

The Impact of Context Collapse and Privacy on Social Network Site Disclosures

Jessica Vitak

A large body of research argues that self-presentation strategies vary based on audience. But what happens when the technical features of Web sites enable—or even require—users to make personal disclosures to multiple audiences at once, as is often the case on social network sites (SNSs)? Do users apply a lowest common denominator approach, only making disclosures that are appropriate for all audience members? Do they employ technological tools to disaggregate audiences? When considering the resources that can be harnessed from SNS interactions, researchers suggest users need to engage with their network in order to reap benefits. The present study presents a model including network composition, disclosures, privacy-based strategies, and social capital. Results indicate that (1) audience size and diversity impacts disclosures and use of advanced privacy settings, (2) privacy concerns and privacy settings impact disclosures in varying ways; and (3) audience and disclosure characteristics predict bridging social capital.

Social network sites (SNSs) are an increasingly ubiquitous part of Americans' daily lives; recent data show 65% of Internet-using U.S. adults maintain a profile on an SNS (Madden & Zickhur, 2011). Consequently, a number of questions have been raised regarding privacy, disclosures, and outcomes of use. Many of these discussions explicitly or implicitly center on the concept of context collapse: the flattening out of multiple distinct audiences in one's social network, such that people from different contexts become part of a singular group of message recipients. Because of context collapse, users can quickly diffuse information across their entire network and facilitate interaction across diverse groups of individuals who would otherwise be unlikely to communicate.

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While context collapse provides many opportunities for engagement, it may also create tensions when considering how individuals self-present across audiences. Goffman (1959) argues that individuals' self-presentation varies based on their audience. For example, one may self-present in significantly different ways when in a business meeting versus when on a date. SNSs, which place employers and romantic partners on the same communication plane, make it more difficult for users to segment audiences and present varied versions of the self.

To empirically examine the impact of context collapse on users' engagement on SNSs, the current study considers how network composition, privacy, and disclosures interact on the most popular SNS, Facebook. These variables are especially important when considering SNSs' role in aiding the formation and accrual of social capital, which has previously been linked to various uses of SNSs (e.g., Burke, Kraut, & Marlow, 2011; Burke, Marlow, & Lento, 2010; Ellison, Steinfield, & Lampe, 2007, 2011). Building on previous research (Ellison, Vitak, Steinfield, Gray, & Lampe, 2011), the present study argues that in order to gain access to bridging social capital resources (e.g., new perspectives, novel information), individuals must be willing to disclose their resource requests to their network; however, context collapse may discourage users from making these disclosures. Therefore, a model of SNS use is presented that describes the role of audience and privacy in making disclosures on Facebook and users' perceptions of bridging social capital.

Selective Self-Presentation, On- and Offline

The concept of selective self-presentation can be traced, in part, to Goffman (1959), who described interactions between individuals and their audience as a performance in which some traits are accentuated while others are concealed. In other words, individuals make a series of conscious decisions regarding how to self-present based on the people with whom they are interacting at a given time. Subsequent research by Schlenker (1985) suggested that context, audience, and environment are key factors driving a specific self-presentation, while Leary (1995) posited that individuals self-present in ways that conform to their audience's values or evoke a desired response, and such self-presentations generally enhance their image.

When considering how selective self-presentation occurs through mediated channels, Walther's (1996) hyperpersonal model suggests the unique features of computer-mediated communication (CMC) attenuate this process, as individuals are able to carefully construct and edit their self-presentation through text-based, asynchronous communication. While interactions facilitated by SNSs are different from those in the original hyperpersonal model in many ways—namely that they usually occur between individuals who have a pre-existing offline relationship, involve a wider range of cues, and include both synchronous and asynchronous communication—users still engage in selective self-presentation in a variety of ways. For example, Zhao, Grasmuck, and Martin (2008) found that Facebook self-presentations reflect a

highly sociable version of the self, while Strano (2008) found differences in content and frequency of photo posting across age and gender.

A number of studies have focused on self-presentation via the disclosures individuals make in their SNS profiles, which include a number of static information fields. Nosko, Wood, and Molema (2010) found that Facebook users disclose highly personal, sensitive, and potentially stigmatizing information through their profiles. Krasnova, Spiekermann, Koroleva, and Hildebrand (2010) suggest that users make these disclosures in large part because SNSs' technical features simplify the process of maintaining existing relationships. Both Krasnova et al. (2010) and Stutzman, Capra, and Thompson (2011) found that privacy attitudes impacted self-disclosures, such that concerns about privacy-based threats led to fewer profile-based disclosures on SNSs.

The present research focuses on the most visible form of self-presentation on SNSs: self-disclosures made through public communication channels (i.e., status updates), which are the most likely to be visible to users' entire network. Wheelless and Grotz (1976) define self-disclosures as "any message about the self that a person communicates with another . . . the process of self-disclosure is the process of communication, through self-disclosive messages" (p. 338). Therefore, self-disclosures are an essential component of relationship maintenance.

Audience and Networked Publics

As noted by Goffman (1959), a key component in any performance is one's audience, with the most important audience characteristic being its relationship to the individual. In an offline setting, the audience is typically visible, if not completely known, and individuals may adapt their self-presentation to a given audience. Online, however, audience composition is not always as clear. While some forms of CMC provide relatively clear boundaries—such as the one-to-one communication of an instant message—social media are typically characterized by one-to-many communication, often with invisible audiences (e.g., lurkers). Boyd (2008) discusses three dynamics—invisible audiences, context collapse, and blurring of public and private—that differentiate social media from more traditional interaction and shape users' experiences on these sites. These factors should be considered in light of their impact on users' self-presentation.

