Emotional disclosure on social networking sites: The role of network structure and psychological needs

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A B S T R A C T

We conducted three studies to understand how online emotional disclosure is influenced by social network structure on Facebook. Results showed that emotional disclosure was associated with both the density and size of users' personal networks. Facebook users with denser networks disclosed more positive and negative emotions, and the relation between network density and emotional disclosure was mediated by stronger need for emotional expression. Facebook users with larger networks on Facebook disclosed more positive emotions, and the relation between network size and emotional disclosure was mediated by a stronger need for impression management. Our study extends past research by revealing the psychological mechanisms through which personal social network structure influences emotional disclosure. It suggests that social network size and density are associated with different psychological needs, which in turn lead to different patterns of emotional disclosure.

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1. Introduction

Emotional disclosure occurs naturally in everyday life (Moreno et al., 2011; Rimé, 2009; Rimé, Finkenauer, Luminet, Zech, & Philippot, 1998; Rimé, Mehdizadeh, Philipport, & Boca, 1991; Rimé, Philippot, Boca, & Mesquita, 1992). People frequently disclose their positive and negative emotions (Rimé et al., 1991), because self-disclosure is intrinsically rewarding (Csibra & Gergely, 2011; Tamir & Mitchell, 2012; Tomasello, 2009) and can improve interpersonal intimacy (Derlega, Winstead, Wong, & Greenspan, 1987; Laurenceau, Barrett, & Pietromonaco, 1998; Laurenceau & Kleinman, 2006). Nowadays, with the widespread use of social networking sites (SNSs) such as Facebook, people can easily share their emotions with a wide audience (Boyd & Ellison, 2007; Köbler, Riedl, Vetter, Leimeister, & Krcmar, 2010). Research has shown that emotional expressions are ubiquitous on SNSs (Carr, Schrock, & Dauterman, 2012; Facebook, 2010; Kivran-Swaine & Naaman, 2011; Naaman, Boase, & Lai, 2010), and their overall pattern matches seasonal mood changes (Golder & Macy, 2011). However, it remains unclear what factors influence users' emotional disclosure on SNSs. Studies have explored the relation between online network structure and emotional disclosure. The density of one's personal network was found to predict the amount of time spent on Facebook and the number of messages posted (Park, Lee, & Kim, 2012). Network size was found to be negatively correlated with the number of emotion words in Facebook status updates (Facebook, 2010). However, it was found that network density negatively and network size positively predicted emotion words in tweets (Kivran-Swaine & Naaman, 2011). These inconsistent findings prompt for more research on why and how social network structure influences emotional disclosure.

Self-disclosure has been considered a function of contextual properties such as relationship quality and communication context (e.g., Haythornthwaite, 2005; Park et al., 2012; Walther, 1996, 2007), as well as a function of psychological motives and characteristics (e.g., Gross & John, 1995; Kring, Smith, & Neale, 1994). Furthermore, the relation between communication partners can influence communication needs (Haythornthwaite, 2005) and communication style including the breadth, length, and depth of self-disclosure (Omarzu, 2000). It is possible that users' network structures on Facebook influence their communication needs and affect their emotional disclosure pattern.

Research has shown that Facebook communication is likely driven by two motivational forces. First, individuals use Facebook to maintain and improve social relationships (Ellison, Steinfield, & Lampe, 2007). Since emotional disclosure can foster interpersonal

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connectedness (Sheldon, Abad, & Hinsch, 2011), individuals are motivated to express their emotions to maintain their relatedness to others. Second, Facebook is a platform for self-presentation (Mehdizadeh, 2010; Papacharissi, 2011). Users are motivated to use impression management strategies to create socially desirable self-images (Ellison, Heino, & Gibbs, 2006; Qiu, Lin, Leung, & Tov, 2012; Siibak, 2009; Strano, 2008; Zhao, Grasmuck, & Martin, 2008). Therefore, emotional disclosure on Facebook is likely to be influenced by the need for emotional expression and need for impression management.

In this research, we investigate the underlying mechanisms of how social network structure influences the need for emotional expression and the need for impression management, and lead to the pattern of emotional disclosure. Findings from this research are expected to shed light on the influence of social network structure on user behavior and enrich the knowledge of the social processes of emotional disclosure. First, we compare the pattern of emotional disclosure on Facebook with disclosure in a less social context to reveal how the presence of a familiar audience affects emotional disclosure. Second, the link between contextual factors on Facebook and emotional disclosure will be highlighted quantitatively. Most importantly, the motivational factors will be uncovered and disentangled, so that the socio-psychological meaning of the social network context can be better understood.

