Awkward Encounters of an "Other" Kind: Collective Self-Presentation and Face Threat on Facebook

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ABSTRACT

While we tend to think of self-presentation as a process executed by the self, reputation management on social network sites, like Facebook, is increasingly viewed as a collective endeavor. The information users share about one another can have significant impacts on impression formation, and at times this other-generated content may be face threatening, or challenging to one's desired self-presentation. However, we know little about the nature of these other-generated face threats and the ways that people perceive them. Using an online survey of 150 Facebook users, we report on what these users consider to be other-generated face threats and how they feel after experiencing them. Results suggest that many face threats result from other Facebook users neglecting or misunderstanding a target's audience and/or self-presentation goals, as well as a target's fear of creating an unwanted association with another Facebook user. Experience of these threats is affected by both individual and situational factors. We also report on a new unique measure capturing Facebook skills.

Author Keywords

Facebook; social media; audience; face; self-monitoring; face threats; privacy; skill; Facebook skills scale

ACM Classification Keywords

H.5.2 [Information Interfaces and Presentation]: User Interfaces - Interaction styles.

INTRODUCTION

As people increasingly share their life updates online, social network sites like Facebook have become online repositories of digital self-presentations. This requires vigilance about controlling access to information and active management of online presence through social strategies, like selectively posting content, in addition to technological strategies, like using privacy settings to restrict the visibility of content to certain audiences [28].

While these strategies can be effective for controlling access to content users post themselves, people often have trouble understanding their audience and privacy settings on social network sites [1, 3, 25, 27]. Recent work by Bernstein and colleagues [3], for example, shows that people significantly underestimate their audience for content they post on Facebook. If this is the case for people's own posts – where they are more likely to have some awareness of their potential audience and privacy settings – the effect could be even stronger for posts about or targeted at another individual (e.g., posts on another's Facebook profile or tagged photos).

Consider the example of Alex tagging a Facebook photo of Bill at a party. Facebook's interface provides Alex with little information about Bill's privacy settings including the visibility of tagged photos, or how many and which of Bill's Facebook friends might see the photo.

Despite the prevailing focus in the social network site literature on self-presentation as an individual act, people's identities are collectively constructed [18, 33, 41]. Audiences form impressions based on a combination of content and behavior produced by both the self and others [17, 18, 41, 42]. In some cases, content generated by others can carry more weight than self-generated content in the impression formation process [41].

While people generally aim to preserve each other's positive social identity and/or autonomy during social interactions [7], sometimes others intentionally or inadvertently produce a "face threat." That is, they say or do something disharmonious with one's self-presentation [13, 17]. On Facebook and other social network sites, face threats generated by others may play an outsized role in self-presentation because others posting content about an individual (the "target") may not care about or understand the target's audience or self-presentation goals.

Research in face-to-face (FtF) contexts has explored the face-threatening situations people encounter, and the individual and situational factors that affect people's ability to manage and recover from these situations [12,

31]. While scholars have explored face threats on social network sites, they have mainly focused on information that users regret sharing about themselves [37, 43]. Comparatively, little work has focused on face threats from content generated by others, even though this content also plays a role in online identity construction.

In this study, we draw on data from an online survey of Facebook users to explore other-generated face threats. We describe the types of situations that lead to perceptions of face threats, while highlighting factors that influence the perceived severity of these threats. Our results suggest that the majority of other-generated face-threatening situations occurred because other Facebook users did not take into account the target's collapsed audiences and revealed something that a particular audience member(s) should not have seen. We also find systematic differences in how people feel after experiencing an other-generated face-threatening encounter, with factors like users' perceived Facebook skills and audience composition influencing the severity of the perceived face threat.

BACKGROUND

To better understand the nature of face threats presented by others on Facebook and how they are experienced, we explore and classify the types and origins of face-threatening scenarios, and then measure how specific individual- and situation-level factors influence people's perceptions. In this paper, we use the term "post" to refer to any content generation behavior, including commenting on or liking existing content, linking to outside content (e.g., news story, video clip, etc.), and uploading and/or tagging a photo that is viewable or accessible to people other than the poster. We use "other-generated posts" to refer to posts that affect, but are not generated by, a particular user, whom we refer to as the "target" of the post.