Invisible Audiences

One of the key features of self-disclosures made through SNSs that distinguish them from many offline interactions is that the audience is not always known. One's audience on an SNS is dependent on a number of factors. First, individuals with whom a user has established a "Friend" connection can typically see all content. Furthermore, depending on privacy settings, individuals beyond those formally

articulated as Friends may also be able to see content, such as when one posts to a public group or shares an update with Friends of Friends. Finally, Facebook's algorithm for displaying content may hide posts from the public News Feed of some Friends even when the individual has set distribution to everyone.

Context Collapse

As previously noted, individuals' self-presentation strategies vary based on the audience for whom they are performing. Variations in self-presentation range from minor (e.g., small changes in vocabulary) to significant (e.g., political or religious opinions). As noted by boyd (2008), the technical features of SNSs obfuscate temporal, spatial, and social boundaries that enable individuals to keep various audiences separate. Instead, these audiences are flattened into one homogenous group. Furthermore, site structure encourages public, one-to-many forms of communication over more individualized interactions, making it difficult to maintain distinct self-presentations for different audiences. Looking at potential problems arising from context collapse, Binder, Howes, and Sutcliffe (2009) found that increasing diversity in users' Facebook networks led to increased online tension. They argued that the lack of audience segmentation on sites like Facebook led to problematic overlapping of different audiences.

Blurring of Public and Private

In addition to difficulties in determining the audience for one's disclosures on an SNS, problems may arise due to the blurring of public and private spheres. For example, Houghton and Joinson (2010) documented a number of privacy violations Facebook users experienced, many resulting from private information being shared publicly. Vitak and Ellison (in press) found that concerns about the public nature of disclosures led some Facebook users to make virtually no disclosures through the site, even through private channels. Use of privacy settings may also impact disclosures. Stutzman et al. (2011) found that students who used Facebook's privacy features reported more identity- and contact-based disclosures than those who had not, while Brandtzaeg, Lüders, and Skjetne's (2010) found that Facebook users were self-aware of the public nature of the site, and that having a large number of Friends led users to make fewer and less intimate disclosures because of privacy-related concerns.

A number of strategies can be employed to deal with problems related to these features. At one end of the spectrum, Marwick and boyd (2011) suggest users treat public channels as if they were more private: "We may understand that the Twitter or Facebook audience is potentially limitless, but we often act as if it were bounded" (p. 115). In other words, individuals may have specific people in mind for a given piece of content, but still distribute it to their entire network. At the other end, users

may apply a lowest common denominator strategy; Hogan (2010) describes the lowest common denominator as individuals for whom a message is not intended but would receive the message nonetheless. If any of these individuals would find the message problematic, it should not be posted.

Both of these disclosure strategies can be described in terms of costs to the user. Sites such as Facebook provide a low-cost mechanism through which individuals can maintain a large network of ties. Public channels such as status updates provide the quickest method through which one can distribute messages to a wide audience and therefore may be more likely to be used even when the message is only relevant to a subset of Friends. There are significantly more costs—both in terms of time and knowledge of the site’s features—to segregate distribution to specific individuals or groups, especially if the intended audience is not clearly defined. In addition, users may not be well-versed in the intricacies of privacy settings or unwilling to take the time to change settings from the default. Therefore, distributing content to one’s entire network appears to carry a lower cost in terms of time, knowledge, and skills; however, such strategies may negatively impact relationships on the site, especially if the majority of posts are relevant to a minority of Friends. On the other hand, while individuals choosing a lowest common denominator approach may avoid alienating Friends with irrelevant content, they may also miss the benefits derived from interactions with all members of their networks. These outcomes are discussed below.

SNSs and Social Capital Accrual

SNSs aid in the accrual of social capital, or the benefits derived from interaction with members of one’s social network. Research has shown that SNSs are particularly well-suited for the accrual of bridging social capital (Ellison et al., 2007, 2011a; Ellison, Vitak, Lampe, Gray, & Brooks, 2011), which characteristically exists in large, heterogeneous networks of loosely connected individuals and relates to the ability to gain access to novel information and diverse world views. For example, Hampton and colleagues (2011a, 2011b) have found that SNS users have more diverse networks than non-users.

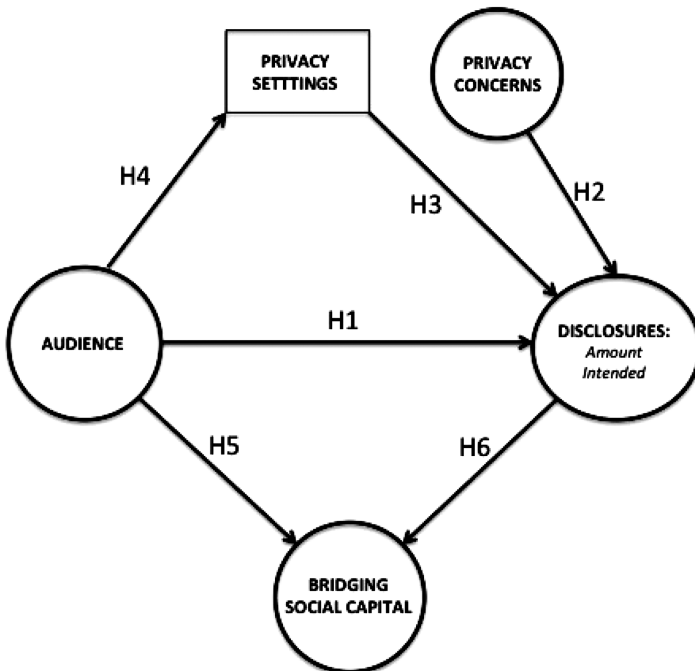
Due to the relationship between tie strength and social capital, one’s audience on an SNS should have a strong impact on bridging outcomes. For example, previous research has established a positive relationship between both total Friend count (Burke et al., 2010) and the number of “actual” friends on Facebook (Ellison et al., 2011a) and bridging social capital. However, the relationship between disclosures and social capital is less clear. For example, Burke et al. (2011) found that broadcasting updates and bridging social capital were unrelated, which may be because even when they have a large network, users only actively engage with a small percentage of them (Facebook Data Team, 2009). However, more directed forms of communication have been positively linked to bridging social capital (Burke et al., 2011; Ellison et al., 2011b).

