Self-disclosing on Facebook can be Risky: Examining the Role of Trust and Social Capital

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Abstract

Social media has become core to our daily interactions, enabled by people's willingness to share feelings, opinions, and even the most mundane details of their lives. These self-disclosure practices raise many questions about why people disclose in such a public manner, despite the potential risks. The present study examined self-disclosure on Facebook and considered two factors that may encourage people to share more information: trust and social capital. Self-disclosure, trust and social capital have not been previously studied in combination. Trust was considered in terms of an individual's trust in Facebook, and general trust, as a personality disposition. Two types of social capital, namely, bridging and bonding, were measured. Data collection involved an online survey completed by 263 Australian Facebook users. The results showed that general trust was not related to self-disclosure on Facebook. However, trust in Facebook, as well as bridging and bonding social capital all correlated with self-disclosure on Facebook. Regression analysis revealed that bridging social capital was the only independent variable that significantly predicted self-disclosure on Facebook. This is alarming because bridging social capital could be linked to more security risks, as people are focused on the benefits of broadening their online networks, rather than the potential risks of sharing personal information with a large number of people. Findings from this research offer important insights about why people may be inclined to share information on social media, and could be useful in the communication of social media risks.

Keywords

Self-disclosure; Trust; Social capital; Facebook.

1 Introduction

Social media has an important role in today's increasingly interconnected world. Recent reports have indicated that 79% of Australians are on social media (Sensis, 2017). Social media use is premised on people sharing their personal and sensitive information, and even the most mundane details about their lives. This has motivated a plethora of research to explore why people self-disclose in such a public manner. This research is important because it enables us to better understand how people engage online, what may influence their online communication and interactions, and how these practices can lead to cybersecurity risks.

The present study focuses on self-disclosure on Facebook and considers two factors that may explain why people share information: trust and social capital. Trust is considered in terms of an individual's level of trust towards Facebook, and also general trust as a personality characteristic. Social capital is considered in terms of an individual's perceptions of their networks and resources that they may have access to as a result of their Facebook use and connections.

Self-disclosure on social media is most commonly studied in terms of the positive benefits that it may provide to the individual user (e.g., Ellison *et al.*, 2007, Maksl *et al.*, 2013, Skoric *et al.*, 2016). However, in this study, in this study we are interested in how self-disclosure can lead to cybersecurity and privacy risks. This information can be used to educate and train people about the potential risks associated with sharing personal and sensitive information on social media.

2 Background

Facebook is currently the most popular social media platform in Australia. Of 17 million monthly active Australian social media users, 12 million use Facebook daily (Cowling, 2018). The immense popularity of Facebook means that it has been the focus of the majority of social media research (Stoycheff *et al.*, 2017).

Although a number of studies have considered self-disclosure, trust and social capital, no study to date has considered these three constructs in combination. For example, decades of research in face-to-face settings have established that trust is a key factor in building social capital (Putnam, 2000). More recently, trust has been linked to individuals' willingness to self-disclose online (Chang *et al.*, 2014, Taddei *et al.*, 2013). Social capital has been conceptualised as a benefit of Facebook use (Ellison *et al.*, 2007, Liu *et al.*, 2016), and self-disclosure is, for the most part, an essential function of using Facebook. This research explores a potential relationship between trust in the social media platform (i.e., the extent to which people perceive Facebook as a trusted social media platform), trust as a personality characteristic (i.e., the extent to which some people are just more trusting), self-disclosure, and social capital. Throughout the following sections, we define the three constructs, and provide a brief overview of relevant research.

2.1 Main constructs: Self-disclosure, trust and social capital

Self-disclosure refers to the process by which an individual voluntarily discloses personal information to others (Cozby, 1973). Given that the most common motivation for using Facebook is the desire to maintain close contact with family and friends (Abramova *et al.*, 2017, Joinson, 2008, Skoric *et al.*, 2016), the majority of social media users will disclose personal information to strengthen these relationships (Maksl *et al.*, 2013, Skoric *et al.*, 2016). Online self-disclosure has been associated with improved well-being, opportunities to maintain relationships with absent friends, as well as ways to establish new friendships and find support (e.g., Abramova *et al.*, 2017, Ellison *et al.*, 2007, Taddei *et al.*, 2013). However, self-disclosure may lead to negative outcomes, such as exposure to inappropriate content, scams, and privacy issues (e.g.,

Abramova *et al.*, 2017, Brittain *et al.*, 2017, Christofides *et al.*, 2012, De Zwart *et al.*, 2012, Parsons *et al.*, 2016).