Types of Face Threats on Social Network Sites

Self-presentation, or impression management, "refers to the process by which individuals attempt to control the impressions others form of them" [23: 34]. Individuals selectively disclose information and alter their behaviors depending on who is in the audience, often looking to others for confirmation [18].

Though we often think of self-presentation as being carried out by the self, managing personal information and identity is a collective process [33]. On social network sites like Facebook, others contribute to self-presentations through photos, comments, likes, and tags. Posts by other users can affect one's self-presentation, sometimes even more than one's own posts [41].

Generally people attempt to preserve the face of others by behaving in ways motivated by self- and mutual-respect [17]. Examples include respecting one another's privacy and abstaining from criticizing one another publicly [2].

Despite these prevailing norms, situations sometimes occur in which people's desired self-presentation is challenged. A face threat is a verbal or non-verbal communication act that challenges a person's desired self-presentation [13, 17]. Face threats can vary in their severity and consequences [33] and can be brought on by the self (e.g., spilling a drink at a party in front of others), or by others (e.g., one person mocking another) [13].

Past research on social network sites highlights how such environments may increase the frequency of face-threatening encounters [22, 28, 30, 37, 43], and how users engage in a variety of strategies to prevent and react to face-threatening acts, including use of their privacy settings to restrict content visibility, blocking people completely, and removing content they regret sharing [28, 35, 43]. We know less, however, about how other-generated Facebook posts influence the extent to which a user experiences and manages face threats on the site.

There are two primary reasons to believe that these threats may be perceived differently than those generated by the self. First, others tend to have less information about the potential audience for a post, so they may be more likely to misjudge who will see a post or what constitutes normatively acceptable behavior for a particular audience. Relatedly, others may have a less direct interest or may be less motivated to understand another's audience or present a consistently positive image of the target.

Second, studies have suggested that people's associations with certain others (e.g., those who are more attractive, etc.) can affect impression formation [42]. Thus, the actions of others might affect the target's self-presentation simply by creating an association between the target and other or between the target and the other's behavior. We therefore asked:

RQ1: What are the types of other-generated face-threatening situations people encounter on Facebook? How do others influence the target's self-presentation, and what is the nature of this influence?

Face Threat Severity

After encountering face threats, people experience a range of emotions including "self-conscious, awkward, discomforted, and exposed" feelings [31: 192]. Research on face threats in FtF settings, however, suggests that people's experience and reactions to face threats vary based on both individual differences as well as situation-level factors [13, 17]. To date we know little about how these translate on social network sites.

Individual Influences on Face Threat Severity

Based on past research in FtF settings, one factor likely to affect how people experience and cope with face-threatening situations is self-monitoring. Self-monitoring describes people's level of concern for abiding by social norms and their ability to modify their self-presentation accordingly [38]. High self-monitors are individuals who

strive to act in socially appropriate ways according to their perception of what their audience expects [38, 39]. Low self-monitors are more motivated by their internal thoughts and values and are less concerned with situational cues and expectations [38].

Given that high self-monitors are more attuned to their self-presentations, fitting in, and potential negative consequences of face threats, we predict they are likely to be less comfortable than low self-monitors in allowing elements of their self-presentation to be collectively constructed. We therefore predicted that:

H1: There will be a positive relationship between self-monitoring and perceived face threat severity; higher self-monitors will perceive other-generated posts as more face threatening.

While self-monitoring may be an important attribute, because of the audience and privacy challenges social network sites present to users [25, 29, 40], successful self-presentation in these spaces requires technological skills in addition to social skills [19, 25]. In FtF settings a person may be able to get through a face-threatening situation by social adroitness alone [36, 38], but the same embarrassing situation on a social network site may escalate unless the person has additional skills to manage the situation [5, 21]. While Internet skills have traditionally been linked with people's positive and negative experiences online [14], as people increasingly engage in a more diverse array of activities online, users need additional skills reflective of these more nuanced activities. For example, successful self-presentation on Facebook requires knowledge and understanding of tools that allow one to post, edit, and remove content as well as alter privacy settings and control one's audience.