2. Literature review

2.1. Emotional disclosure on Facebook

While emotional sharing is self-rewarding (Csibra & Gergely, 2011; Tamir & Mitchell, 2012; Tomasello, 2009), the theory of social sharing of emotion suggests that it can also stimulate social interaction and improve interpersonal connection (Laurenceau et al., 1998; Moscovici, 1984; Rimé, 2009; Rimé et al., 1991, 1998). Both positive and negative emotion are frequently shared in daily life (Gable, Reis, Impett, & Asher, 2004; Rimé, 2009; Rimé et al., 1991, 1992, 1998; Sedikides, Skowronski, & Gaertner, 2004). Positive emotional sharing elicits positive feedback from others (Diener, 2000) and facilitates social interactions (Augustine, Mehl, & Larsen, 2011). It allows one to re-experience and enhance the positive emotion (Langston, 1994; Rimé, 2007, 2009). This capitalization of positive emotions has been found to produce prolonged hedonic feelings (Mauss et al., 2011; Tugade & Fredrickson, 2007), higher levels of somatic activity and amusement (Gross & Levenson, 1997), and better life satisfaction and interpersonal relationships (Gable & Reis, 2010; Gable et al., 2004).

Negative emotional sharing may reduce the intensity of fear (Langens, 2005), traumatic stress (Greenberg & Stone, 1992), and depression (Radcliffe, Lumley, Kendall, Stevenson, & Beltran, 2010). It can also relieve the stress of suppressing negative feelings and allow reappraisal of the negative experience (Pennebaker, 1997; Pennebaker & Beall, 1986; Rimé, 2009). In addition, sharing negative emotions can improve relational intimacy by reinforcing the discloser's trust in others and eliciting social support, alternative perspectives, and advice from listeners (Graham, Huang, Clark, & Helgeson, 2008; Sedikides et al., 2004).

Although the above research has highlighted the social motivation underlying emotional sharing, few studies have compared emotional disclosure to a familiar and responsive audience like that on Facebook, with disclosure to an unfamiliar audience. This is an important comparison to make because some of the purported benefits of social sharing (e.g., reinforcing trust and intimacy) imply the need for an audience that is familiar and responsive, whereas other benefits (e.g., reliving positive experiences and relief from suppressing negative feelings) do not. Thus,

one could argue that the motivation for social sharing of emotion is purely hedonic and "nonsocial"—in which case, emotional disclosures on Facebook would be no different from disclosures to strangers or even those made privately as in a journal. We provide such a comparison in the present paper to examine the difference between emotional disclosure on Facebook and in a more restricted social context in which participants shared their experiences with an unfamiliar audience (i.e., a small team of researchers), with no expectation of a response or reaction. According to the theories of social sharing of emotion, one would expect more emotional disclosure on Facebook than in a more restricted context (H1). However, if the motivation for sharing emotions is purely hedonic, one would expect little difference between the two.

2.2. Social network analysis: size and density

Social network analysis has long been recognized as an important tool to understand how social network structures influence socio-psychological behaviors (Borgatti, Mehra, Brass, & Labianca, 2009; Hogan, 2007). It has been applied in a number of social science domains including organizational behavior (Zou, Ingram, & Higgins, 2010), sociology (e.g., Burt, 2001b), communication (Garton, Haythornthwaite, & Wellman, 1997), economics (e.g., Burt, 2001a), and psychology (Leavitt, 1951).

Ego-centered network analysis is commonly used in the study of personal social networks (Johnson, 1994). It focuses on a focal individual known as the "ego" and analyzes the network connections of the individual. Two key variables in ego-centered network analysis are network size and network density (Borgatti, Jones, & Everett, 1998). Network size refers to the total number of members in a network (e.g., the total number of friends one has on Facebook). It reflects the quantity of connections and is related to the amount of resources one can gain from the network (Hanneman & Riddle, 2005).

Network density represents the extent to which members in a social network are connected to each other. It indicates the quality of interpersonal relations in the network (Hogan, 2009). Network density is calculated by dividing the total number of existing connections between all nodes in the network over all possible connections. The value of network density approaches '0' in extremely sparse networks where few members are connected, and '1' in extremely dense networks where everyone is connected to each other. According to the principle of triadic closure (Granovetter, 1973), for three persons, A, B, and C, if A is closely connected to B and C, B and C are likely to be closely connected as well. This suggests that in a dense network, members are more likely to be close friends and know each other, creating a socially coherent community (Marsden, 1990; Reagans & McEvily, 2003). They are likely to have more bonding social capital such as social support and trust from each other (Kilburn, 2011; Lin, 1999).

Past research has shown that network structure can predict individual attitude and behaviors (Golubović, 2009). Greater network density of a team is associated with managers' poorer performance (Burt, 2001b). Network size predicts trust between strangers (Macy & Skvoretz, 1998), frequency of telephone, email, and instant messaging use (Dimmick, Ramirez, Wang, & Lin, 2007), and probability of blog use for relationship maintenance (Stefanone & Jang, 2007). One's social network on Facebook typically includes close friends, average friends, and mere acquaintances (Leung, 2002). Users usually do not direct their postings to a particular group of people, making their information available to a mixed audience. The publicness, non-directness, and mixture of social circles make Facebook a complex social environment (Bazarova, Taft, Choi, & Cosley, 2013). As research has long recognized that communicative contexts can influence communication style (Culnan & Markus, 1987; Gasiorek, Giles, Holtgraves, &