For the purposes of this research, ***trust*** is considered in two distinct ways: general trust as a personality disposition, and the extent to which an individual trusts a particular product or service. Trust as a personality disposition is a general propensity or willingness to trust others (Mayer *et al.*, 1995). Trust has been broadly defined as "willingness to be vulnerable, based on positive expectations about the actions of others" (Bos *et al.*, 2002, Mayer *et al.*, 1995). Trust in a product or service implies that consumers believe that the product or service providers can keep their promises and act in responsible ways (Devos *et al.*, 2002). This study considers an individual's trust in Facebook as a product or service.

It is generally agreed that the development of ***social capital*** is one of the key benefits of social media use (Burke *et al.*, 2011, Ellison *et al.*, 2007), and may be key to understanding why people share information on social media, in spite of the risks. Putnam (2000) conceptualised two distinct forms of social capital: bridging and bonding social capital. Bridging social capital refers to the capacity to access resources, through a wide variety of social relationships and networks. It is derived from socially weak ties that connect individuals to people of different lifestyles and backgrounds (Granovetter, 1973).

On a social media platform like Facebook, bridging social capital can be found within Facebook friends who are co-workers or classmates. These individuals can provide useful information, link people to new ideas, perspectives and opportunities. From a security perspective, people with greater bridging social capital are likely to be exposed to more cybersecurity risks, as they are likely to be more focused on the immediate benefits of creating links rather than the potential future risks of sharing their personal information with a larger number of people. Connecting with a large number of weak ties can expose individuals to increased risk of cybercrime and identity theft, which can translate into real world threats such as theft, stalking and damage to reputation (Brittain *et al.*, 2017, Ramsey *et al.*, 2010). Bonding social capital involves more sustained support from individuals who share strong, intimate ties and reciprocal relationships, such as family and close friends.

2.2 Previous research: Self-disclosure, trust and social capital

Online self-disclosure has been shown to be related to both general trust (Frye *et al.*, 2010, Parsons *et al.*, 2016, Tait *et al.*, 2015), and trust in online providers (Chang *et al.*, 2014, Taddei *et al.*, 2013). Tait *et al.* (2015) found that trust and extraversion predicted self-disclosure, and revealed that participants who reported a greater propensity to trust were more likely to disclose information about their home location, family, and place of birth. Comparably, Chang *et al.* (2014) found that trust in Facebook predicted self-disclosure of basic information (e.g., gender, current city), and sensitive information (e.g., email, profile picture, birthdate), but no relationship was found for highly sensitive information (e.g., phone numbers, religious views, address).

Previous research on the relationship between self-disclosure and social capital has been inconsistent. For example, Liu et al. (2014) found that self-disclosure was significantly and directly related to bridging social capital but was not associated with bonding social capital. Conversely, Maksl et al. (2013) found that perceptions of bridging and bonding social capital on Facebook predicted overall comfort levels with sharing personal information. More recently, Liu et al. (2016) conducted a meta-analysis examining over 50 studies which explored the relationships between how people use social media, and bridging and bonding social capital. While they found that using social media contributes to development of both bridging and bonding social capital, it was more strongly associated with bridging social capital than with bonding social capital.

2.3 The present study

The primary aim of this study was to investigate self-disclosure on Facebook and how it relates to people's trust in Facebook as a platform, their general trust as a personality disposition, and perceptions of their social capital. Specific research questions and hypotheses were:

Hypothesis 1a: Respondents who have higher levels of trust in Facebook will be more likely to self-disclose on Facebook compared to those who have a lower level of trust in Facebook.

Hypothesis 1b: Individuals who are more trusting in general will be more likely to self-disclose on Facebook compared to those who have a lower level of general trust.

Research Question 1: What is the relationship between self-disclosure and bridging and bonding social capital?

Research Question 2: To what extent can trust and social capital explain why people self-disclose?

3 Method

Data collection involved an online survey, administered through the web-based platform Qualtrics. Participants were recruited through an undergraduate psychology student pool who gained course credit for participation, and also by advertising on researchers' Facebook pages. The survey included a set of demographic questions and validated psychometric instruments to measure the constructs of interest.

3.1 Participants

To take part in the study, participants had to be over the age of 18, have an active Facebook account and be fluent English speakers. The survey was completed by 263 participants (96 (36.5%) male, 163 (62.0%) female, and 4 (1.5%) did not specify their gender). The sample was well represented in terms of age and education levels. Although 40% of the sample was aged between 20 and 24, other age categories were well represented (i.e., 15% were under 20 years of age, 18% were 25-29, 14% were

30-39, 8% were 40-49, and 5% were in the 50 years and over category). In terms of education level, the sample was also well distributed across the different categories. The majority of participants had either completed an undergraduate (i.e., 32%) degree or were undertaking an undergraduate degree (i.e., 30%). Four percent had not completed high school, and 13% had completed a postgraduate university degree.

