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# Privacy Heuristics on Social Network Sites

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**Abstract**

Previous research finds evidence that social network site (SNS) users' privacy decisions are not fully rational, and that cognitive heuristics may influence user behavior. Using focus group interviews, this paper explores which cognitive heuristics affect users' decision making about self-disclosure on SNSs. These heuristics could lead users to engage in risky

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information sharing behaviors based on underestimation of their privacy risk.

**Author Keywords**

Privacy, social media, heuristics

**ACM Classification Keywords**

K.4.1 Public Policy Issues; Privacy

**Introduction**

Some scholars theorize that people make rational privacy decisions (Culnan & Armstrong, 1999; Culnan & Bies, 2003). For example, according to the privacy calculus model, when people perceive a positive net outcome after weighing all of the benefits and risks associated with self-disclosure, they will decide to share information despite the risk. Others argue that people cannot always make rational privacy decisions due to bounded rationality (Acquisti, 2009; Acquisti, Brandimarte, & Lowenstein, 2015; Acquisti & Grossklags, 2005; Carey & Burkell, 2009). People's innate bounded rationality (Simon, 1997) limits their access to a comprehensive list of benefits and costs of engaging in some behavior, and they often analyze risk in an intuitive and fast manner by making associational rather than logical connections (Slovic, Finucane, Peters, & MacGregor, 2004). With limited cognitive resources and uncertainty about the consequences of

their actions, we propose that people make self-disclosure decisions based on cognitive heuristics that may bias them to underestimate their privacy risk.

Moreover, people's disclosure decisions might be most affected by cognitive heuristics in a setting where self-disclosure is more frequent and prevalent. Billions of posts are shared each day on SNSs like Facebook and Instagram, but the role of cognitive heuristics in people's disclosure decisions have not yet been systematically explored in the specific context of SNSs. Therefore, this study will examine how cognitive heuristics identified in prior research in psychology affect SNS users' information disclosure decisions.

## **Method**

A series of semi-structured focus group interviews were conducted in the winter and spring of 2018. A total of 54 people participated in 12 interview sessions. The group size in these sessions ranged from 3 to 9 people ( $M = 5.3$ ,  $SD = 1.49$ ). Participants were recruited from an IRB-approved pool of undergraduate students who are enrolled in pre-Communication courses at the University of California at Santa Barbara.

39 participants (72.22%) identified as female, and 15 (27.78%) as male. Their ages ranged from 18 to 26 ( $M = 19.83$ ,  $SD = 1.63$ ). Almost all of them were active SNS users. 49 (90.74%) used Facebook, 51 (94.4%) used Instagram, and 51 (94.4%) used Snapchat. Overall, 46 (85.2%) used all three of these SNSs.

The participants came to interview sessions that were held at a laboratory at UCSB where both an iPad and an audio recorder were used to record each interview. During the interview, the participants answered

questions about the prevalence and possible effects of privacy heuristics on their decisions to share information on SNSs (Facebook, Instagram, Twitter, and Snapchat) based on their own experience. Focus groups were used to help guard against social desirability response biases because it may be difficult for participants to admit to making irrational disclosure decisions. Participating in focus group interviews allowed participants to feel more comfortable about admitting to making irrational decisions by seeing that others, too, make similar decisions on SNSs. Because participants in our pilot interviews were resistant to admit that they may make irrational decisions, we adjusted our interview protocol to include questions that asked whether the participants think others' behaviors might be affected by cognitive heuristics before asking about participants' own behaviors. The length of interviews ranged from 51 to 82 minutes ( $M = 68.5$ ,  $SD = 10.66$ ).

After the interviews, all audio files were transcribed and the transcripts were coded to examine whether and how privacy heuristics influence participants' information sharing behaviors. The researchers took a grounded approach to open-code the participants' conceptualization of privacy heuristics and their effects on information disclosure. Findings from prior studies about specific heuristics in other online (but non-SNS) contexts served as interpretive anchors in the analysis (Gambino, Kim, Sundar, Ge, & Rosson, 2016; Sundar, Kang, Wu, Go, & Zhang, 2013).

## **Results**

### *Affect Heuristic*

The affect heuristic refers to affective feelings—both positive and negative—about an activity or object that

people use as mental shortcuts to make judgments or decisions (Slovic, Finucane, Peters, & MacGregor, 2007). Our data showed that a positive affect heuristic was triggered when users liked using SNSs. Participants' responses showed that enjoyment (liking) of an SNSs led them to become more active on social media by checking the app more often and lead to greater disclosure through posting more information. One participant described the difference between the apps he liked more and less as: "Like other ones you might just post every once in a while, but with the one that you prefer the most, you might just post all sorts of stuff about what you're doing because you feel good about it" (18-year-old male).

