

## *Rapid Communication*

# Information Disclosure and Control on Facebook: Are They Two Sides of the Same Coin or Two Different Processes?

Emily Christofides, M.Sc., Amy Muise, M.Sc., and Serge Desmarais, Ph.D.

### **Abstract**

Facebook, the popular social network site, is changing the nature of privacy and the consequences of information disclosure. Despite recent media reports regarding the negative consequences of disclosing information on social network sites such as Facebook, students are generally thought to be unconcerned about the potential costs of this disclosure. The current study explored undergraduate students' information disclosure and information control on Facebook and the personality factors that influence levels of disclosure and control. Participants in this online survey were 343 undergraduate students who were current users of Facebook. Results indicated that participants perceived that they disclosed more information about themselves on Facebook than in general, but participants also reported that information control and privacy were important to them. Participants were very likely to have posted information such as their birthday and e-mail address, and almost all had joined an online network. They were also very likely to post pictures such as a profile picture, pictures with friends, and even pictures at parties and drinking with friends. Contrary to expectations, information disclosure and information control were not significantly negatively correlated, and multiple regression analyses revealed that while disclosure was significantly predicted by the need for popularity, levels of trust and self-esteem predicted information control. Therefore, disclosure and control on Facebook are not as closely related as expected but rather are different processes that are affected by different aspects of personality. Implications of these findings and suggestions for future research are discussed.

### **Introduction**

ONLINE SOCIAL NETWORK SITES, such as Facebook, are changing the nature of social relationships.<sup>1</sup> Facebook began as a "virtual yearbook" for college students<sup>2</sup> but has now become a social phenomenon available to anyone who has access to a computer. Facebook provides a unique research environment because of its heavy usage patterns and its ability to bridge online and offline connections.<sup>3</sup> By its very nature, Facebook provides an easy way of sharing information with friends, acquaintances, and even strangers,<sup>1</sup> but are there potentially negative consequences of the disclosure of such personal information? Media reports have shown that students' Facebook sites have been used in assessing their employment candidacy and that students have

been suspended or criminally charged on the basis of information posted on Facebook (for a review, see Peluchette and Karl<sup>4</sup>). In addition to anecdotal evidence about the actual risks of disclosing on Facebook, some research indicates that young people perceive psychological risks associated with feeling uncomfortable or regretful about their disclosure and social risks such as experiencing conflict with parents.<sup>5</sup> Other studies have shown mixed results regarding students' concerns about the possible consequences of information disclosure on social network sites. While some students admit that they have posted information on their Facebook site that they would not want current or potential employers to see,<sup>4</sup> others appear more conscious of the impression that other people, such as their teachers, give when using Facebook.<sup>6</sup> By contrast, a recent study suggests that Facebook users are

very concerned with their privacy but have a different concept of privacy and control than previously understood.<sup>7</sup>

Traditional privacy research would suggest that choosing whether to disclose or keep certain information private is a balancing act, one that involves the management of privacy boundaries and decisions about whom to include within those boundaries.<sup>8,9</sup> However, research about disclosure and privacy in the Facebook environment suggests that despite privacy concerns, individuals disclose a great deal of personal information.<sup>5,10</sup> Adolescents are particularly receptive to the potential benefits of their disclosure on Facebook,<sup>5</sup> and the same may be true for young adults, as a large number of Facebook friends can be seen as a source of social capital.<sup>3</sup> Relationship maintenance may also help young adults adjust to a new environment, such as when students start off at university in a new city. In addition, the need to belong has been shown to correlate positively with the willingness to join a social network site.<sup>11</sup> For young adults, the need to be a part of their social group and the need for popularity are key elements in their lives (for a review, see Santor et al.<sup>13</sup>). Hence, it should not be surprising that young adults report that having a presence on sites such as Facebook connects them to a social network, and being visible within a social network is perceived to be an important aspect of popularity.<sup>12</sup>