Both general Internet-related and Facebook-specific skills may play important roles in how people experience face-threatening encounters online. However, the relationship between these factors is hard to predict. On the one hand, higher Internet and Facebook skills may both lead to people feeling more face threat severity. People with higher Internet skills may react more strongly because they tend to have a better understanding of the way privacy functions online more generally, and they may have a better understanding of online self-presentations and the role that other-generated content can have during impression formation. Those with higher Facebook skills may also feel more face threat severity because they are more cognizant of their audience on Facebook, have more awareness of the way the site's algorithm functions, and have a better understanding of how many people might have witnessed the encounter.

On the other hand, people with higher Internet and Facebook skills may actually feel lower levels of face threat. Higher Internet skills may give users more working knowledge to remediate the situation regardless of their Facebook skills. For example, even if they don't know how to remove face-threatening content or alter their privacy settings, they may be more likely to know that these remedial solutions are even possible, or know how to search and find solutions. Likewise, higher Facebook skills, particularly those related to self-presentation, may mitigate the effects of a face-threatening situation because they offer users tangible Facebook-specific solutions.

However, it may actually be that the two skillsets function differently. For example, those with higher Internet skills may have a better conceptual understanding of face-threatening repercussions leading to more anxiety after a face-threatening post; while those with more nuanced Facebook skills may find the situation less severe because they can engage the remedial tools to manage the situation.

RQ2: How do perceived Internet skills impact how severely people perceive an other-generated face-threatening situation?

RQ3: How do perceived Facebook skills impact how severely people perceive an other-generated face-threatening situation?

Situational Influences on Face Threat Severity
Given the collective construction of self-presentation and identity, it is insufficient to examine only individual differences. We must also examine attributes of the situation, including the nature of the threat, the person generating the threat, and the potential audience.

One key attribute of the situation is whether the threat is perceived as deliberate or not. Goffman [17] identified a range of perceived intentions from *innocent mistakes,* where the person did not mean to embarrass the target, to *intentional offenses*, where the person deliberately aimed to embarrass the target.

As people perceive face threats by others as more intentional, we argue they will perceive them as more severe. This is because, while one might forgive or try to look past an inadvertent error, believing somebody was deliberately causing damage or embarrassment could cause pain or emotional harm [13]. We predicted:

H2: There will be a positive relationship between perceived intentionality and perceived severity of face threat; participants who think the other's actions were intentional will perceive the other-generated post as more face threatening.

Another factor linked with one's experience after a face-threatening act is closeness with the other [30, 34]. FtF studies have found that the frequency of face threats tends to be lower in closer relationships because close contacts know what makes one another tick [32], and they tend to be more aware of each others' self-presentation goals. As a result, people expect their close contacts to be more

sensitive to their self-presentation goals, particularly in public settings [2], including Facebook [8]. Furthermore, closer contacts' actions may carry more weight during impression formation because outsiders assume they know more about the individual. While face-threatening encounters may be less likely in close relationships with others, because of the high expectations embedded within close relationships and the potential weight their content may carry, when others produce face threats we hypothesize that:

H3: There will be a positive relationship between closeness to the other and perceived severity of face threat; participants who report being relationally closer to the other will perceive the other-generated post as more face threatening.

Audience influences on face threats
While prior literature on face threats has not explicitly discussed audience attributes, mediated environments like Facebook have brought these contextual factors to the fore. Research already finds that public face threats carry more weight and dissatisfaction than private ones [12], and face threats on social network sites are "public-by-default, private-through-effort" [6: 11].

Given that social media sites can make it difficult to segment one's audience [40], the size and diversity of one's audience may exacerbate how severe one perceives face threats to be when a faux pas occurs on these sites. For example, larger audiences may lead to more feelings of embarrassment because there are more eyes to witness the social faux pas. Similarly, an individual who experiences something embarrassing in front of a more diverse audience composed of co-workers, friends, and family members may experience the situation more severely than one who makes a faux pas visible only to friends.

H4: There will be a positive relationship between audience size and perceived severity of face threat; participants with larger contact lists will perceive the other-generated post as more face threatening.

H5: There will be a positive relationship between audience diversity and perceived severity of face threat; participants with more diversely configured contact lists will perceive the other-generated post as more face threatening.

