Interpersonal Privacy Nudges for Promoting Privacy Protective Behaviors on Social Network Sites

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ABSTRACT
As social networking sites (SNSs) allow users to share private information about themselves and their social ties, studying privacy through an individual lens becomes inadequate. We propose to emphasize the interpersonal nature of information disclosure and its impact on online privacy, and to adopt a nudging paradigm to help users shape their interpersonal privacy concerns and adopt privacy-protective behaviors. We then theorize how interpersonal privacy nudges may serve as heuristic cues to promote social considerations of privacy risks, and illustrate this approach in a photo-sharing scenario.

1. INTRODUCTION
Social networking sites (SNSs) have become an increasingly important and integral part of our life. With its widespread popularity, users are faced with unprecedented challenges to manage and protect their online privacy. SNSs have brought new forms of privacy risks not only to users themselves, but also with far-reaching impact on their social circles. Current research on online privacy is mainly limited to individuals’ personal privacy as a result of their use and interactions with websites and services. However, there is a growing recognition of a paradigm shift in SNS privacy research; that is, to ground the investigation of privacy perceptions, attitudes and behaviors in the social interactions and relationships inherent to the SNS context. Recently, researchers (e.g., [2]; [4]; [9]) start to emphasize the need for reconceptualizing SNS privacy as a social phenomenon, and to consider engaging users with privacy protective behaviors by highlighting the social implications of information disclosure.

Most fundamental to the social considerations of SNS privacy is the interpersonal relationships through which information is being disclosed and disseminated. In an attempt to advance privacy in the SNS context, and to find effective ways to promote privacy-protective behaviors, we focus on the interpersonal aspects of privacy, and propose to encourage preventive privacy protection by enhancing individuals’ interpersonal privacy awareness and considerations. Objectives of this paper are three-fold: (1) Conceptualizing privacy as an interpersonal issue in use of SNSs; (2) proposing that interpersonal privacy concern is a key factor in privacy decision-making; and (3) theorizing interpersonal privacy nudge as a mechanism for better privacy decisions in SNS use.

2. INTERPERSONAL PRIVACY CONCERNS ON SNS
Privacy perceptions are strongly tied to specific situations, and one of the most important situations is the interpersonal relationships [6]. In other words, the notion of privacy exists in social interactions, and most fundamentally, in the establishment and maintenance of interpersonal relationships. It is through the process of developing intimacy with others that individuals regulate how much information they disclose, and what kinds of information they disclose.

While individuals are free to decide what personal information they disclose, they often cannot control what others disclose about them, or how others may use the private information that they disclose. Likewise, people may share information that involves others in ways that violate their privacy preferences. This becomes an increasingly significant privacy threat with the emergence of SNSs, as the digitized social platform combines an individual’s self-disclosure with others’ disclosure of information about the individual, records the information in rather permanent fashion, and often presents the information publicly, making it accessible to and beyond one’s social circles [4].

One of the examples that illustrate this kind of privacy threat on SNSs is the photo-sharing scenario. These photos often contain both personal and social information, and are tied to one or several user profiles of the information stakeholders—individuals appearing or involved in the photos. Most of the photos are shared publicly, available for other users to view, comment and annotate. Privately shared photos can also become redistributed by the information recipients, often beyond the scope of the original content sharing.

In scenarios like this, individual privacy protection becomes inadequate, as non-permitted access or misuse of personal data can easily occur due to friends’ ignorance of privacy and security [9]. Therefore, SNS users’ privacy concerns are not solely about one’s self-disclosure, but also about what others choose to disclose about them [2]. Reciprocally, they may also be concerned about the privacy risks that their social ties may experience due to their own information disclosure. To capture this phenomenon, we define interpersonal privacy concern as users’ concerns over possible loss of privacy, impacting either self or others, as a result of information disclosure involving one’s interpersonal relationship. We argue that interpersonal privacy concerns are critical in promoting users’ privacy-protective behaviors on SNSs.

3. NUDGING TOWARD PRIVACY-PROTECTIVE BEHAVIORS
A rich body of research has suggested the impact of privacy concerns on individuals’ behavioral responses, e.g., willingness to disclose information and their engagement in online activities (see discussion in [7]). Therefore, strategies to enhance privacy
concerns and awareness of potential privacy risks can encourage users’ privacy-protective behaviors. Studies (e.g., [3]; [5]) have tried to implement privacy warnings, but found these warnings are often overlooked, and ineffective when users feel ineffectual or uninvolved. This is possibly due to the cognitive effort required to process the warnings, which is therefore moderated by other available cues and users’ involvement level.

Advocating for a subtler, less cognitively demanding approach, scholars (e.g., [1]; [8]) suggest the nudging paradigm. Nudging is usually used in economic decision-making as a form of soft paternalism in the choice architecture to shift decisions in a predictable way without significantly changing other incentives. Different from warning mechanisms, nudging does not explicitly state benefits and risks; instead, it serves more as heuristic cues in influencing information disclosure decisions. As it prompts privacy considerations through heuristic routes—“mental shortcuts”—of information processing, it preserves users’ cognitive effort and facilitates decision-making while users navigate the increasingly complex online environment.

Adopting the nudging paradigm, we propose to utilize a soft intervention that nudges (instead of forces) individuals toward privacy-protective behaviors by engaging them with heuristic processing of interpersonal privacy considerations. Specifically, interpersonal privacy nudges help users go through the following processes: (1) Nudges serve as heuristic cues and remind users of the privacy rules that their friends and themselves have established; (2) Users are prompted to consider the potential conflicts between their own privacy rules and their friends’; (3) Users’ interpersonal privacy concerns are increased as they become aware of the possible privacy loss (for self and/or for others) as a result of the rule conflicts; and (4) Increased interpersonal privacy concerns would thus shift users toward better privacy decision-making and adoption of necessary privacy-protective behaviors to avoid privacy loss.

Figure 1 illustrates an example of interpersonal privacy nudge that aims at triggering concerns over violating the friend’s privacy preferences in a photo-sharing scenario. The friend’s previous photo-sharing frequency is shown to indicate strict privacy rules and to assist the user in consideration of whether this sharing activity may be conflictive with such rules and if protective behaviors, such as withdrawal of information or communication in private channels, should be taken.

4. CONCLUSION
Individualistic approach to privacy perceptions and protection becomes insufficient as online communication becomes highly embedded in social interactions. Reconceptualizing SNS privacy as an interpersonal issue, we argue that the efficient strategy for promoting privacy-protective behaviors, as illustrated in our conceptual model (Figure 2), is through nudging users toward interpersonal privacy concerns over potential privacy loss that may impact for both the self and their social ties.

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6. REFERENCES