sent to 10 experts with extensive expertise on the study's topic. The suggested questionnaire (a set of questions) was discussed with those experts to make sure they were clear and not unclear or difficult to answer (Dillman, 2011). To make the questions more understandable, a pre-test was conducted to simplify the wording and formats. Before the data was actually collected, a full-scale pilot study was conducted.

The study followed the instrument development process as suggested by MacKenzie et al. (2011). The questionnaire was fine-tuned after the pilot test and the study ended up with 22 questions as a result of this procedure. Details of the measurement items are presented in Table 3. The measurement items of relationship building (RB), perceived enjoyment (PE), and self-presentation (SPRE) were adopted from Kirik et al. (2015); self-promotion (SPRO) was adopted from Taylor (2020); perceived COVID-19 risks (PCR) was adopted from Jahangiry et al. (2020); online shaming (OS) was adopted from Packiarajah (2017) and self-reported behaviour (SRB) was adopted from Skoric et al. (2010). The five-point Likert scale questionnaire is captured in Table 3 and the objective is to examine and validate the changed behaviour of online shamers.

4.6. Common method bias (CMB)

The self-reported survey design of this study makes it prone CMB, as respondents are asked to respond to a standard scale of constructs and questions impacting both independent and dependant factors simultaneously (et al., 2003). As a result, Harman's single-factor test, which is the most popular method of examining CMB, was used (Malhotra et al., 2006). According to Harman's single-factor test, the cumulative variance derived value of 28.030% was well below the 50% threshold, indicating the lack of CMB. Ideally for a collection of items, the average inter-item correlation (r) should be between 0.20 and 0.40 (Piedmont, 2014); the study reported r as 0.230, suggesting reasonably homogenous items.

4.7. Data analysis and robustness checks

Exploratory Factor Analysis (EFA) using IBM SPSS modeller and Confirmatory Factor Analysis (CFA), Structural Equation Modelling (SEM) using IBM AMOS was used for data analysis and robustness checks. EFA is used to decipher the underlying structure of the data that underpins survey responses (Watterson et al., 2021). In CFA, hypothesised models reflect an approximation to reality (Marsh et al., 1988) and SEM is usually used as a structural analysis for the covariance of a model (Cao et al.,

Table 3
Measurement items.

Constructs	Items	Scale Item	Source
In the context of COVID-19:			
Relationship Building (RB)	RB1	I use social media to communicate with my friends.	Kirik et al. (2015)
	RB2	I look at the shared photos/videos on social media profiles.	
	RB3	Using social media, I search for my friends.	
In the context of COVID-19:			
Perceived Enjoyment (PE)	PE1	I love spending time on social media.	Kirik et al. (2015)
	PE2	I enjoy it if friends of mine read/like my posts on social media.	
	PE3	I enjoy it when people visit my profile on social media.	
In the context of COVID-19:			
Self-presentation (SPRE)	SPRE1	I comment on the photos/videos my friends share on social media.	Kirik et al. (2015)
	SPRE2	On social media, I participate in events.	
	SPRE3	I assume that many on social media are following me.	
In the context of COVID-19:			
Self-promotion (SPRO)	SPRO1	I want to make people mindful of my achievements on social media.	Taylor (2020)
	SPRO2	I want my achievements to be shown on social media.	
	SPRO3	I want to make things look better in my life than they are on social media.	
In the context of COVID-19 on social media:			
Perceived COVID-19 risks (PCR)	PCR1	It is easy for me to disinfect surfaces and items outside the home.	Jahangiry et al. (2020)
	PCR2	Health guidelines outside the home are easy for me to consider.	
	PCR3	Using disinfectants is easy for me outside of the home.	
	PCR4	Outside the home, it is convenient for me to frequently wash my hands.	
In the context of COVID-19 and not taking a pandemic seriously and due to inappropriate/rule-breaking behaviour:			
Online shaming (OS)	OS1	I have received unwanted photos or/and videos of violent nature on social media.	Packiarajah (2017)
	OS2	I have received unwanted photos or/and videos of intimate nature on social media.	
	OS3	I have been insulted on social media.	
In the context of COVID-19 and online shaming:			
Self-reported behaviour (SRB)	SRB1	I think people who contribute to online shaming are doing the right thing, so I change my manners depending on whether people are watching online or not.	Skoric et al. (2010)
	SRB2	There have been changes in my inappropriate behaviour.	
	SRB3	There have been changes in my lifestyle-related behaviour.	