METHOD

Participants and Procedure
Participants were recruited through flyers posted in a large Midwestern city near the lead author's university, from an online recruitment website at the second author's university, and from advertisements on Craigslist. Participants completed an anonymous online questionnaire (see Appendix for example items). As compensation, participants received a $5 gift card to their choice of Starbucks or Amazon. A total of 165 people completed the survey, but 15 of these cases were eliminated because they did not include a face threat, or did not provide usable data, resulting in N=150. Participants ranged in age from 18 to 85 (*M*=25, *SD*=9.2). They were racially diverse with just under half identifying as non-white. About three quarters (74%) were female; 61% were undergraduates and others included those working full or part time, graduate students, and those unemployed or unable to work.

Measures
General information is provided here about the study's measures. Scale items are included in the Appendix.

Face Threats and Impact
Participants were first asked via an open-response question to share a recent story about a face-threatening experience on Facebook. To measure severity of face threat, the dependent variable, participants then responded to seven 5-point Likert scale items (1= "strongly disagree" to 5= "strongly agree") developed for this study. Items included, for example, "I felt awkward" and "I felt it made me look bad." Items were averaged (Cronbach's α=0.8) to yield a severity score (*M*=3.9, *SD*=0.7).

Individual-Level Factors
Self-monitoring was measured using a scale by Lennox and Wolfe [24], which has been used in prior studies on social media [e.g., 10]. Using 13 5-point Likert scale items (same anchors as above), participants indicated agreement with items including, "I have the ability to control the way I come across to people depending on the impression I wish to give them." Items were averaged (Cronbach's α=0.8, *M*=3.7, *SD*=0.5).

To measure perceived Internet skills, we used Hargittai's [20] scale on which participants rate their familiarity with six computer- and Internet-related items, such as "PDF" and "Wiki," using a 5-point scale (1= "no understanding" to 5= "full understanding"). Items were averaged to give a composite perceived Internet skills score (Cronbach's α=0.9, *M*=3.4, *SD*=0.9).

To measure perceived Facebook skills, we created a similar but novel index in which participants rated their understanding of eight Facebook activities (e.g., untagging oneself from photos and limiting access to one's profile) with 5-point scales (same anchors). Inter-item reliability was high (Cronbach's α=0.9, *M*=4.4, *SD*=0.8) and an exploratory factor analysis revealed that all scale items loaded onto one factor, suggesting that the items (e.g., posting, editing, and removing content, as well as adjusting privacy settings) were all tapping a single dimension of Facebook skills (see Appendix).

Situation-Level Factors
To measure closeness with the "other," participants indicated how close they were on a 5-point scale anchored

by "no relationship at all" to "very close" (*M*=3.4, *SD*=1.2). For the other's perceived intentionality, participants indicated agreement (on a 5-point scale) with five statements, including "his/her actions were not meant to be harmful" (reverse coded) and "his/her actions were on purpose" (Cronbach's α= 0.8, *M*=2.6, *SD*=1.0).

We measured audience size and diversity using modified versions from [40] in which we asked participants about the size of their Facebook network (e.g., "About how many total Facebook friends do you have?" and "Do your Facebook friends include any of the following groups? Check ALL that apply," with choices indicating work, social, school, family, etc.).

Participants' reported Facebook network sizes ranged from five to 3,500, averaging 655.8 friends (*SD*=569.8). This included, on average, six different categories (e.g., friends, teachers/professors, people they didn't know; see Appendix for complete list). While we recognize these may not align with who is actually in the audience, we argue that it is the perception of their audience that matters for face-threatening experiences [25]

Analysis

To analyze the face threats participants provided, two judges independently coded participants' responses using an iteratively refined version of Miller's [31] coding scheme. After the final coding scheme was established, all data were recoded. Inter-rater reliability for types of face threats was acceptable (Cohen's kappa=.73) [16]. After discussing the discrepancies among the coders and authors, an independent judge knowledgeable with face-related literature settled the remaining discrepancies.

To evaluate our hypotheses, we ran an ordinary least squares (OLS) regression with severity of face threat as the dependent variable. We included three blocks of predictor variables in the model: (1) demographics, (2) individual-level, and (3) situation-level. All independent variables were tested for multicollinearity; tolerance values ranged from .71 to .98 and VIF values ranged from 1.02 to 1.50, indicating that multicollinearity is not a concern [11] (see Table 2).

