A bumpy ride on the information superhighway: Exploring turbulence online

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ABSTRACT

Managing our personal information is becoming increasingly complex as people share more and more about themselves and others online. Beyond the ordinary challenges people face in disclosing information in face-to-face settings, the Internet presents additional demands users must take into account related to the size and diversity of their audience as well as the longevity and accessibility of their communication. Using survey data from a diverse group of young adults, this paper explores turbulence online, that is, the breakdown of privacy expectations that result in information spreading beyond a user's desired audience. More than a third of these young adults reported at least one turbulent encounter online ranging in tangible consequences like ending a friendship or trouble at work or school to emotional trouble like feelings of embarrassment or betrayal. Results suggest that successful privacy management online requires a combination of social and technological skills and behaviors. Findings also bring to light new questions on self- versus other-generated turbulence and broader implications for researchers, designers, and users.

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1. Introduction

There are many benefits and rewards related to sharing information online from networking with old and new contacts to receiving social support and uncovering unique opportunities and information (e.g., Burke & Kraut, 2013; Steinfield, Ellison, & Lampe, 2008). However, disclosing certain types of information can be accompanied by potential risks, particularly if the information is taken out of context or shared with unintended audiences (Nissenbaum, 2011; Petronio, 2002). While people may weigh the pros and cons of the information they put online, privacy management in the digital age is complex. In online settings like social network sites, people are often communicating and sharing information with larger and more heterogeneous audiences than in face-to-face contexts making it nearly infeasible to decipher who exactly is on the receiving end of a message. Moreover, the information people share takes on a different type of longevity because of the "persistence, searchability, replicability, and scalability" of these networked environments (boyd, 2008, p. 2). Managing the information we share about ourselves is difficult, but this is further perplexed by the fact that others can share information about us, too (Litt et al., 2014)—and sometimes this information carries more

weight during impression formation (Walther, Van Der Heide, Hamel, & Shulman, 2009).

Petronio (2002) uses the word "turbulence" to describe the process of privacy-management going awry, or when personal information goes beyond one's desired or expected boundaries. While popular media have highlighted numerous stories showcasing the negative consequences people have endured because of content they or others have shared about them online (e.g., Mortensen, 2012; Stelter, 2012), little scholarly research has explored systematically the turbulence construct in more depth. How common is turbulence online? How many people experience the downsides of sharing personal information? Who is most likely to experience it and why? What are some of the emotional and social consequences associated with turbulence in digital environments? Relying on survey data about diverse young adults, we explore these questions in more depth than existing scholarship has done so.

2. Understanding turbulence

Traditional privacy theories hypothesize that people desire "selective control of access to the self" (Altman, 1975, p. 24), and so they try to control and vary who has access to their personal information through boundaries, rules, and coordination (Altman, 1975; Child, Pearson, & Petronio, 2009; Petronio, 2002). As communication

privacy management theory describes, when people communicate information about themselves, the information becomes collectively owned in which implicit and explicit rules continue to govern the flow of information so that, in theory, the information remains within expected boundaries (Petronio, 2002). However, coordinating and managing our own and others' expectations can be challenging, and when there is a breakdown in the privacy management process, that is, when information goes beyond a person's desired boundaries or violates an "information flow norm" (Hull, Lipford, & Latulipe, 2011; Nissenbaum, 2010), boundary turbulence occurs (Petronio, 2002).

Often accompanying the disruption of privacy management are conflicts and consequences including, "minor flare-ups, confusion, misunderstandings, mistakes, embarrassments, and full-fledged uproars" (Petronio, 2002, p. 177). Turbulence may result in both psychological consequences, such as feeling embarrassed, and/or social consequences, such as getting into fights with friends and family or having to deal with repercussions at school or at work (Houghton & Joinson, 2010; Tufekci, 2012). Turbulence often acts as a motivator for people to reconsider their practices, reevaluate their rules and expectations, and act according to their desired privacy (Child, Haridakis, & Petronio, 2012; Child & Petronio, 2011; Child, Petronio, Agyeman-Budu, & Westermann, 2011; Petronio, 2002; Wisniewski, Lipford, & Wilson, 2012). For example, some studies have found that people who have had turbulent experiences online use more privacy-enhancing technologies, like privacy settings on social network sites (Debatin, Lovejoy, Horn, & Hughes, 2009; Litt, 2013a), even more so than those who have heard about such turbulence from others, but have not had personal experiences with it (Debatin et al., 2009).