Proposing a Model of Audience, Disclosures, Privacy, and Social Capital

Drawing on previous research on selective self-presentation—and especially the role that audience plays in determining performance—the present research focuses on the impact of context collapse on Facebook users’ disclosures and, subsequently, their perceptions of bridging social capital resources in their network. See Figure 1 for the proposed model.

As noted above, individuals tend to match their self-presentations to the individual or group with whom they are currently interacting. Boyd (2008) argues that networked publics such as SNSs are different from traditional publics in that context collapse is more likely, which makes differentiated and strategic self-presentations more difficult. In this way, audience composition may impact individuals’ disclosure process in these spaces. For example, Hogan (2010) suggests that users may deal with context collapse by only sharing information appropriate for all Friends. Following this logic, people with large and diverse Friend networks may make fewer disclosures than those with smaller, more homogeneous networks. Furthermore,

Figure 1
Proposed SEM Model



they may spend more time constructing disclosures in order to ensure no one group or individual is offended by a message.

H₁: As users' Facebook Friend networks become larger and more diverse, their disclosures will be (a) less frequent and (b) more consciously intended.

Privacy plays an important role in SNS use, especially when considering the dissemination of personal and potentially sensitive information via public or semi-public channels. Altman (1975) defines privacy as "the selective control of access to the self" (p. 24) and argues that individuals achieve privacy by regulating their social interactions. Many researchers have considered the relationship between privacy settings, privacy concerns, and disclosures on SNSs. Recent research (e.g., Krasnova et al., 2010; Stutzman et al., 2011) has found that users' SNS disclosures are generally in line with their privacy concerns and behaviors. These studies focused on the static information users provide when setting up their profile. When considering the more public nature of status updates, privacy concerns should also impact the frequency and conscious intension of those disclosures.

H₂: As users' privacy concerns increase, their disclosures will be (a) less frequent and (b) more consciously intended.

In addition to their findings regarding privacy concerns, Stutzman et al. (2011) also found that Facebook users who employed privacy settings revealed more personal information in their profiles. Facebook provides users with a highly customizable set of privacy features. For example, Friend Lists allow users to meaningfully organize Friends into categories and target specific audiences with individual posts, which may serve as a strategy to mitigate problems arising from context collapse. In this way, individuals who use Friend Lists may feel they have more control over their self-presentation, which may increase the amount and decrease the conscious intension of disclosures.

H₃: Users employing Friend Lists to segregate their audiences will make (a) more frequent and (b) less consciously intended disclosures.

While many researchers have studied the relationship between privacy and disclosures on SNSs, few have considered how network composition relates to user privacy settings. For example, a Facebook user with a small network comprised primarily of close friends may feel less compelled to use the site's advanced privacy features than a user with a large network comprised of numerous audiences and relationship strengths. Ellison et al. (2011c) found that Facebook users who employed advanced privacy features reported more Friends on the site, which they suggested could be because users with larger networks feel compelled to organize Friends in some way.

H₄: Network size and diversity is positively associated with use of Friend Lists.

Finally, it is important to consider how audience and disclosure characteristics relate to perceptions of social capital. Social capital researchers argue that network structure is highly correlated to the types of resources available from that network (e.g., Burt, 2005). For example, large, loosely connected networks are associated with bridging social capital (Putnam, 2000). Research by Hampton et al. (2011a) empirically demonstrates that higher diversity in one's social network is associated with access to novel information, a key construct of bridging social capital.

H₅: As users' Facebook Friend networks become larger and more diverse, they will report higher perceived bridging social capital.

As previously noted, the relationship between public disclosures and social capital is far from clear. Burke et al. (2011) found that while directed communication predicted bridging, broadcasting updates to one's network did not. However, the authors note that public broadcasts can serve a relationship maintenance role by serving as a form of "small talk," providing Friends with superficial information about each other that can keep them feeling connected at a distance. Similarly, Tong and Walther (2011) suggest that SNSs' interaction features serve a relationship maintenance function by allowing the "passing of virtual tokens among relational partners and may function as a (asynchronous) shared activity" (p. 105). Recently, researchers have suggested that in order to reap the benefits associated with interactions with one's social network, individuals must first be willing to disclose their needs (Ellison et al., 2010, 2011c). Therefore:

H₆: As the (a) amount and (b) conscious intention of disclosures increase, perceptions of bridging social capital will increase.

Method

A random sample of 2000 American graduate students (master's and Ph.D.) at a large, US-based Midwestern university was invited, via email, to participate in an online survey about their use of online communication tools in April 2011. Participants were also invited to provide an email address to be entered into a raffle for one of 15 \$25 Amazon gift certificates. From this sample, 486 people completed the survey; 84% of participants ($N = 392$) were Facebook users. Twenty-eight cases were deleted due to missing data; among this sample (364 Facebook users), participants were generally female (65%), White (87%), master's students (56%), and 30 years old ($SD = 7.75$ years).

Measures

Unless otherwise noted, all scale items were measured on 5-point, Likert-type scales with response options ranging from *Strongly Disagree* to *Strongly Agree*.