Disclosing information is also an important part of building relationships. Previous research has shown that there is a reciprocal relationship between trust and self-disclosure in online communication.<sup>14</sup> Information disclosure increases the impression of trustworthiness and results in reciprocal personal disclosure on the part of the conversation partner. Paradoxically, while people who disclose information on Facebook are seen as more trustworthy, having too many friends leads participants to doubt the authenticity of an individual's popularity.<sup>15</sup> In addition, self-esteem may have an impact on the benefit people gain from using Facebook; those who have higher self-esteem have been shown to use Facebook more frequently in order to increase closeness in relationships.<sup>4</sup>

In the current study, we explore students' use of Facebook: what information they disclose, how they control access to that information, and the personality factors (need for popularity, self-esteem, trust, and general tendency to disclose) associated with online information control and disclosure. We selected Facebook intentionally because it is currently the most popular social network site in Canada.<sup>16</sup> The use of an undergraduate sample is also deliberate because Facebook is ubiquitous in this group, with over 90% of students using it.<sup>3</sup> Our goals are to examine whether information control and disclosure on Facebook are correlated and whether the same personality factors that predict increased disclosure also predict more lax information control.

## Materials and Methods

We used an online survey to examine Facebook users' disclosure and information control behaviors. This study received ethics approval and was conducted in accordance with the American Psychology Association (APA) ethical requirements. Participants could complete the online survey anonymously from any personal computer. Inclusion criteria required that participants were undergraduates under the

age of 24 and were current Facebook users. Participants were 343 (81 men, 261 women) undergraduates at a mid-size university in Ontario, Canada, who were predominantly Caucasian/White (89%), heterosexual (96%), in their first year of study (79%), and ranged in age from 17 to 24 ( $M = 18.69$ ,  $SD = 1.03$ ). They were primarily recruited from a pool of psychology students and received partial course credit for their participation. Because a much higher proportion of women attend the university where the study was conducted, and this male–female ratio is even more discrepant in psychology, efforts were made to increase the number of male participants by recruiting in courses known to have higher proportions of men, but the sample of male participants remained low. An examination of the means and standard deviations revealed no difference on relevant variables among participants recruited using different means, across gender, or year of study. Participants were asked basic demographic questions, questions about the information they disclose, types of pictures they are likely to post, and likelihood of using the various privacy settings available on Facebook (information control, measured using a 7-item scale created for the current study with Cronbach's  $\alpha = 0.86$ ). A sample item from the information control scale is: "How likely are you to say no to a Facebook friend's request in order to control who has access to your information?" In addition to these behavioral questions, participants were asked personality questions about their self-esteem (seven items of the Rosenberg self-esteem scale, as used by Ellison et al.<sup>3</sup>), their need for popularity,<sup>13</sup> levels of trust,<sup>17,18</sup> general tendency to disclose personal information, and likelihood of disclosing personal information on Facebook specifically.

## Results

Participants reported spending an average of 38.86 minutes on Facebook each day ( $SD = 32.16$ ) and had between 25 and 1,000 Facebook "friends" ( $M = 297.07$ ,  $SD = 173.21$ ). They reported being significantly more likely to disclose personal information on Facebook ( $M = 4.26$  on a 7-point scale,  $SD = 1.42$ ) than to disclose personal information in general ( $M = 4.08$ ,  $SD = 1.40$ ,  $t(341) = 2.80$ ,  $p = 0.01$ ).

Facebook users have the option to share a variety of personal information in their profiles, and nearly all of the participants had joined a network (97%) and posted their birthday (96%). Participants were also very likely to share personal information such as their e-mail address (85%), hometown (85%), relationship status (81%), along with their school and program (72%). Participants were far less likely to share their phone number (24%) and were very unlikely to share their home address (4%). Considering the high likelihood of having joined a network, as well as that, by default, membership in a network allows any member to see another member's profile, these behaviors can make personal and revealing information accessible to friends as well as complete strangers. Participants were also likely or very likely (on a 7-point Likert scale) to post a profile picture ( $M = 6.59$ ,  $SD = 0.89$ ) and pictures with friends ( $M = 6.41$ ,  $SD = 1.23$ ), though most were unlikely or very unlikely to post pictures of them or their friends doing something illegal ( $M = 2.46$ ,  $SD = 1.79$ ) or pictures of themselves naked or partially naked ( $M = 1.49$ ,  $SD = 1.20$ ).