3.2 Measures

3.2.1 Self-disclosure

The self-disclosure measure was based on Parsons *et al.* (2016) and Brittain *et al.* (2017), and combined a measure of *self-disclosure behaviour* (i.e., information that people share) with a measure of *privacy behaviours* (i.e., a behavioural checklist of what individuals specifically do to protect their privacy on Facebook). This combined measure had a Cronbach's alpha of .81. Specifically, these factors were measured in the following way:

- *Self-disclosure behaviour* was measured using two subscales from Seidman's Self-Presentation Scale (Seidman, 2013). The Belongingness Behaviours-Communication subscale (Cronbach's $\alpha = .76$) consists of two items asking participants to indicate their frequency of posting and commenting on other's content (e.g., status, timeline). The Self-Presentational Behaviours subscale (Cronbach's $\alpha = .85$) consists of six items, and asks participants to indicate how frequently they post particular content about their life and events (e.g., photos, profile information, status). Both subscales were measured on a 7-point Likert scale (from 1 = never to 7 = all of the time).
- To measure *privacy behaviours* participants were presented with a checklist to capture what types of specific information (e.g., work place, phone number, date of birth, email, address) they disclosed and to whom (i.e., Don't Know, Only Me, Friends, Friends of Friends or Everyone) (Cronbach's $\alpha = .85$).

3.2.2 Trust

Trust in Facebook is a four item measure developed by Chang *et al.* (2014). It focuses on understanding the extent to which users believe that Facebook is a trustworthy platform which will protect their privacy. The measure uses a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree), and the Cronbach's alpha in the current study was .93.

Generalised Trust Scale assesses trust as a personality disposition in regards to an individual's trust in both generalised others (Generalised Trust) and romantic partners (Partner Trust) (Couch *et al.*, 1996). For this study, we assessed Generalised Trust, measured on 20 items using a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree). The Cronbach's alpha was .81.

3.2.3 Social capital

Social Capital Scale (Ellison *et al.*, 2014), adapted from Williams (2006), has two sub-constructs: bridging and bonding social capital. *Bridging social capital* sub-scale has nine items and measures the degree to which people perceive they can access diverse ideas and a broader community through their social network. *Bonding social capital* sub-scale measures the degree to which an individual can receive meaningful support and help from their close social network. Each scale consists of nine items measured on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree). Cronbach's alphas were .87 and .84 for bridging and bonding social capital, respectively.

4 Results

Preliminary testing was conducted to inspect the data in preparation for analysis. Inspection of the distribution indicated that the data was only slightly positively skewed, with no major violations to the assumptions of normality.

Pearson's two-tailed correlation was performed to explore the relationship between the constructs. The results of the analysis and the main descriptive statistics are displayed in Table 1.

Constructs	*M (SD)*	1	2	3	4	5
1. Self-Disclosure	45.30 (10.22)	-	.162**	-.002	.362**	.192**
2. Trust in Facebook	14.07 (5.27)		-	.214**	.301**	.164**
3. General Trust	96.86 (11.94)			-	.006	.214**
4. Bridging Social Capital	42.69 (9.26)				-	.300**
5. Bonding Social Capital	43.52 (9.64)					-

** $p < .001$

Table 1: Pearson's two-tailed correlations matrix for Self-disclosure on Facebook, General trust, and Social capital ($N = 263$)

4.1 Self-disclosure and trust

There was a small, significant positive correlation ($r = .162$, $p < .001$) between self-disclosure and trust in Facebook. This means that, in support of hypothesis 1a, individuals who reported higher levels of trust in Facebook may be more likely to self-disclose compared to those with lower levels of trust in Facebook. However, no significant relationship was found between individuals who were more trusting in general and their self-disclosure on Facebook ($r = -.002$, $p > .05$). Therefore, hypothesis 1b was not supported.

4.2 Self-disclosure and social capital

There was a significant positive correlation between *bridging* social capital and self-disclosure ($r = .36$, $p < .001$). This indicates that the more individuals perceive they can access diverse ideas and a broader community through their Facebook network, the more likely they are to self-disclose. Similarly, there was a small significant positive correlation with *bonding* social capital ($r = .19$, $p < .001$), suggesting that the more individuals perceived they can receive meaningful support from their social network, the more likely they may be to self-disclose. These results address Research Question 1.

4.3 Self-disclosure, trust and social capital

As shown in Table 2, a multiple regression analysis was conducted to investigate the extent to which trust in Facebook and social capital can explain why people self-disclose on Facebook (addressing Research Question 2). Given that general trust did not correlate with self-disclosure, it was not included in regression analysis (refer to Table 1). Bridging social capital, bonding social capital, and trust in Facebook explained approximately 13% of the variance in self-disclosure on Facebook. The analysis also revealed that *bridging social capital* was the only variable that significantly predicted self-disclosure.