2012). Since, the study is a factor-based model, AMOS was used. The IBM SPSS modeller was used due to the graphical interactivity of the statistical analysis. When using SEM as a data analysis tool, the sample size of 375 falls within the range between 200 and 400 (Hair et al., 2006).

Since a perfect fit between the observed data and the model is exceedingly implausible, there will inevitably be a difference between the two. Therefore, to reduce or eliminate the residual, the study has adopted various preventive measures like deletion of suspicious Likert scale participant data, deletion of measurement items whose value is falling below threshold, effective dealing with error associated with each measure (e.g., factor correlation whose estimate is more than 1). Since missing data can seriously bias conclusions in an empirical study, it has been taken care during data collection procedures. The study does not consider the second order CFA.

5. Results

The results were achieved through a two-step process that included the use of a measurement model and a structural model (Anderson & Gerbing, 1988), with the goal of determining the construct's validity and reliability before evaluating the proposed model's structural relationship.

5.1. Measurement model

The convergent reliability of all factors evaluated in the measurement model is reached with factor loading (FL), average variance extracted values (AVE) of more than 0.5 (Hair et al., 2006), and Cronbach's alpha (CA) and composite reliability (CR) values of more than 0.7 (Fornell & Larcker, 1981). Table 4 shows the CFA by capturing CA, CR, and AVE of the constructs, as well as the FL of items and descriptive statistics covering mean and standard deviation (SD). As shown in Table 4, the constructs used in this research have CA, CR values of more than 0.70, and FL, AVE values of more than 0.50. Therefore, it is determined that the measurement model's factors are reliable.

In addition, the measurement model was used to test discriminant validity to make sure that the measurement items for each construct are distinct from those for other constructs. In response to Fornell & Larcker (1981) proposed formula, this approach is used. According to this, the square root of AVE can be used to compare the interrelationships between all of the constructs in order to assess the discriminant validity. As presented in Table 5, in the corresponding rows and columns, all diagonal elements were higher than the off-diagonal elements and all diagonal elements in the corresponding rows and columns were higher than the off-diagonal elements, and all estimates of inter-correlation were below 0.767, thereby fulfilling the discriminant validity.

To avoid multicollinearity, the correlations amongst all constructs should be below the 0.85 threshold (Kline, 2015). As presented in Table 5, the correlation values amongst all constructs are less than 0.85 and suggest the absence of multicollinearity issue which demonstrates that the data has been collected appropriately for further analysis.

5.2. Structural model

Table 6(a) summarizes the direct effect and Table 6(b) summarizes the moderator effect. The path coefficient (β) describes the hypothesised relationship between the constructs. A p-value of less than 0.05 signifies the acceptance of the hypothesis (Zaykin et al., 2002). The results of Table 6(a) indicate that H1 to H5 are supported.

Table 4
Confirmatory factor analysis and descriptive statistics.

Construct	Items	FL	CA	CR	AVE	Mean	SD
Relationship Building (RB)	RB1	0.849	0.839	0.840	0.637	2.596	1.309
	RB2	0.836					
	RB3	0.818					
Perceived Enjoyment (PE)	PE1	0.811	0.710	0.754	0.529	3.098	1.094
	PE2	0.585					
	PE3	0.834					
Self-presentation (SPRE)	SPRE1	0.845	0.752	0.760	0.516	3.904	1.027
	SPRE2	0.775					
	SPRE3	0.762					
Self-promotion (SPRO)	SPRO1	0.561	0.855	0.857	0.667	3.336	1.061
	SPRO2	0.666					
	SPRO3	0.750					
Perceived COVID-19 risks (PCR)	PCR1	0.878	0.719	0.779	0.505	3.179	0.938
	PCR2	0.876					
	PCR3	0.849					
	PCR4	0.536					
Online shaming (OS)	OS1	0.758	0.864	0.867	0.685	2.895	1.120
	OS2	0.829					
	OS3	0.815					
Self-reported behaviour (SRB)	SRB1	0.715	0.838	0.832	0.627	2.329	1.197
	SRB2	0.558					
	SRB3	0.785					

Table 5
Discriminant validity.