#### *Availability Heuristic*

The availability heuristic refers to people's positively biased probability judgment about the likelihood of future occurrences of events that are "recent, salient, or familiar" (Carey & Burkell, 2009, p. 77). Having had a past negative privacy experience from using SNSs can make users overestimate the probability of such experiences reoccurring, thereby leading them to post less on SNSs. Our data showed that negative privacy experiences became an availability heuristic that led participants to stay away from social media, post less, remove information (e.g., phone number), change their posting strategies (e.g., posting "family-friendly" information only (18-year-old female), not responding to public event invites), change privacy settings, and contact the app: "After that, I blocked all co-workers, like everybody from Snapchat that I've blocked from Instagram, I blocked them from viewing my story so I have a huge list of everybody that's not allowed to view my Stories" (19-year-old female).

#### *Bubble Heuristic*

The bubble heuristic refers to a sense of safety people feel when they are in an "online 'enclosure'" (e.g., personal Wi-Fi networks, incognito or private web-browser modes, etc.) (Gambino et al., 2016). On SNSs, our data show that privacy settings provide users a sense of security and serve as a bubble heuristic that makes people feel safer and more comfortable to post information. Describing Facebook's intricate privacy settings, one participant said, "Seeing all these choices makes me feel safer...I mean I definitely feel like it increases the level of security, even though I feel like I know that there are underlying risks" (20-year-old female). Interviewees reported that feeling this way about privacy settings influences them to post information on SNSs despite the risks they perceive.

#### *Homophily Heuristic*

People with similar characteristics are more likely to associate with one another (McPherson, Smith-Lovin, & Cook, 2001), and prior research shows a causal relationship between perceived similarity and self-disclosure. As such, the homophily heuristic as applied to SNSs predicts that users will disclose more information when they feel more similar to their audience (e.g., "friends," "followers," etc.). Our data indeed confirmed the presence of homophily heuristic. One participant explained why it is easier to post more when she feels similar to her audience: "I really just think that feeling similar to your followers or friends keeps it from feeling like you're being judged" (19-year-old female).

#### *Bandwagon Heuristic*

The bandwagon heuristic is triggered when people can see others' attitudes or behaviors (e.g., "If others think

that something is good, then I should, too”) (Lee & Sundar, 2013; Sundar, 2008). We found this heuristic also affects SNS users’ self-disclosure: “If all of your friends are using it, and you don’t have one, of course you could feel inclined to want to use it and want to post on there” (20-year-old female). This heuristic appears to be activated when users see others using a particular feature on SNSs: “I didn’t start posting on Snapchat stories until I saw that all my friends are doing it...it’s just kind of pack mentality” (19-year-old female). Also, when users see others posting about a certain topic, they upload similar posts as a result of the bandwagon heuristic: “I posted a picture of that unicorn frap from Starbucks because everyone else was.” (23-year-old female)

#### *Hyperbolic Discounting*

Hyperbolic discounting refers to the idea that people do not discount distant and close events in a consistent manner (Acquisti & Grossklags, 2007). Specifically, people may tend to discount the likelihood of experiencing privacy violations in the distant future in favor of gaining immediate gratification from disclosure, and feel more comfortable about sharing their information in that moment (Acquisti et al., 2015; Acquisti & Grossklags, 2005, 2007). Our data show that hyperbolic discounting leads SNS users to share personal or sensitive information to gain immediate benefits, even when they feel hesitant about distal risks. Moreover, we find that such risky disclosures lead users to later regret what they shared: “When I was like really drunk and posted myself singing to this song, I saw [that post] later, then it was so embarrassing I deleted it. But now, every time I hear the song, I’m just like ‘I have PTSD’” (23-year-old female).

#### *Ephemerality Heuristic*

The ephemerality heuristic is triggered by website features that signal to people that the information they share online (e.g., text, pictures, videos, etc.) will become invisible to their audience or any potential message recipient after a short time period (e.g., 24 hours). Consistent with findings from focus group interviews concerning information disclosure in online commercial settings (Gambino et al., 2016; Sundar, Gambino, Kim, & Rosson, 2016), we find this heuristic makes SNS users post most frequently and more comfortably: “Because it’s up for such a short time [on Snapchat] it doesn’t feel as important as posting something that will be there for a long time” (19-year-old male). This heuristic also affects the type of information users post on SNSs: “I think for special occasions and big events, that’s when I tend to post pictures on my Instagram...but on Snapchat story, it’s like day to day things that are happening, and funny things” (18-year-old female).

#### **Conclusion**

This focus group interview study is the first step towards understanding the effect of cognitive heuristics on SNS users’ privacy decisions. To generalize these results, researchers should conduct survey studies with bigger and representative samples. Exploring privacy heuristics can help advance privacy theories to view privacy decisions as not fully rational, but situational. It is important to consider these privacy heuristics when theorizing about privacy because users’ in-the-moment decisions based on privacy heuristics often lead users to make irrational and possibly regrettable information disclosure decisions. Moreover, the evidence of several privacy heuristics’ effect on SNS users’ disclosure decisions can inform software designers about how and

why people disclose personal information in unexpected or non-rational ways on social networks and inspire them to develop tools (e.g., privacy nudges) to help users make more informed privacy decisions.

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