When asked about the importance of being able to control

who sees their information on Facebook, 76% of respondents indicated that it was at least somewhat important to do so ( $M = 4.46$  on a 7-point Likert scale,  $SD = 1.44$ ). Surprisingly, the bivariate correlation between likelihood of disclosure on Facebook and scores on the information control scale showed a near-zero relationship ( $r = -0.09$ ). To better understand this finding, we examined what factors predict these two variables using multiple regression analyses. In the first model, we used *disclosure on Facebook* as the criterion variable and included general likelihood of disclosing information, trust, self-esteem, and need for popularity as the predictor variables. As expected, general likelihood of disclosure predicted 31% ( $\beta = 0.57, p = 0.00$ ) of the variance in disclosure on Facebook, making it an important control variable in the first block of the regression analysis. Trust and self-esteem, entered into block 2, were not significant ( $\beta = -0.01, p = 0.88$  for trust;  $\beta = 0.01, p = 0.82$ ), but need for popularity, in block 3, predicted an additional 1% of the variance ( $\beta = 0.12, p = 0.02$ ), which is notable considering the strong impact of general disclosure within the model. The full model accounted for 32% of the variance in likelihood of disclosure on Facebook.

In the second regression analysis, we used the same model to predict *information control on Facebook*. As expected, general disclosure was a significant predictor of information control ( $\beta = -0.17, p = 0.02$ ), and the direction of the effect was opposite of that for information disclosure. However, contrary to our findings for the previous model, need for popularity did not predict information control ( $\beta = -0.05, p = .35$ ), whereas trust ( $\beta = -0.12, p = 0.05$ ) and self-esteem ( $\beta = 0.13, p = 0.03$ ) were significant predictors. Overall, the model accounted for only 4% of the variance, which suggests that other important predictors of information control on Facebook should be considered in future research.

## Discussion

Participants in this study disclosed a variety of personal and identifying information, and nearly all belonged to a network. However, contrary to the assumptions reported in the popular media,<sup>4</sup> students in our survey were generally concerned about their privacy and reported that they were likely to use the variety of privacy settings. Our analysis of the factors at play in information disclosure and information control suggests that these two variables may not be two ends of the same spectrum, as research on balancing privacy and disclosure would lead us to believe.<sup>19</sup> Instead, we suggest that they are independent behaviors influenced by different aspects of personality. The finding that information control and disclosure on Facebook are not negatively correlated further supports this argument.

General tendency to disclose and need for popularity were the only significant predictors of information disclosure on Facebook. In contrast, information control was negatively predicted by general tendency to disclose and by trust and self-esteem. In addition, participants reported being significantly more likely to disclose information on Facebook than they were in general. Together, these findings suggest that there is something different about the ways in which people act when interacting in the Facebook environment as compared to other means of communication. Perhaps it is because Facebook creates norms regarding what specific in-

formation to disclose based on what others have disclosed. It is an environment where information is shared proactively and in response to others. Of course, this hypothesis is one that will need more investigation in the future.

What is it, then, about Facebook that results in higher disclosure? It may be the case that either the visibility of one's social network, or the social exposure that the Facebook environment provides, influences an individual's need for popularity. Because need for popularity was found to be a significant predictor of disclosure on Facebook, the environment itself may enhance the saliency of popularity and its importance in a social network. It may also be the case that Facebook makes information disclosure the key factor in assessing a person's popularity. Having a presence on Facebook requires that a person post many pictures, have active discussions with friends, and share personal interests and information. Popularity and disclosure thus become inextricably linked. Zhao et al. explored identity construction in what they call "nonymous" environments and found that in environments such as Facebook, where people are linked with their offline identities, individuals show rather than tell others about themselves.<sup>20</sup> In this way, identity is constructed by sharing information such as pictures and interests. From this perspective, identity is not an individual characteristic but a social product created not only by what you share, but also by what others share and say about you. Disclosure thereby becomes an aspect of identity construction, and that construction is linked with popularity: the people who are most popular are those whose identity construction is most actively participated in by others. As a result, the risks of limiting access to personal information become greater than the risks of disclosure, because when limiting access, the individual also limits the potential for identity construction and thus potentially reduces his or her popularity. Concerns over the risk of limiting one's potential for her popularity may be sensible: a recent study has shown that adolescents who disclose more information on their social network sites receive greater social support from their same-sex friends.<sup>21</sup>