Construct	SRB	OS	PCR	SPRO	SPRE	PE	RB
SRB	**0.791**						
OS	0.767	**0.828**					
PCR	0.076	−0.005	**0.711**				
SPRO	0.738	0.686	0.147	**0.817**			
SPRE	0.253	0.211	−0.101	0.369	**0.718**		
PE	0.510	0.381	0.184	0.496	0.190	**0.728**	
RB	0.407	0.303	−0.081	0.306	0.123	0.255	**0.797**

Table 6a
Hypothesis results of the direct effect.

Hypothesis	Relation	β	Std. Error	t-value	*p*-value
H1	RB→SPRO	0.232	0.044	4.221	<0.001
H2	PE→SPRO	0.416	0.057	6.991	<0.001
H3	SPRE→SPRO	0.293	0.066	4.926	<0.001
H4	SPRO →OS	0.734	0.065	11.762	<0.001
H5	OS →SRB	0.815	0.063	13.716	<0.001

The result of Table 6(b) indicates that H6a to H6c are supported. With the support of moderating effect i.e., the hypotheses H6a to H6c, the study holds a strong contingent effect of the association of RB, PE, and SPRE with SPRO. In other words, the relationship of RB, PE, and SPRE with SPRO is consistent for the individuals with and without the COVID-19 risk. The moderating impact of a latent interaction (i.e., RB x PCR with SPRO; PE x PCR with SPRO; SPRE x PCR with SPRO) was estimated using the (Marsh et al., 2004) matched-pairs technique. The matched-pairs technique is a moderation test that employs latent constructs in a comprehensive structural model and rather than modelling every possible indicator interaction, it instead uses a condensed interaction term (Collier, 2020). All potential interactions were evaluated in accordance with Collier (2020)'s approach, and the highest loading interaction indicators were selected where no indicator occurred more than once to reduce issues that frequently arise when analysing instruments with a large number of items (Marsh et al., 2004).

To enhance the understanding of the results, the study presented supportive information. The growth of self-promotion in individuals is shaped by positive social relationship building, social support, and social acceptance over time in SM. Individuals post content on SM for themselves, their friends, family, and acquaintances to see, enjoy, and, most importantly, comment on, which fuels the growth of self-promotion. Self-presentation on SM is used by individuals to reaffirm a desired identity for oneself, such as capable, smart, and skilled, fuelling the expansion of self-promotion. The shameless self-promotion of individuals coupled with arrogance, overconfidence, attention-seeking or wrong-doing behaviour draws public shaming in SM. The goal of public shaming in SM is to reduce undesirable behaviour, and self-report measures allow individuals to reflect on their behaviour in a range of unstructured real-life scenarios. The COVID-19 pandemic has resulted in an avalanche of information, much of it false or misleading and SM posts with misleading or harmful ideas and analyses are frequently boosted by celebrities and social media influencers, causing risky behaviour in SM.

AMOS was used to examine the CMIN/DF, RMSEA, IFI, CFI and R^2 values. Cohen (1988) recommended R^2 values of 0.26 (significant), 0.13 (reasonable), and 0.02 (insignificant) for endogenous latent variables. The R^2 values of SPRO, OS and SB are 0.331, 0.539 and 0.664 respectively, and these values provide evidence of the potential value of the model. The reference values for absolute fit are in the range of [1 – 3] for CMIN/DF (Hooper et al., 2008), [0.05 – 0.1] for RMSEA (MacCallum et al., 1996) and greater than 0.9 for IFI (Hair et al., 1998). The model reported 2.994 in CMIN/DF, 0.073 in RMSEA and 0.901 in IFI, therefore suggesting absolute fit.

Table 6b
Hypothesis results of the moderator effect.