2.1. Online turbulence

While privacy management in face-to-face situations can itself be complex, privacy management online has added challenges as users interact with large and invisible audiences, while handling communication that is more persistent, searchable, and shareable than in face-to-face interactions (boyd, 2007). An unclear understanding of the context and audience in online environments adds complexities to privacy rule-development and coordination. Although studies have shown that people use a variety of privacy-management strategies and are increasingly becoming more protective of what they share publicly (boyd & Hargittai, 2010; Madden, 2012; Stutzman, Gross, & Acquisti, 2013), researchers continue to document evidence of turbulence on a variety of different types of sites from social network sites (e.g., Acquisti & Gross, 2006; Bernstein, Bakshy, Burke, & Karrer, 2013; Johnson, Egelman, & Bellovin, 2012; Liu, Gummadi, Krishnamurthy, & Mislove, 2011; Sleeper et al., 2013) and blogs (Child et al., 2011; Child et al., 2012) to electronic commerce sites (Metzger, 2007). A national survey in 2009 revealed that roughly four percent of Internet users had experienced a turbulent incident because of something posted about them online, while 12 percent of social network sites users had posted something online that they later regretted sharing (Madden & Smith, 2010). A study on college students found that while the majority of participants had never experienced consequences resulting from information shared on social network sites, several reported that their friends had (Tufekci, 2012). Nearly a fifth of the students knew someone who had lost a job and more than a fifth knew someone who had gotten into legal trouble because of a social network site post. Popular media also continue to highlight and publicize cases of people experiencing consequences because of information making its way to unintended audiences (e.g., Mortensen, 2012; Stelter, 2012). This article explores the turbulence construct in more depth by looking at how people's social and Internet experiences influence who encounters turbulence online.

2.2. Online turbulence and self-monitoring

Navigating social situations in face-to-face contexts requires a set of social skills for understanding the context, audience, and norms of one's social environment (Goffman, 1959; Goffman, 1967; Lennox & Wolfe, 1984; Snyder, 1974). People vary in their self-monitoring skills, or their ability and motivation to pick up on social cues and modify their self-presentations (Snyder, 1974). For example, those with more self-monitoring skills are better at seeking out and adapting their actions based on the specifics of the situation in which they find themselves, demonstrate more concern and desire for abiding by social norms, and strategically use impression-management tactics (Leone & Corte, 1994; Turnley & Bolino, 2001). In comparison, low self-monitors have less concern for appropriateness and tend to rely more on their internal cognitions for behavioral guidance rather than their social environment (Snyder, 1974).

While literature has documented that such skills matter in face-to-face settings, it is not clear how such skills might influence people's propensity for experiencing turbulence online. Those with lower self-monitoring tendencies may be more likely to experience turbulence because they tend to engage with less privacy-management tactics (Child & Agyeman-Budu, 2010). In spaces with already limited context and audience cues, people with lower self-monitoring skills may become even more reliant on their imagined audience (Litt, 2012), and end up sharing information with audiences who may be at odds with their internal desires or may not appreciate their disregard for appropriateness. On the other hand, those with more self-monitoring skills may themselves be more likely to experience turbulence because online environments tend to collapse contexts (boyd, 2010; Marwick & boyd, 2011; Vitak, 2012), challenging people who tend to be more dependent on such contexts for how to behave. Additionally, those who self-monitor may be more aware that turbulence can happen in these complex environments, and thus are more likely to monitor their self-presentations online, consciously looking out for and trying to prevent turbulence. Put another way, turbulence may be just as likely for high and low self-monitorers, but those with higher self-monitoring tendencies may be more likely to be conscious of it. For example, research on Facebook-based turbulent situations suggests that people with higher self-monitoring skills are more likely to rate their turbulent encounters as more severe than those with lower self-monitoring skills (Litt et al., 2014).

R1: How do general self-monitoring skills relate to experiencing turbulence online?

2.3. Online turbulence and Internet skills

While self-monitoring skills may play an important role in turbulence online, navigating the complexities of online environments and managing one's privacy in desired ways may also require Internet skills (Hargittai, 2007; Hargittai & Litt, 2013; Litt, 2013b; Park, 2011; Spitzberg, 2006; van Deursen, Courtois, & van Dijk, 2012). Literature on digital inequality shows, for example, that people's sharing practices online (e.g., Correa, 2010; Hargittai & Walejko, 2008) and their use of privacy-enhancing technology (boyd & Hargittai, 2010) are related, in part, to their ability to use the Web. While Internet skills have been associated with people's privacy behaviors (boyd & Hargittai, 2010, Hargittai & Litt, 2013; Park 2011; Park, Campbell, & Kwak, 2012), researchers have not studied the relationship between Internet skills and turbulence online. With lower levels of understanding of how the technology