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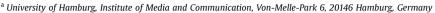
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Full length article

Control your Facebook: An analysis of online privacy literacy

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ARTICLE INFO

Article history: Received 9 March 2015 Received in revised form 26 October 2015 Accepted 12 November 2015 Available online xxx

Keywords: Privacy literacy Social network site Facebook Media psychology Structural equation modeling

ABSTRACT

For an effective and responsible communication on social network sites (SNSs) users must decide between withholding and disclosing personal information. For this so-called privacy regulation, users need to have the respective skills—in other words, they need to have online privacy literacy. In this study, we discuss factors that potentially contribute to and result from online privacy literacy. In an online questionnaire with 630 Facebook users, we found that people who spend more time on Facebook and who have changed their privacy settings more frequently reported to have more online privacy literacy. People with more online privacy literacy, in turn, felt more secure on Facebook and implemented more social privacy settings. A mediation analysis showed that time spend on Facebook and experience with privacy regulation did not per se increase safety and privacy behavior directly, stressing the importance of online privacy literacy as a mediator to a safe and privacy-enhancing online behavior. We conclude that Internet experience leads to more online privacy literacy, which fosters a more cautious privacy behavior on SNSs.

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1. Introduction

In offline contexts, personal privacy is important: We need it for personal autonomy, emotional release, self-evaluations, and protected communication (Westin, 1967). In order to achieve privacy offline, several privacy behaviors exist: We lock doors, lower voices, and close curtains. These behaviors are commonplace and we use them in order to protect our privacy. In online contexts, personal privacy is important also: Next to the aforementioned aspects, we nowadays also need online privacy to foster our own authenticity (Trepte & Reinecke, 2011). In order to achieve privacy online, different privacy behaviors exist: Users of social network sites (SNSs) can present only particular aspects of themselves (e.g., Kobsa, Patil, & Meyer, 2012), limit the audience via friends lists (e.g., Krämer & Haferkamp, 2011), or maintain different user profiles (e.g., Rosenbaum, Johnson, Stepman, & Nuijten, 2010). However, in online contexts we do not seem to show as many privacy behaviors as compared with offline contexts (Barnes, 2006; Eurobarometer, 2010; Taddicken, 2014). In other words, in online contexts we arguably do not really "lock our doors".

This lack of privacy behavior is relevant, given the omnipresence of SNSs in everyday life: In Germany, people spend almost 3 h a day online (Frees & Koch, 2015), and worldwide, the most popular SNS Facebook attracts more than 1.49 billion users on a monthly basis (Facebook, 2015). This is somewhat problematic, given that privacy concerns are ubiquitous either: A survey by the European Union with 27,761 participants of 27 EU States showed that 84% of European Internet users and 51% European SNS users were concerned about their privacy (Eurobarometer, 2010). In a study with 975 telephone interviews, Hoofnagle, King, Li, and Turow (2010) found that 55% of all users were more concerned about their privacy in 2009 than they were five years before. Furthermore, they asked for the reasons of their fear: 48% named a better knowledge of privacy risks, 30% argued that they would have more to lose once their privacy was violated, and 17% stated that they have had an experience that changed their mind about privacy.

Hence, the question arises: Why do people not protect their privacy online as much as offline? With this study, we want to analyze this discrepancy and suggest a first explanation for its existence. That is, people might not protect their online lives appropriately, because they lack online privacy literacy (Trepte et al., 2015). In other words, users do not show sufficient online privacy behaviors because they might not be capable of putting them into

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¹ The study was conducted while Miriam Bartsch was student at the Institute for Psychology at University of Hamburg and Tobias Dienlin was research assistant at Hamburg Media School.

practice. To date, only few empirical studies on online privacy literacy exist and our knowledge of the basic underlying mechanisms is limited. As a result, this study aims to be innovative in terms of two aspects: It is the first study that analyzes which factors might increase online privacy literacy, and how privacy literacy might change Internet behavior and perceived online safety. As main feature, we propose a single model that includes antecedents and both behavioral and psychological outcomes of online privacy literacy.

2. Theoretical background

2.1. Definition of online privacy literacy

In what follows, we will outline our understanding of online privacy literacy. Online privacy literacy is still a comparatively new concept in online research. Regarding its theoretical definition, the following notions are relevant: Debatin (2011) stated that privacy literacy "encompasses an informed concern for [...] privacy and effective strategies to protect it" (p. 51). Trepte et al. (2015) further elaborated that "Online privacy literacy may be defined as a combination of factual or declarative ('knowing that') and procedural ('knowing how') knowledge about online privacy. In terms of declarative knowledge, online privacy literacy refers to the users' knowledge about technical aspects of online data protection, and about laws and directives as well as institutional practices. In terms of procedural knowledge, online privacy literacy refers to the users' ability to apply strategies for individual privacy regulation and data protection" (p. 339). Regarding its empirical measurement, aspects of online privacy literacy were included in the Internet privacy concerns scale by Hong and Thong (2013). The scale includes items such as: "It is very important to me that I am aware and knowledgeable about how my personal information will be used by commercial/government websites." No direct assessment of online privacy literacy based on test scores is part of the scale.