Hypothesis	Relation	β	Std. Error	*t*-value	*p*-value
H6a	RB x PCR → SPRO	0.118	0.043	1.990	.047
H6b	PE x PCR → SPRO	0.224	0.052	3.758	<0.001
H6c	SPRE x PCR → SPRO	0.126	0.062	2.030	.042
H6a, H6b and H6c	PCR→ SPRO	0.110	0.062	1.967	.049

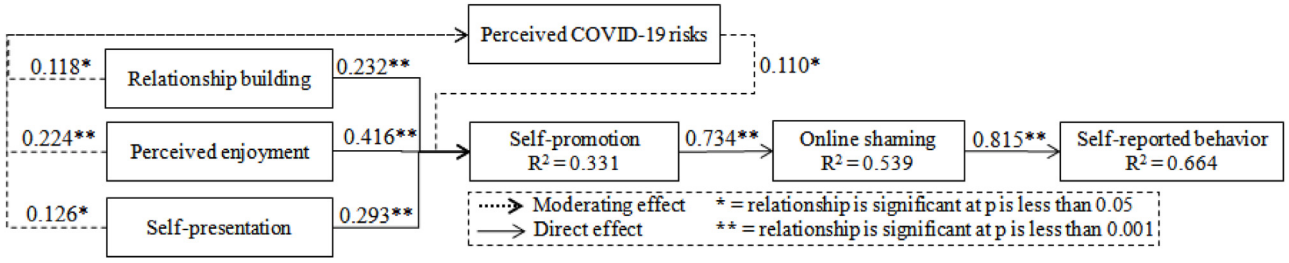

Fig. 3. Conceptual model depicting empirical results.

Table 7a
Results for the covariate effect of gender.

Relationship	Male		Female	
	p-value	R^2	*p*-value	R^2
OS→SRB	<0.001	0.551	<0.001	0.750

Table 7b
Results for the covariate effect of age.

Relationship	Adult		Middle-aged		Old	
	p-value	R^2	*p*-value	R^2	*p*-value	R^2
OS→SRB	<0.001	0.721	<0.001	0.613	<0.001	0.634

Fig. 3 depicts the comprehensive summary of the empirical findings associated with all hypothesised relationships in the proposed conceptual framework. The Figure captures the path coefficient followed by the p-value and R^2 value of the constructs.

The results of the covariate effect of gender and age depicting the p-value and R^2 value of the OS→SRB relation are presented in Table 7(a) and Table 7(b), respectively. For the covariate data analysis, sex was divided into two groups (namely, male and female) and age was divided into three groups (namely, young, middle and old). The validation was done separately in the model. To validate whether sex and age control the relationship OS→SRB, the multi-group evaluation criteria were used. Table 7(a) shows that the R^2 value of OS→SRB is higher for females over males, indicating that females have adopted increased behavioural changes over males. Table 7(b) further illustrates that the R^2 value of OS→SRB is higher for adults over middle-aged adults and older adults, indicating that the adults have adopted increased behavioural changes over middle-aged and older adults. Furthermore, older adults have adopted increased behavioural changes over middle-aged adults.

6. Discussion

Online shaming is a formal and informal practice. Public exposure plays a significant role in eliciting online shame. During COVID-19, unhealthy and wrongdoing behaviour has been manifested in a variety of ways and posted on SM. Such misbehaviour captured in images or videos is exposed, judged and diffused to the wider public, resulting in online shaming. In general, changes of behaviour due to online shaming are significant and such shaming leads to more cautious behaviour. Essentially, online shaming is a force to promote positive behavioural change. The rise of SM and its flood of vitriolic content, unleashed to raise the coveted coin of followers and socially constructed status, is a growing concern for both individuals and society at large. This rise coupled with a global pandemic and the often draconian measures taken to contain its spread have negatively impacted the mental health and social wellness of society in general. The examination of factors and forces that drive people to attack others is critical to our ability to control and eventually minimize this negative practice.

The proposed theoretical model consists of three exogenous variables (i.e. relationship building, perceived enjoyment, and self-presentation) and three endogenous variables (i.e. self-promotion, online shaming, and self-reported behaviour) related through the five path relationships (H1 to H5), one moderator variable (perceived COVID-19 risks) related through three path relationships (H6a to H6c). All the proposed five direct effects, one moderating effect and two covariate effects are significant. The validity of RQ1 is met as hypotheses H1 to H3 is statistically significant, RQ2 is met as hypotheses H4 is statistically significant, RQ3 is met as H5 is statistically significant and hypotheses H6a to H6c is statistically significant.