One interesting finding in our study is that the need for popularity, which significantly predicted information disclosure, did not predict control of personal information. Instead, higher self-esteem predicted higher likelihood of controlling information, as did lower levels of trust. Perhaps, then, controlling what is shared with more distant acquaintances on Facebook is different from sharing information with close friends. As Ellison et al. suggest in their discussion of weak ties, those with lower self-esteem may care about sharing information with everyone, but those with higher self-esteem are only concerned about their popularity within their chosen circle.<sup>3</sup> Evidence exists for the idea that young adults are most concerned about controlling their personal information such that specific others cannot see it. For instance, Boyd discusses how youth explore their identity online but control what their parents can see of that online identity.<sup>12</sup> Similarly, Peluchette and Karl found that 20% of participants in their study would not be comfortable with employers seeing certain information on their Facebook site,<sup>4</sup> but participants did not take measures to control who sees what information. Perhaps this lack of information control happens because of the popularity risks associated with limiting potential contributors to their identity: people with a high need for popularity may indeed care about their pri-

vacuity, but they may not be willing to sacrifice their popularity by implementing privacy controls. In our study, we asked about the likelihood of using certain privacy settings and the importance of controlling personal information, but we did not explore the degree to which people care about privacy. This methodological distinction may explain why individuals in our study who had higher self-esteem scores also reported that they would be more likely to use the Facebook privacy settings. Those with higher self-esteem may have less need for the input of others into their self-construction. Identity in adolescence is co-created by individuals and their peers,<sup>22</sup> and self-esteem and consensual popularity (being perceived as fashionable and fun) are directly related to one another.<sup>23</sup> In addition, adolescents with high self-esteem are protected from many of the difficulties of their age, such as peer pressure and alcohol misuse,<sup>24</sup> lending support to the idea that those with higher self-esteem may be less concerned with identity co-construction.

### Conclusions and Future Research

Our research provides evidence of different psychological factors involved in information control and information disclosure, but more research is needed, especially in explaining what factors would lead young adults to control their information. Concerns about the amount of information that young adults share on online network sites make this an important area of research. However, young adults may not see these issues from the same perspective as more mature adults. Attempts to help them protect their personal information may require a different approach than would be used if the target audience were composed of even slightly older adults. Perhaps one way to make youth more aware of these issues is to focus on social rather than safety concerns, since the need for popularity seems to be the driving factor that results in Facebook disclosure. And with Facebook's expansion beyond university settings, given that its largest growing demographic is people 25 years of age and older,<sup>25</sup> it will also be important to better understand how these factors affect information sharing in adults. In addition, youth are generally more technically adept than adults,<sup>26</sup> so adults may have a harder time controlling information to the extent that they would like. Adults and youth, as suggested by public media and academic research,<sup>7</sup> may also have different definitions of privacy, making it important to learn more about their desire for information control.

### Disclosure Statement

The authors have no conflict of interest.