RESULTS

Overall, people shared a range of stories from minor situations, such as friends posting photos in which the target looked unattractive, to crises with social and emotional consequences like trouble at school or work.

Types of Other-Generated Facebook Face Threats

To highlight the collective self-presentation process and others' influence on self-presentation (RQ1), we explore the face threat examples participants provided. Our results suggest four primary types of other-generated face threats: norm violations, ideal self-presentation violations, association effects, and aggregate effects (see Table 1 for more details on the categories and their frequencies).

Norm Violations

As Goffman [17] noted, behavioral norms are dependent on context and audience, and people use a range of cues to determine acceptable behavior. In the privacy of their own homes or in the company of close friends, for example, people may engage in behavior that would be considered inappropriate or counter-normative in public or with varying audiences.

While participants shared stories in which others had revealed their counter-normative public behavior (such as exposing the target hurting someone else or picking food out of their teeth), this only happened in a small percentage of stories submitted (6%), such as in the example below from a 22-year-old female:

I have a picture that was recently tagged to me on Facbeook [sic]. Unfortunately it is an unattractive picture where I am picking food out of my teeth. This is an embarrassing and unflattering picture that I would not like to be on spread across the internet.

The relative lack of stories regarding publicly inappropriate behavior is likely because politeness and pro-social behavior typically discourage exposing one another's private behavior. Instead, the overwhelming majority of norm violation stories submitted (39.3%) showcased others exposing the target engaged in behavior that was normatively acceptable to one sub-audience on Facebook, but counter-normative to another.

One attribute of Facebook that makes it particularly easy to present an inadvertent face threat is that the system provides few cues about the potential audience for a post, particularly those involving somebody else. While the targets may be aware of their privacy settings and the diversity of their friend networks, others are often not aware of these parameters when they post content involving the targets. This is particularly challenging for users who have diverse audiences spanning groups with varying norms or standards.

While the targets may have wanted to engage in selective self-presentation with these various audiences, or not even share the information on Facebook at all because of their audience diversity, others did not always take such collapsed audiences into account. This could be because they were unmotivated or unaware of these preferences and/or audiences. The content of these posts ranged from inadvertently sharing unflattering photos with the target's crush to exposing an individual's lie. As a 20-year-old female described:

I went to a concert with a friend. I had to miss a mandatory meeting to be there, so I blocked all the friends who were going to the meeting from my excited status abou [sic] the concert. The friend I was going with didn't know I wasn't supposed to be going so tagged me in a status saying I was at the venue. My meeting friends

found out and were super angry. If he didn't post his status, I wouldn't have gotten in trouble.

In another example, a 21-year-old female discussed a post by her boyfriend that she didn't want certain people to see:

I felt uncomfortable when my boyfriend posted an article about condoms on my facebook wall... my mom reads my Facebook, and I didn't want her to see that (even though she knows we are sexually active).

Many of these norm-violating stories involved alcohol. As one 20-year-old male shared:

Someone posted a picture of me at a party where I was obviously intoxicated. My friends and family are friends with me on facebook and probably wouldn't condone such behavior. Also, I don't want any future employers to see that image an [sic] get the wrong idea of who I am and what I do.

While being drunk at a party was normative for this young adult, the person worried about how his overall audience, which also included other friends, family, and potential future employers, might form negative impressions based on these behaviors.

These stories highlight how the risks around counter-normative social behavior are distributed differently on Facebook. Where poor judgment (and poor behavior) in FtF situations typically has negative consequences primarily for the person engaging in the behavior, poor judgment in posting content by others can have serious consequences for the target. That is, there is an asymmetry in consequences between poster and target. This is true in cases where the target is acting acceptably in context (such as merely attending a concert, as in the example above, where others might reasonably not know that the behavior is intended to be protected from certain audience members) and for those where the target might more clearly expect others present to protect his/her privacy (as in the teeth-picking example, where revealing the behavior is likely embarrassing in most audiences).

Ideal Self-Presentation Violations

While self-presentation on Facebook is a collective process as described above, it is also the case that others may not be as sensitive as the targets to concerns about their desired self-presentation. Others may be more interested, for example, in their own self-presentation or with sharing images of the target in a particular place or setting, with less regard for whether the posted content is consistent with the target's ideal self-presentation.