The validity of the research model conduce the research implication i.e., online shaming is commonly used during COVID-19 to influence behavioural modification so that the violators can adhere to pandemic guidelines. However, it equally raises privacy concerns i.e., an unethical method of handling various human behaviours, regardless of its motivations or intentions, because it causes emotional suffering to its targets. During COVID-19, the privacy concern with online shaming is the general obsession with the idea of causing harm to others through data breaches, wrongdoings, and provocative photographs that damage others' reputations, which extends beyond individual harm. Hence, online shaming during COVID-19 is a form of vigilantism, in which people enforce the law on their own. However, all people have the right to privacy on social media by virtue of being human and hence, all social media users must believe that maintaining one's privacy is crucial, both from a humanitarian and a legal standpoint. Therefore, the right to privacy on social media needs to be protected. The research implication is in line with White & Boatwright (2020) i.e., the right to privacy is a component of ethical behaviour in social media.

Concerning the gap on self-promotion and online shaming in the context of COVID-19, the study infers self-reported behaviour by considering the factors of relationship building, perceived enjoyment and self-presentation. Therefore, the study validates perceptions regarding gender with the studies (MacPherson & Kerr, 2020) and our findings are consistent with it i.e., (i) socially constructed conceptions about gender are at the foundation of hostile, sexualized, and sometimes hateful views; (ii) in contrast to being inherent and categorical, gender is a performative characteristic. Similarly, De Vries (2015) focused on age and our findings are consistent with it i.e., young people are more likely to engage in online shaming and engage in socially undesirable behaviours. Likewise, Dolezal et al. (2021) focused on COVID-19 risks, and our findings are consistent with it i.e., online shaming is frequently unconstrained by time, place, or size, its consequences are unpredictable: it may fade away quickly with no adverse repercussions, or it may result in a shaming backlash, or it may result in a shame pile-on with devastating and long-term consequences. While online shaming sometimes results in positive transformation, it is also likely to result in defensiveness, anxiety, social withdrawal or bad repercussions on one's mental health. However, our study does not fully agree with Dolezal et al. (2021) on credulity (e.g., revenge) as the primary motivation behind online shaming. Rather, it is essential for an individual who does not follow the pandemic guidelines and does not wear masks, and the ultimate penalty for

such a rule-breaking personality is online shaming, which can induce a change in self-behaviour.

The findings indicate three imperative outcomes. First, context is a component of HCI and it refers to the actual conditions in which the computer is used by the users (Heimgärtner, 2013). In this perspective, many individuals posted their quarantine activities online as they were adapting to the new normal of surviving the COVID-19 pandemic, a change of behaviour that led to extreme scrutiny, shame and even harassment. People felt superior and righteous in shaming others on SM for their posts on quarantine activities and for not following the COVID-19 rules. These individuals received intense backlash on Facebook, Instagram and Twitter for their social behaviour after testing positive and for not maintaining social distancing in quarantine centres or COVID-19 dedicated hospitals, actions which their SM critics term irresponsible, shocking and selfish. In some cases, individuals were horrified by the follower's or influencer's behaviour. In multiple instances, people posted tearful and sincere apologies acknowledging their inappropriate behaviour. It is clear that too many people, especially under stressful situations, are slow to consider the long-term implications of their posts. The finding is in line with Dolezal et al. (2021) i.e., during COVID-19, shaming that has been fuelled by SM use.

Second, the medium or interface, which shows only the most important information and sizes the text for pleasant interaction and easy reading, is one of the components of HCI (Promann et al., 2016). In this context, the adverse effect of shaming in SM results in self-destructive behaviour, wherein people experience self-injury (e.g., hair pulling, burning), binge eating and overusing alcohol or drugs while reading through the responses to their posts. The emotional effects of online shaming are overwhelming as many feel utterly helpless and are left wondering what bomb might drop next online. Individuals owning a business or building a career who were the victims of online shaming often face a dramatic struggle with their financial future. Individuals hiding behind a controversial post or tweet may consider it a one-off or thoughtless occurrence, but the lasting effects have a devastating impact on families. The finding is in line with Rosenberg & Blondheim (2021) i.e., there is a disparity between one's self-presentation and behaviour.