Audience.

Individuals may perceive their audience on a number of different levels. At its most basic, one's audience on an SNS is the number of connections articulated in the system, i.e., a user's "Facebook Friends." To capture this data point, participants were asked the open-ended question, "Approximately how many TOTAL Facebook Friends do you have?" Participants reported, on average, 363 Friends (median = 300, $SD = 298$).

While this commonly used measure provides a basic understanding of users' audience on SNSs, it does not take into consideration the different contexts each Friend falls into, which may have a significant impact on both content and frequency of disclosures as well as perceptions of access to information-based resources. Therefore, three additional measures were computed. First, drawing on research by Binder et al. (2009), participants were asked if individuals from 14 categories were represented in their Facebook Friend network. *Total Audience* was calculated by creating an index of these groups ($M = 7.18$, $SD = 2.00$, range = 2–13). Next, the 14 groups were collapsed into 6 categories representing different contexts. *Audience Diversity*, calculated as an index of these six categories ($M = 3.51$, $SD = 1.02$, range = 1–6). For the categories included in these measures and frequency statistics, see Table 1.

The final audience measure acknowledges the important role that relational closeness plays in one's perceptions of access to resources. Participants estimated the number of Friends who fell into four categories of closeness, represented through pictures of overlapping circles for the self and other, with greater overlap indicating greater closeness (Inclusion of Other in Self Scale; see Aron, Aron, & Smollan, 1992). *Tie Strength* ($M = 0.52$, $SD = 0.24$) was calculated by dividing the number of Friends reported in the outermost circle (i.e., weak ties) by the total number of Friends reported. Tie strength is somewhat independent of relationship categorization (e.g., a coworker can be either a close or distant connection) and provides additional depth to the audience measure.

Disclosures.

Facebook contains numerous communication channels through which users can share content with individuals, groups, or their entire network. Status updates are the most common method for sharing information with one's network, with 44% of American SNS users updating their status at least once a week (Hampton et al., 2011a). These types of posts serve as a form of relational maintenance (Tong & Walther, 2010) by enabling users to share information about their day-to-day activities, ask questions, and request support.

Table 1
Items and Frequencies for Two Audience Measures (N = 364)

Category	Total Number of Audiences		Audience Diversity	
	% Having Category in Network	# of Friends in this Category	Category	% Having Category in Network
Family	97%	<i>M</i> = 16.54, <i>SD</i> = 13.61	Family	97%
MSU classmates	84%	<i>M</i> = 45.98, <i>SD</i> = 84.50		
Previously attended grad school classmates	22%	<i>M</i> = 23.20, <i>SD</i> = 32.81	Classmates <i>MSU</i>	99%
Undergraduate classmates	85%	<i>M</i> = 101.71; <i>SD</i> = 127.46	<i>Previous Grad</i> <i>Undergraduate</i> <i>High school</i>	
High school classmates	93%	<i>M</i> = 69.09, <i>SD</i> = 68.32		
Coworkers (previous or current)	74%	<i>M</i> = 24.51, <i>SD</i> = 30.84	Coworkers	74%
MSU Faculty	29%	<i>M</i> = 6.23, <i>SD</i> = 7.17		
(For TAs/instructors): Currently taught students	7%	n/a		
(For TAs/instructors): Previously taught students	25%	n/a	MSU faculty	29%
Other academics	29%	n/a	Students <i>Currently taught</i> <i>Previously taught</i>	25%
Childhood friends	63%	n/a		
Members of religious organization	27%	n/a	Religious	27%
Friends of Friends	63%	n/a		
Facebook-only Friends	18%	n/a		
TOTALS		<i>M</i> = 7.18, <i>SD</i> = 2.00		<i>M</i> = 3.51, <i>SD</i> = 1.02

To capture the multidimensional nature of disclosures, Wheeless and Grotz' (1976) General Disclosiveness Scale was employed. Participants were instructed to "think about the updates you post that go to everyone in your Facebook Friend network" when responding to the items, so that the focus would be on publicly broadcast messages rather than private messages sent through the system. For this analysis, two of the subscales were used. *Amount* ($\alpha = .687, M = 2.37, SD = 0.852$) included three items (e.g., "I often discuss my feelings about myself on Facebook"). *Intended Disclosure* ($\alpha = .772, M = 3.95, SD = 0.586$) included four items (e.g.,

“When I am self-disclosing on Facebook, I am consciously aware of what I am revealing”).

Bridging Social Capital.

The instrument included a modified version of Williams’ (2006) 10-item bridging social capital scale, which was developed to capture four criteria outlined by Putnam (2000): outward looking, contact with a broad range of people, viewing oneself as part of a broader group, and generalized reciprocity. In line with recent research (Ellison et al., 2011b), instructions directed participants to think about their interactions (both on- and offline) with members of their Facebook network when responding to the questions. While the 10-item scale proved to be highly reliable ($\alpha = .880$, $M = 3.23$, $SD = 0.670$), confirmatory factor analysis led to removal of three items, which improved the model fit to an acceptable range, $\chi^2(10) = 17.478$, $p < .05$; RMSEA = .045; CFI = .994. This seven-item measure ($\alpha = .878$, $M = 3.53$, $SD = 0.744$) was used in all analyses. Sample items include: “Interacting with people in my Facebook network makes me want to try new things” and “Interacting with people in my Facebook network makes me feel like part of a larger community.”

Privacy.

Privacy was measured in terms of privacy settings and concerns about various privacy-related threats. The present analysis includes one settings-based behavior: using the Friend List feature (“Have you created Friend Lists’ so you can post updates just to a subset of your Facebook Friends?”), which 17% of participants reported using. Compared with other privacy settings measures, use of Friend Lists represents a form of audience segmentation, which may help mitigate the effects of context collapse.