### References

- boyd dm, Ellison NB. Social network sites: definition, history, and scholarship. *Journal of Computer-Mediated Communication* 2007; 13.
- Klaassen A. Making friends with the social networks. *Advertising Age* 2007; 78:14–6.
- Ellison NB, Steinfeld C, Lampe C. The benefits of Facebook "friends": social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication* 2007; 12.
- Peluchette J, Karl K. Social networking profiles: an examination of student attitudes regarding use and appropriateness of content. *CyberPsychology & Behavior* 2008; 11:95–7.
- Youn S. Teenagers' perceptions of online privacy and coping behaviours: a risk-benefit appraisal approach. *Journal of Broadcasting & Electronic Media* 2005; 49:86–110.
- Mazer JP, Murphy RE, Simonds CJ. I'll see you on "Facebook": the effects of computer-mediated teacher self-disclosure on student motivation, affective learning, and classroom climate. *Communication Education* 2007; 56:1–17.
- Livingstone S. Taking risky opportunities in youthful content creation: teenager's use of social networking sites for intimacy, privacy and self-expression. *New Media & Society* 2008; 10:393–411.
- Altman I. (1975) *The environment and social behaviour*. Belmont, CA: Wadsworth.
- Petronio S. (2002) *Boundaries of privacy: dialectics of disclosure*. Albany: University of New York.
- Acquisti A, Gross R. (2007) Imagined communities. Awareness, information sharing, and privacy on the Facebook. In Danezis G, Golle E, eds. *Privacy enhancing technologies, lecture notes in computer science*. Heidelberg, Berlin: Springer-Verlag.
- Gangadharbatla H. Facebook me: collective self-esteem, need to belong, and Internet self-efficacy as predictors of the i-generation's attitudes toward social networking sites. *Journal of Interactive Advertising* 2008; 18.
- boyd dm. (2007) Why youth (heart) social network sites: the role of networked publics in teenage social life. In Buckingham D, ed. *McArthur Foundation series on digital learning—youth, identity, and digital media volume*. Cambridge, MA: MIT Press.
- Santor DA, Messervey D, Kusumakar V. Measuring peer pressure, popularity and conformity in adolescent boys and girls: predicting school performance, school attitudes and substance abuse. *Journal of Youth & Adolescence* 2000; 29:163–82.
- Henderson S, Gilding M. "I've never clicked this much with anyone in my life": trust and hyperpersonal communication in online friendship. *New Media & Society* 2004; 6:487–506.
- Tom Tong S, Van Der Heide B, Langwell L. Too much of a good thing? The relationship between number of friends and interpersonal impressions on Facebook. *Journal of Computer-Mediated Communication* 2008; 13:531–49.
- Yum K. Facebook says "Thanks, Canada." *National Post*. May 18, 2007.
- Couch LL. (1994) The development of the Trust Inventory. Unpublished Master's thesis, University of Tennessee, Knoxville.
- Couch LL, Jones WH. Measuring levels of trust. *Journal of Research in Personality* 1997; 31:319–36.
- Westin AF. Social and political dimensions of privacy. *Journal of Social Issues* 2003; 59:431–53.
- Zhao S, Grasmuck S, Martin J. Identity construction on Facebook: digital empowerment in anchored relationships. *Computers in Human Behavior* 2008; 24:1816–36.
- Goldner KR. Self disclosure on social networking Websites and relationship quality in late adolescence. *Dissertation Abstracts International: Section B: Sciences & Engineering* 2008; 68:7708.
- Pugh MV, Hart D. (1999) Identity development and peer group participation. In McLellan JA, Pugh MV, eds. *The role of peer groups in adolescent social identity: exploring the importance of stability and change*. San Francisco: Jossey-Bass, pp. 55–70.

23. de Bruyn EH, van den Boom DC. Interpersonal behavior, peer popularity, and self-esteem in early adolescence. *Social Development* 2005; 14:555–73.
24. Zimmerman MA, Copeland LA, Shope JT, et al. A longitudinal study of self-esteem: implications for adult development. *Journal of Youth & Adolescence* 1997; 26:117–41.
25. Facebook Press Room: Statistics. [www.facebook.com/press/info.php?statistics](http://www.facebook.com/press/info.php?statistics) (accessed May 14, 2008).
26. Czaja SJ, Charness N, Fisk AD, et al. Factors predicting the use of technology: findings from the Center for Research and Education on Aging and Technology Enhancement (CRE-ATE). *Psychology & Aging* 2006; 21: 333–52.

Address reprint requests to:  
*Emily Christofides*  
*Department of Psychology*  
*University of Guelph*  
*50 Stone Road East*  
*Guelph, Ontario*  
*Canada N1G 2W1*

*E-mail: echristo@uoguelph.ca*