Third, citizen science is a broad term for citizen participation in science, and citizen science and HCI researchers can work together to expedite discovery, accelerate learning, and improve society's well-being globally and locally (Preece, 2016). In this context, travel shaming has become an SM trend during the COVID-19. Although many individuals stayed at home due to the restrictions, others travelled to be with friends and family. Whereas many have been affected by pandemic fatigue, pandemic anger has also been triggered. While travelling, many individuals have tired of wearing a masque and many have complained about how they cannot show off their smile. Furthermore, Facebook users have resorted to online shaming to convince others to abide by physical distancing measures while travelling. The efficacy of travel shaming depends on the intentions of the shamers. The results indicate that in travel shaming, there is no threshold between being cruel and being educational. Furthermore, although individuals find different ways to get others on board with social distancing, no matter what, some people do not take the rules seriously while travelling. The finding is in line with Liu et al. (2022) i.e., due to online shaming, the weekly frequency of travel and willingness to use public transportation declined dramatically.

6.1. Contributions to literature

This study has major theoretical contributions to the HCI, social science and healthcare literature. First, this study is the first effort to use BST from the HCI lens. Drawing from economics, mathematics, psychology and evolutionary biology, BST is complex and interdisciplinary (Krupa & Jones, 2013). In this study, the COVID-19 pandemic has been compared to BST, a metaphor describing an event that is not only highly improbable but also has a major impact. Indeed, nobody expected COVID-19 to travel from a small village in China to the world within only a few days. In this sense, the study concludes that COVID-19 pandemic is a black swan event. The above contribution to literature adds a new metaphor to HCI research.

Second, human factors have traditionally emphasized the need for stimulus-response, which highlights HCI implications (Proctor & Vu, 2016). Stimulus is a condition that causes a response and the reaction to specific stimuli is known as a response. The study investigates the toxic combination of online shaming and self-promotion in SM by representing the stimulus-response. It states that the stimulus of self-promotion of unhealthy behaviour in SM responds to online shaming effects. In other words, the cause of self-promotion has to occur prior to the online shaming effect. In this sense, the study concludes that the COVID-19 pandemic represents a stimulus-response relationship. The above contribution to literature introduces a new analogy to BST and HCI in the context of the COVID-19.

Third, our study connects the dots between the COVID-19 pandemic and the theory of planned behaviour (TPB) (Ajzen, 1985) by examining the self-reported behaviour (Weston et al., 2020) as such behaviour plays a vital role in mitigating the effects of an infectious disease pandemic or public health emergency, such as COVID-19. The study states that in response to health crises which feature self-destructive behaviour due to online shaming, the importance of fostering adaptive and protective behaviour change is encouraged; online shaming occurs when inappropriate behaviour is shared and, commented on videos, photos and posts, which also poses an additional danger, as well as the finding that online shaming is a desperate effort to make individuals feel bad so that they fall in line and behave in a socially acceptable manner. The above contribution to literature forged a close link between BST and TPB.

6.2. Implications for practice

Our results have some significant implications from a practical perspective and are especially useful for any individual (i.e., irrespective of sex and age) who is the victim of shaming in SM. The individual can be anybody who does not follow social distancing and COVID-19 restrictions, does not wear facemasks, mock police and health workers and violate COVID-19 restrictions after being placed under quarantine. First, online shaming victimization is a very strong and relevant indicator of the perpetration of online shaming, which relates to previous cyberbullying research which states that previous victimization can be a powerful factor in shaping future perpetration (Burgess et al., 1987; Espelage et al., 2004). Online shaming may not be brutal, but its scale can be devastating as an individual may receive hundreds of humiliating posts per second for breaching COVID-19 protocols. Online shaming is nothing new in the current period of rapid judgement and subsequent Internet indignation, but it has been made famous by the COVID-19 pandemic. During a pandemic or similar situations which involves online shaming, people should therefore be aware of their surroundings while posting on SM and self-aware of their actions, walk away from the post if it is being streamed and to remember that there is a better way to handle the dark side of an individual by correcting self-behaviour.