2.2. Empirical research on online privacy literacy

Looking at empirical research on online privacy literacy, we found a handful of studies. For example, in one study that featured interviews with 16 teenagers, Livingstone (2008) found that students had severe problems with handling privacy settings on SNSs. As explanation for the problems, Livingstone suggested a combination of imperfect interface design and a lack of Internet literacy. Next to this finding, levels of online privacy are, in general, considered to be low: For example, many users incorrectly believe that in terms of legal aspects their privacy is better protected than actually is the case (Hoofnagle et al., 2010). In a knowledge test with five questions about online and offline privacy, results showed that privacy knowledge was poor: 30% did not provide one correct answer at all, 45% had one or two correct answers, and only 3% were capable of answering all questions correctly (Hoofnagle et al., 2010). Similarly, in a sample with 419 adults, Park (2013) found low online privacy literacy in terms of technical familiarity and policy knowledge. Besides that, Park also detected an only moderate awareness of institutional surveillance practices. Finally, in an experimental study with 297 Korean students, Baek (2014) also confirmed the importance of digital literacy for privacy protection. The results showed that students with more literacy held privacy opinions that were more robust and that could not be changed as easily by reading privacy related news stories. According to the author, this showed that it is harder to manipulate peoples' privacy opinions if they have more Internet literacy. In general, online privacy behaviors exist for several dimensions, for example, the informational, social, and psychological dimension (Burgoon, 1982). Informational privacy behaviors measure how much identifying information people share about themselves. Social privacy behaviors capture how many other people can access shared information. Psychological privacy behaviors represent the intimacy of shared information. Several studies have tested and validated these dimensions in empirical research: For example, Dienlin and Trepte (2015) analyzed the influence of informational, social, and psychological privacy intentions on informational, social, and psychological privacy behaviors. The authors found that the relation between privacy intentions and the corresponding privacy behavior was weakest for the social privacy dimension (social: $\beta = 0.46$; informational: $\beta = 0.64$; psychological: $\beta = 0.79$). This implies that people who had the intention to limit access to their Facebook profiles did not always succeed in putting this limitation into practice. We suggest that a lack of online privacy literacy might be a relevant reason why people did not contrive to protect their privacy. Hence, it seems important to analyze online privacy literacy as a potential mediator.

2.3. Literature analysis

The literature analysis shows three gaps: First, to date no study analyzed which aspects might foster online privacy literacy. Second, to date no study analyzed if online privacy literacy might affect online privacy behavior. For example, do people who have more online privacy use more mechanisms to restrict access to their online profiles? Likewise, to date no study analyzed if online privacy literacy might affect psychological aspects. For example, does online privacy literacy increase the perceived online safety? Third, existing studies analyzed online privacy literacy with a rather broad and general understanding of privacy. By contrast, the study by Dienlin and Trepte (2015) suggests that online privacy literacy might be especially relevant for aspects of social privacy regulation, which is why in this study, we thus focus on social aspect of online privacy literacy.

3. Research model and hypotheses

3.1. Potential antecedents of online privacy literacy

One aim of this study is to discuss aspects that might foster online privacy literacy. We assume that two aspects are relevant: The time users have already spent on SNSs and the number of privacy changes users have already implemented. In what follows, we explain why we expect that time on SNSs and privacy changes are relevant for the development of privacy literacy.

For example, results from a project on UK children's and adolescents' online literacy (Livingstone, Bober, & Helsper, 2005) showed that the more time users have spent online, the more skilled they became at using the Internet (see also Livingstone, Haddon, Görzig, & Ólafsson, 2011). In a study with a sample of N=2739 German Internet users, Taddicken (2011) similarly found that those users with a better school education and longer history of Internet usage were better able to evaluate privacy risks of social media than those users with less experience and lower education. In accordance, Lin (2015) found a positive association between frequency of visits and changes of privacy settings on Facebook, and Park and Jang (2014) reported a positive association between frequency of mobile Internet access and privacy knowledge. We thus suggest that the more time users spend online, the higher their online privacy literacy will be.

Hypothesis 1. The time spent on SNSs is associated with more online social privacy literacy.

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