Variable	*β(standardised)*	*t*	*p*
	$F_{(3,259)} = 14.18$, adjusted $R^2 = .131$**		
Trust in Facebook	.052	.85	.396
Bridging Social Capital	.320	5.11**	<.001
Bonding Social Capital	.088	1.44	.150

** $p < .001$

Table 2 Summary of the multiple regression analysis predicting Self-Disclosure: Trust in Facebook, Bridging and Bonding Social Capital (N = 263)

5 Discussion

This study explored why people share on Facebook. It considered two factors that may explain people's self-disclose practices: trust and social capital. Unlike a lot of previous research, which has most commonly focussed on the potential benefits of self-disclosure on social media (e.g., Ellison *et al.*, 2007, Maksl *et al.*, 2013, Skoric *et al.*, 2016), in this study, we explored the findings in terms of potential cybersecurity and privacy risks.

We found that trust in Facebook was related to self-disclosure on Facebook (Hypothesis 1a), indicating that people who reported higher levels of trust in Facebook may be more likely to self-disclose on Facebook compared to those with lower levels of trust in Facebook. This is in line with previous research which also found that users who believed that Facebook is a trustworthy platform were more likely to share their information on Facebook (Chang *et al.*, 2014, Mesch, 2012). This may be attributed to platforms such as Facebook focusing on creating a sense of trust by, for example,

enabling users to modify and "control" their privacy settings, and thus encouraging them to share even more information. Efforts to reduce security threats should focus on increasing awareness of this, to ensure people recognise the potential risks of sharing personal and sensitive information, regardless of their security settings. However, it is important to note that the present study was conducted prior to the Cambridge Analytica data breach scandal, and the number of people who trust Facebook to protect their privacy has dropped significantly since the scandal (Kanter, 2018). It is therefore important to replicate our research to assess how this potential drop in trust will influence the relationship with self-disclosure on Facebook, and other social media platforms.

We also investigated if people who are more trusting in general would be more likely to self-disclose on Facebook (Hypothesis 1b). This hypothesis was not supported, and this is in line with previous research (Frye *et al.*, 2010, Mesch, 2012). However, our finding is inconsistent with research by Joinson *et al.* (2010) and Tait *et al.* (2015). A likely explanation for this inconsistency could be attributed to the use of different self-disclosure and trust measures. For example, Tait *et al.* (2015) measured self-disclosure using four items from the International Personality Item Pool (IPIP), and may not have sufficiently captured the complexity of the construct.

Although Maksl *et al.* (2013) found that perceptions of bridging and bonding social capital predicted comfort levels with sharing personal information, our results are consistent with the findings of , who found only bridging social capital to be associated with self-disclosure on social media. This finding is also in line with a recent meta-analysis, which revealed that using social media was more strongly associated with bridging social capital than with bonding social capital (Liu *et al.*, 2016).

From a cybersecurity and privacy perspective, this is an interesting and potentially alarming finding. Bridging social capital is likely to be linked to more cybersecurity risks, as people are more focused on the immediate benefits of creating links and broadening their networks, rather than the potential future risks of sharing their personal information with a larger number of people. This is in line with previous research (Brittain *et al.*, 2017, Christofides *et al.*, 2012, De Zwart *et al.*, 2012).

5.1 Limitations and future directions

In this study, trust and social capital explained approximately 13% of the variance in self-disclosure. Although this contribution was statistically significant, it highlights the importance of examining additional variables in future studies that may help to explain why people share on social media. It is only by understanding the reasons for self-disclosure that we can hope to educate and train people about the potential risks.

It is also important to note that, although a reasonably large sample size was obtained, and although the participants were not sourced solely from undergraduate student population, the results may not be generalisable to the entire Australian population. A further limitation of this study is that it relied on self-report, and as a result, responses may have been subjected to the social desirability bias. This study attempted to overcome this by including a behavioural measure of self-disclosure. Nevertheless, a

more objective assessment of individuals' self-disclosure that could be used in future research would be to analyse participants' social media accounts.

6 Conclusion

As social media continues to permeate people's daily lives, more research needs to explore if and how people engage online, what may influence their online communication and interactions, and how these practices can lead to cybersecurity risks. The current study builds upon past work to examine the relationship between self-disclosure, trust and social capital on Facebook. By having a better understanding of why people share personal and sensitive information on social media, we will be better able to educate people about the potential risks associated with self-disclosure on social media.

We found that general trust was not related to self-disclosure on Facebook; however, trust in Facebook was. Both bridging and bonding social capital were related to self-disclosure on Facebook. However, bridging social capital was the only independent variable that significantly predicted self-disclosure on Facebook. This highlights the importance of education efforts focusing on the potential risks associated with connecting to a large number of users. While this practice has the benefit of increasing bridging social capital, it also increases the number and severity of cybersecurity risks that individuals are exposed to.

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