Second, in contrast to men, the study's findings indicate that women are more susceptible to online shaming, with devastating and long-lasting effects which support the finding (Muir et al., 2021). In addition to the online shaming due to inappropriate behaviour in not adhering to COVID-19 guidelines, other types of online shaming were also observed, such as threats of rape, slutshaming, breastfeeding shaming and body shaming. Rape is reported by one out of every five women at some point in their lives (Lipinski et al., 2021). Slut shaming is used to repress female sexuality (Muggleton et al., 2019). Breastfeeding mothers feel ashamed (Taylor & Wallace, 2012). Women frequently experience body shame (Siegel et al., 2021). Online reputational damage was greater for women in comparison to men. Online shaming is arguably the only punishment that does not have a statute of limitations for COVID-19 vi-

olations. However, evidence from the pandemic shows that it does not take long for a woman's entire womanhood to be mocked and vilified with hateful and often sexually violent threats when a woman is shamed online. The long-term aim, therefore, should be to eliminate from society these sexist mindsets towards women, but this study shows that, during the COVID-19 pandemic, society made slow progress. Therefore, SM should treat any online shame post as the dark side of information technology use (Zolfagharian & Yazdanparast, 2017) and implement a (Junestrom, 2020) social aspect of contemporary fact-checking to restrict such content in real time.

Third, online shaming has been particularly damaging to young adults during the COVID-19 pandemic. At best, online shaming can severely damage the self-esteem of young adults (Chew et al, 2017), and at worst, young adults risk their credibility and experience significant mental health issues such as depression. For young adults, who are less resilient than middle-aged or older adults, online shaming has a profound effect on their social lives. In such cases, the parent should (i) discuss online shaming on SM, asking their children what they know about it, what their view of it is and whether they have heard about it already; (ii) remind them to avoid posting anything that could be taken the wrong way; (iii) educate them that things that are said or done online can often be taken out of context and enable them to be digitally savvy and (iv) discuss their digital footprint and help them realise them that once something has been posted, it is out of their control. Therefore, SM can devise safety measurement awareness for people who are distressed and depressed to hear from others who care about them. In addition, SM should come up with a policy to prevent shaming content and, in case of violation, the account can be locked or deleted.

6.3. Limitations and future research

The study has certain limitations. First, a small dataset (375 samples with more than 2000 population) was considered for the study and the participants were limited to residents of India. Second, the study did not consider other moderator variable such as health status or health-related behaviours (e.g., physical inactivity) due to data anomalies. Third, the study did not adopt a qualitative research method to further understand whether the individuals shamed sought online health information (OHI) to alter their behaviour. Fourth, the data were collected with the combination of convenience and snowball sampling, which play a valuable role in HCI research (Benham-Hutchins & Effken, 2010), so further study can be initiated with cross-sectional data to investigate cause-effect relationships and probability sampling methods to make statistical inferences and estimate characteristics of the population.

This study proposes the following avenues for future research: (i) Although the proposed theoretical framework is expected to be generalisable, the outcomes would have been better if the data collection had been performed with participants with SM accounts on WhatsApp, TikTok, WeChat, Pinterest, Snapchat and YouTube in addition to Instagram, Facebook, Twitter and LinkedIn, preferably from another nations. Future studies should therefore incorporate these. (ii) Future research should collect data on experience, physical aggression, health status, the practice of yoga and literacy skills, etc. to examine the behavioural changes regarding these factors and additionally establish the intervening effect between self-promotion, online shaming and self-reported behaviour. (iii) Future research should also adopt a qualitative approach to study the form of attitudes of individuals regarding seeking OHI to alter unhealthy behaviour and seek to answer questions such as: during the COVID-19 pandemic, where to find reliable OHI and is seeking OHI trustworthy?

7. Conclusions

This study utilized BST from the HCI lens to investigate the toxic combination of online shaming and self-promotion in SM to discern whether pointing the finger of blame is a productive way of changing COVID-19 rule-breaking individuals' behaviour. In doing so, it investigated the connection of relationship building, perceived enjoyment and self-presentation as independent variables with self-reported behaviour as the dependant variable, perceived COVID-19 risks as a moderator variable, and gender and age as the covariate. The study findings present troubling evidence about the state of society in terms of online shaming during the COVID-19 pandemic, though shaming on SM can be a force for exhibiting good behaviour. With the rise of SM, the social world is being confronted by the negative culture of online shaming. The epidemic of online shaming, combined with SM, is leading people to post provocative information which appears to be driving the negative aspects of human nature. Whether right or wrong, online shaming is not going anywhere. The most prevalent influence of HCI on society has been to make everyday life easier by improving the ease with which people can use SM. During COVID-19, the use of SM is an excellent example of how HCI can influence good behaviour owing to online shaming. The research contributes to the HCI, social science and healthcare bodies of literature in topical areas.

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