The instrument also included 10 items related to privacy concerns users may have when sharing information over SNSs. The present analysis includes one of three factors that emerged from exploratory factor analysis—Posting Concerns ($\alpha = .800$, $M = 3.23$, $SD = .976$)—which included three items capturing users’ concerns related to sharing information through the site (“I am careful in what I post to Facebook because I worry about people who are not my Friends seeing it,” “Concerns about the privacy of content posted to Facebook keep me from posting frequently,” and “Concerns about the privacy of content posted to Facebook keep me from posting personal information”).

Data Analysis

Missing data analysis was conducted for each variable separately, and individual cases were deleted when more than 30% of items included in a given measure were missing. In total, 28 of 392 cases were deleted. For the remaining dataset,

Table 2
Pearson Product Moment Correlation Coefficients (N = 364)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Disclosures: Intended	1								
2. Disclosures: Amount	.023	1							
3. Friend Lists	.133*	.076	1						
4. Posting Concerns	-.058	-.207**	.061	1					
5. Total Friends	.117*	.137**	.152**	-.010	1				
6. Total Audience	.128*	.167**	.140**	-.009	.298**	1			
7. Audience Diversity	.112*	.114*	.114*	-.073	.197**	.741**	1		
8. Tie Strength	-.102	-.081	-.002	-.054	.121*	.091	.079	1	
9. Bridging SC	.275**	.247**	.046	-.046	.222**	.181**	.181**	-.034	1

Note. * $p < .05$; ** $p < .01$.

missing cases accounted for less than 1% of total cases in each variable and were replaced using single random regression imputation. Latent variables were created for all variables except for privacy settings, which was treated as a dichotomous manifest variable. Separate models were run for each of the disclosures variables. Correlations for all variables are listed in Table 2. Path models were tested using AMOS version 19 (Arbuckle, 2010). Goodness of fit was determined by applying Hu and Bentler's (1999) criteria, which states that comparative fit indices (CFI) over .95 and RMSEA values below .06 indicate a good fit between hypothesized models and observed data.

Findings

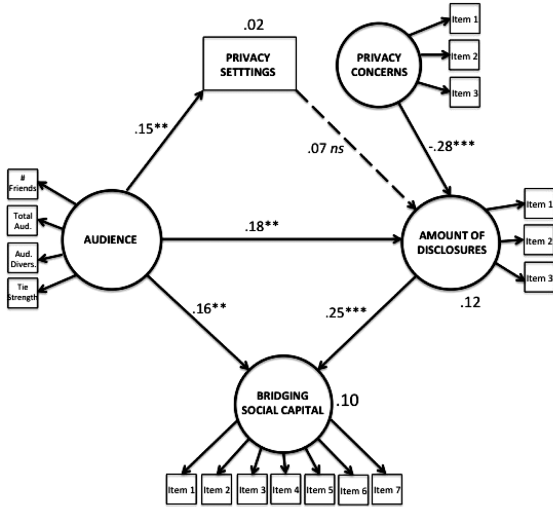
Amount

The first model tested the relationship between bridging social capital, audience, privacy, and the amount of disclosures users make through the site. The model was a good fit to the data, $\chi^2(126) = 204.623$, $p < .001$, CFI = .965, RMSEA = .041. Audience positively predicted the amount of disclosures ($\beta = .181$, $p < .01$), which was opposite of the direction predicted by H_{1a}. However, privacy concerns negatively predicted disclosure amount ($\beta = -.276$, $p < .001$), supporting H_{2a}. Using the Friend List feature had no relationship to disclosure amount ($\beta = .073$, $p > .05$), providing no support for H_{3a}, but it was positively predicted by Audience ($\beta = .145$, $p < .01$), supporting H₄. Both audience ($\beta = .158$, $p < .01$) and disclosure amount ($\beta = .247$, $p < .001$) predicted bridging social capital, supporting H₅ and H_{6a}. See Figure 2 for the path model and standardized estimates. Overall, the model explained 12% of the variance in disclosure amount and 10% of the variance in bridging social capital.

Intended Disclosure

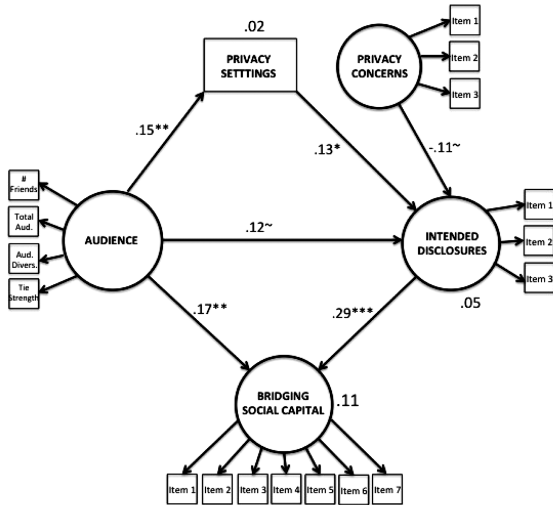
The second model replaced disclosure amount with conscious intention of disclosures. The model fit well to the data, $\chi^2(143) = 212.01$, $p < .001$, CFI = .971, RMSEA = .036. Audience trended toward significance predicting Intended Disclosures ($\beta = .116$, $p = .06$), providing initial support for H_{1b}. Privacy Concerns trended toward significance predicting Intended Disclosures ($\beta = -.105$, $p = .096$), but in the opposite direction as predicted, providing no support for H_{2b}. Likewise, the path between Friend Lists and Intended Disclosures was significant ($\beta = .133$, $p < .05$), but in the opposite direction as predicted; therefore H_{3b} was not supported. As with the previous model, audience positively predicted use of Friend Lists ($\beta = .147$, $p < .01$), supporting H₄. Both Audience ($\beta = .170$, $p < .01$) and Intended Disclosures ($\beta = .290$, $p < .001$) positively predicted bridging social capital, providing support for H₅ and H_{6b}. See Figure 3 for the path model

Figure 2
SEM Predicting Disclosure Amount and Bridging Social Capital



Note. Standardized coefficients are reported.
* $p < .05$; ** $p < .01$; *** $p < .001$.

Figure 3
SEM Predicting Intended Disclosures and Bridging Social Capital



Note. Standardized coefficients are reported.
~ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

and standardized estimates. This model explained 5% of the variance in conscious intention and 13% of the variance in bridging social capital.

Discussion

The present study explores the impact of context collapse—a concept that describes the increasingly common occurrence in online environments of centrally locating multiple diverse audiences—on SNS users' self-presentation. Context collapse may be beneficial for users who want to take advantage of SNSs' communication features to quickly and easily broadcast content and interact with a wide range of people. As has been argued by numerous social capital researchers, weak and bridging ties are important for gaining access to non-redundant information such as job recommendations (Burt, 2005). When contexts collapse on SNSs, connections and networks become more visible, and SNSs' technical features enable Friends of Friends to interact, which may enable the forging of new ties or filling information-based needs.

On the other hand, context collapse makes it more difficult for individuals to vary self-presentation by audience. As noted by Goffman (1959), Leary (1995), and others, individuals present different versions of the self based on their audience and tailor self-presentations to the perceived values and preferences of their interaction partners. On SNSs, users may be unaware of their full audience for a given disclosure. The process of "performing" is complicated by large and diverse sets of Friends (Binder et al., 2009), invisible audiences (boyd, 2008), and privacy settings (Stutzman et al., 2011), which can be used to make content visible to audiences outside of one's articulated network or restrict content access to specific individuals or groups.

Facebook contains a number of features through which individuals can engage in somewhat varied performances. However, when compared with posting status updates to one's entire network, using these features requires a greater investment in both time and knowledge. When faced with these barriers to segmenting content to different audiences, users may instead choose to restrict content-sharing to posts they are comfortable sharing with *all* audiences, a process Hogan (2010) has referred to as the lowest common denominator approach.

The present study expands on previous research by dissecting Facebook users' networks and exploring how network composition impacts their public disclosures on the site. If users engage in a lowest common denominator approach, one could argue that disclosures would decrease in frequency and increase in conscious intention. In this analysis, intended disclosures were positively correlated with audience; however, contrary to the hypothesis, increased diversity and size of audience led to *increases* in the amount of disclosures.

Why could this be happening? The amount of disclosures increasing with network size and diversity may simply be attributed to the fact that more people in one's network leads to more opportunities for sharing information and interacting with

that network. A larger network also likely includes a greater number of distant ties for whom Facebook is the primary (or only) source of interaction. One of Facebook's greatest benefits is the ability to maintain a larger number of relationships than would otherwise be possible—what Donath (2007) refers to as “social supernets.” While Facebook users only interact with a small percentage of their network on a regular basis (Facebook Data Team, 2009), these data suggest that disclosures increase with network size and diversity, which contrasts the lowest common denominator strategy.

Simply examining audience and disclosures on Facebook provides an incomplete picture. As has been argued previously (Ellison et al., 2011c), the role of privacy must be considered, as it relates to both of these variables. Facebook has made its privacy settings increasingly granular over time, which serves as a double-edged sword to users: the increasing complexity gives users more control over what content they can share with whom, but the additional settings may appear overwhelming and confusing to the average user. Furthermore, Facebook's focus on open sharing—as demonstrated by the site's “recommended” privacy settings and communication features that push public sharing of content—may have counteracted the benefits of increased control by increasing users' privacy concerns.

Teasing out the relationship between these variables is far from simple. First, when considering the relationship between privacy and disclosures, the models show that privacy concerns were negatively related to the amount of disclosures made; in other words, as individuals' concerns related to sharing content on Facebook increased, they posted less often. This finding is generally in line with previous research (Stutzman et al., 2011), which found that increased privacy concerns led to sharing less information via the profile. However, contrary to Stutzman et al. (2011), only conscious intention was related to use of the Friend Lists feature; Facebook users who segmented their Friends into groups to enable more tailored disclosures were more intentional in making those disclosures than users who did not employ this advanced privacy feature. One potential reason for this finding is that people who use Friend Lists may be spending more time thinking about the most appropriate audience(s) for a given status update.

As noted above, using these advanced features requires a greater investment by the user. At the same time, these features may allow users to recreate some of the boundaries between audiences that exist in more traditional communication spaces. A post-hoc analysis of individuals who reported using Friend Lists ($N = 66$) using one-sample t-tests found that updates sent just to users' Friend Lists were significantly more honest ($t(65) = 5.18, p < .001; M = 3.56, SD = 0.887$), intimate ($t(64) = 4.10, p < .001; M = 3.43, SD = 0.847$), detailed ($t(64) = 3.77, p < .001, M = 3.38, SD = 0.823$), and sincere ($t(61) = 4.61, p < .001; M = 3.40, SD = 0.689$), when compared to a neutral midpoint (i.e., “about the same” as other posts). Further supporting this finding, Audience positively predicted use of Friend Lists in both models; in other words, as the size and diversity of users' networks increased, they were more likely to use Friend Lists. Together, these findings suggest that Friend Lists may help mitigate the problems of large networks of disparate audiences.

Finally, it is important to consider the bigger picture of SNS use. Whether users implicitly or explicitly intend to do so, the process of making self-disclosures and interacting with members of their network serves a relational maintenance purpose (Tong & Walther, 2011) and provides access to numerous resources (Burke et al., 2011; Ellison et al., 2011b). Research has established a relationship between various uses of Facebook and social capital, including basic measures of network composition. As Facebook continues to grow and the user base becomes more diverse, however, we must move beyond simple counts of Friends and consider how those ties are related to the individual, as different groups of people can provide access to different types of resources.

The present study provides a first step in developing a more complex measure of audience. In addition to measuring users' total Friend count, three new measures were developed. First, participants were asked whether individuals from 14 categories were present in their Facebook network, including current and previous classmates, coworkers, faculty, and family. Two measures emerged from these data: a cumulative index measuring the total number of audiences, and a second index measuring the diversity of audiences within one's network. These measures help to capture the extent to which context collapse exists in an individual's network. The third measure, Tie Strength, asked participants to estimate the number of Facebook Friends who fell into four levels of relational closeness. The proportion of strong versus weak ties in one's network may serve as a proxy for network density; dense networks are characterized by a large number of closely related individuals and would potentially have an impact on both individuals' disclosures in a network as well as their perceptions of access to various resources. As several researchers have noted (e.g., Burt, 2005; Granovetter, 1973), loosely connected networks of weak ties are most likely to provide individuals with bridging social capital resources.

As hypothesized, Audience positively predicted bridging social capital in both models. This finding is consistent with previous research using simpler measures of network composition (Burke et al., 2010; Ellison et al., 2007, 2011a). The relationship between disclosures and social capital is less clear. Burke et al. (2011) found that "broadcasting," a measure which counted status updates, notes written, photos shared, and other items posted to the user's wall (by the user) was unrelated to perceptions of bridging social capital. In the present research, significant positive relationships were found between the two disclosure measures and bridging social capital, with the impact of disclosures on social capital being stronger than the impact of audience. This suggests that it is not just who you are connected to, but the characteristics of the content you publicly share with that network that impact your perceptions of access to resources. A recent study by Ellison et al. (2011b) found that specific behaviors that signal investment in one's network (e.g., responding to a Friend's request or writing "happy birthday" on a Friend's wall) were highly correlated with perceptions of bridging social capital. Disclosures may serve as a way of signaling presence in a network that provide network members with potentially relevant information and encourage social interaction, either on Facebook (e.g., through comments) or through alternate channels.

Limitations

As with any cross-sectional data, this study is limited in its ability to establish causal relationships between variables. Future research should employ alternate research methods (e.g., experiments, longitudinal data) that can help to establish whether social capital is the cause or outcome of the variables included in this study, as well as continue to develop measures to examine tie strength and diversity within SNS users' networks. In addition, while this study attempted to move beyond traditional sampling using undergraduates by sampling graduate students—who are older are likely to have more diverse networks—these findings are still not generalizable to the larger population of Facebook users. Future studies should test how these variables interact among other populations of users, as well as explore engagement on other SNSs, which may have different features and norms of use.

Conclusion

Facebook has grown tremendously since its early days as an exclusive, college student-only Web site to one that connects individuals to people from all aspects of their lives. This change to the site's structure has had an enormous impact on users, ranging from their network composition to the content they share. The present study contributes to our understanding of how individuals engage with—and potentially benefit from—their use of SNSs in a number of ways. First, it fills a gap in the literature by developing measures to more accurately capture the diversity of online social networks, an important component of context collapse. Next, it moves beyond simple counts of completed profile fields when considering disclosures and examines multiple dimensions of users' public disclosures via status updates, establishing a relationship between users' network composition, privacy settings/concerns, and two characteristics of their public updates. Contrary to previous research employing counts of disclosures (e.g., Burke et al.'s, 2011 "broadcasting" measure), the present research suggests that specific qualities of one's disclosures on Facebook are positively related to their perceptions of social capital; namely, as the frequency and conscious intention of users' status updates increase, so too do their perceptions of bridging resources.

What impact does context collapse have on the ways users engage through SNSs? This study provides preliminary evidence that, contrary to Hogan's (2010) lowest common denominator approach, users do not sterilize their accounts as their networks grow and diversify. In this study, a minority of users (17%) took advantage of Facebook's Friend List feature and tailored individual posts to subsets of their network; however, this number may rise with Facebook's recent implementation of the "Smart Lists" feature—and competition from similar services such as Google Plus. Additional research should examine how users navigate these features to obtain various types of resources from their network.

SNSs such as Facebook provide users with meaningful ways to connect with, maintain, and enhance relationships. For many of these “Friends,” the site is the primary method through which to stay connected; therefore, being actively engaged in the site is an essential component to relationship maintenance. When thinking of the benefits associated with use of SNSs, it is clear that both audience composition and disclosure characteristics matter. While context collapse may be inevitable on these sites, the inclusion of privacy features that aid in segmenting audiences and restoring some control over self-presentation helps mitigate potential negative outcomes associated with managing a large and diverse set of connections in a central location.

References

- Altman, I. (1975). *The environment and social behavior*. Belmont, CA: Wadsworth.
- Arbuckle, J. L. (2010). Amos (version 19.0) [Computer Program]. Chicago, IL: SPSS.
- Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of Other in the Self Scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, *63*, 596–612. doi: 10.1037/0022-3514.63.4.596
- Binder, H., Howes, A., & Sutcliffe, A. (2009). The problem of conflicting social spheres: Effects of network structure on experienced tension in social network sites. In *Proceedings of ACM CHI 2009* (pp. 965–974). New York, NY: ACM.
- boyd, d. (2008). *Taken out of context: American teen sociality in networked publics*. Doctoral dissertation, University of California, Berkeley.
- Brandtzæg, P. B., Lüders, M., & Skjetne, J. H. (2010). Too many Facebook “friends”? Content sharing and sociability versus the need for privacy in social network sites. *International Journal of Human-Computer Interaction*, *26*, 1006–1030.
- Burke, M., Kraut, R., & Marlow, C. (2011). Social capital on Facebook: Differentiating uses and users. In *Proceedings of ACM CHI 2011* (pp. 571–580). New York, NY: ACM.
- Burke, M., Marlow, C., & Lento, T. (2010). Social network activity and social well-being. In *Proceedings of ACM CHI 2010* (pp. 1909–1912). New York, NY: ACM.
- Burt R. S. (2005). *Brokerage and closure: An introduction to social capital*. Oxford, UK: Oxford University Press.
- Donath, J. S. (2007). Signals in social supernets. *Journal of Computer-Mediated Communication*, *13*, 231–251.
- Ellison, N., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook “friends”: Exploring the relationship between college students’ use of online social networks and social capital. *Journal of Computer-Mediated Communication*, *12*, 1143–1168.
- Ellison, N. B., Steinfield, C. & Lampe, C. (2011a). Connection strategies: Social capital implications of Facebook-enabled communication practices. *New Media & Society*, *13*, 873–892.
- Ellison, N., Vitak, J., Lampe, C., Gray, R., & Brooks, B. (2011b, September). *Cultivating social resources: The relationship between bridging social capital and Facebook use among adults*. Paper presented at “A Decade in Internet Time: Symposium on the Dynamics of the Internet and Society,” Oxford Internet Institute, Oxford, UK.
- Ellison, N., Vitak, J., Steinfield, C., Gray, R., & Lampe, C. (2011c). Negotiating privacy concerns and social capital needs in a social media environment. In S. Trepte & L. Reinecke (Eds.), *Privacy online: Perspectives on privacy and self-disclosure in the social web* (pp. 19–32). New York, NY: Springer.
- Facebook Data Team. (2009, March 9). *Maintained relationships on Facebook*. Retrieved from <http://www.facebook.com/notes/facebook-data-team/maintained-relationships-on-face-book/55257228858>

- Goffman, E. (1959) *The presentation of self in everyday life*. New York, NY: Anchor.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78, 1360–1480.
- Hampton, K., Goulet, L. S., Rainie, L., & Purcell, K. (2011a). Social networking sites and our lives. Washington, DC: *Pew Internet Project*.
- Hampton, K. N., Lee, C. J., & Her, E. J. (2011b). How new media affords network diversity: Direct and mediated access to social capital through participation in local social settings. *New Media & Society*, 13, 1031–1049.
- Hogan, B. (2010). The presentation of self in the age of social media: Distinguishing performances and exhibitions online. *Bulletin of Science, Technology & Society*, 30, 377–386.
- Houghton, D. J., & Joinson, A. N. (2010). Privacy, social network sites, and social relations. *Journal of Technology in Human Services*, 28, 74–94, Doi: 10.1080/15228831003770775
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1–55.
- Krasnova, H., Spiekermann, S., Koroleva, K., & Hildebrand, T. (2010). Online social networks: Why we disclose. *Journal of Information Technology*, 25, 109–125.
- Leary, M. R. (1995). *Self-presentation: Impression management and interpersonal behavior*. Madison, WI: Brown & Benchmark.
- Marwick, A. E., & boyd, d. (2011). I tweet honestly, I tweet passionately: Twitter users, context collapse, and the imagined audience. *New Media & Society*, 13, 114–133.
- Madden, M., & Zickhur, K. (2011). 65% of online adults use social networking sites. Washington, DC: *Pew Internet Project*.
- Nosko, A., Wood, E., & Molema, S. (2010). All about me: Disclosure in online social networking profiles: The case of FACEBOOK. *Computers in Human Behavior*, 26, 406–418.
- Putnam, R. (2000). *Bowling alone: The collapse and revival of American community*. New York, NY: Simon & Schuster.
- Schlenker, B. E. (1985). Identification and self-identification. In B. R. Schlenker (Ed.), *The self and social life* (pp. 65–99). New York, NY: McGraw-Hill College.
- Strano, M. (2008). User descriptions and interpretations of self-presentation through Facebook profile images. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 2(2).
- Stutzman, F., Capra, R., & Thompson, J. (2011). Factors mediating disclosure in social network sites. *Computers in Human Behavior*, 27, 590–598.
- Tong, S., & Walther, J. B. (2011). Relational maintenance and CMC. In K. B. Wright and L. M. Webb (Eds.), *Computer-mediated communication in personal relationships* (pp. 98–118). New York, NY: Peter Lang Publishing.
- Vitak, J., & Ellison, N. (in press). “There’s a network out there you might as well tap’’: Exploring the benefits of and barriers to exchanging informational and support-based resources on Facebook. *New Media & Society*.
- Walther, J. B. (1996). Computer-mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. *Communication Research*, 23, 3–43.
- Wheless, L. R., & Grotz, J. (1976). Conceptualization and measurement of reported self-disclosure. *Human Communication Research*, 2, 338–346.
- Williams, D. (2006). On and off the ‘Net: Scales for social capital in an online era. *Journal of Computer-Mediated Communication*, 11, 593–628.
- Zhao, S., Grasmuck, S., & Martin, J. (2008). Identity construction on Facebook: Digital empowerment in anchored relationships. *Computers in Human Behavior*, 24, 1816–1836.