The second most common type of other-generated face-threatening situation (28.7%) occurred when others shared something about the targets that detracted from their ideal self-presentation. These were situations that would have happened regardless of who was in the audience; the targets likely did not want *anyone* to form impressions based on the shared content.

While the targets were not engaging in what others would consider counter-normative behavior in the posted content, they were not meeting their own personal self-presentation ideals. The majority of these were simply unflattering photos. As a 33-year-old female explained:

...I was a bridesmaid in a wedding, so I was the subject of many photos. One photograph of me was particularly unflattering. My head was turned a certain way, so I looked like I had an enormous double-chin [sic]. I was already insecure about my weight gain, but this photo made me look even larger than I actually am.

	Definition	%	Example
Norm Violations	The target worries about self-presentation because the other posts content showcasing the target engaged in norm-violating behavior (whether toward a public and/or sub-audience).	45.3	*My friend posted a picture of me doing hookah once. even though it is legal, i did not want my family on facebook to see me smoking, so i asked my friend to un-tag me from the picture, which she did.*
Ideal Self-Presentation Violations	The target is concerned about self-presentation because the other's content is disharmonious with his/her ideal self-presentation (even though the content refers to normative behaviors).	28.7	*My friend posted a really unattractive picture of me that I did not want other people to see.*
Association Effects	The target worries about self-presentation because of another's self-presentation. The posting does not directly involve the target, but he/she worries that others will negatively judge him/her because of the other's behaviors.	21.3	*One time a friend posted a link to an image that she thought was funny on my wall...I was slightly embarrassed because I did not find the image funny and I was worried about how my other Facebook friends would think of me for having the link on my wall. I did not want my other Facebook friends to think that I was the type of person to find the image funny. In the end, I hid the link.*
Aggregate Effects	The target becomes self-conscious about self-presentation because another's posting draws attention to it.	4.7	*A friend of mine commented on a picture I forgot I had posted of me with my ex boyfriend and it showed in the newsfeed.*

Table 1. Types of other-generated face threats.

As this example shows, the target was sensitive about her appearance in ways that the poster may not have been aware of or did not realize. What is unique about this scenario, in contrast to the norm violations described above, is that the audience may not have even noticed the unflattering photo or information. It is only the presence of the information, discovered or not, that is needed for the face threat to be perceived.

Association Effects

It is well known that the company people keep can affect others' impressions of them [42]. The third most common face-threatening scenario (21.3%) reported was when others had engaged in behavior or shared content that did not directly involve the target, but was face threatening because the target did not want his or her audience to form impressions based on the other's posting. For instance, a 25-year-old female shared the following:

Someone posted a link to a video about wealth inequality on my facebook wall (and about occupy), thinking I would be interested and have a similar critique of politics in the US. It was awkward because I didn't want people to think I was still involved in occupy and the whole *get money out of politics* thing. My political critique is definitely anarchist, not liberal, and I felt awkward being pegged as something different than what I am.

This example illustrates political views, but the same could happen with any behavior where there is variation in norms across social settings. People fear that others' judgment around norms can have consequences for them, even in cases where the target has engaged in no questionable behaviors. In another instance, a 51-year-old female shared how another's post might influence the way people perceive her:

I am a person in recovery and have been for decades, I only post positive inspirational stuff that is uplifing [sic] and will never post anything political and stay away from religous [sic] posts...Forinstance [sic], I had someone post a Marajuana [sic] leaf and other subjects about illegal substances. I deleted it, unfriended them and even apologized to anyone that may have seen it as I don't want anyone to get the wrong impression and assume I may have backslid.

While the target did not engage in any counter-normative behavior, she still feared that this content might impact her self-presentation.

Aggregate Effects

As a service that broadcasts user behavior and allows people to comment on and share their own and others' content, others' behavior on Facebook can significantly alter the visibility of one's self-presentation. A photo of the target, for example, that is repeatedly "liked" or commented on might show up in many people's News Feeds and receive additional attention [9]. This highlights another challenge to self-presentation on Facebook.

Others' behavior can draw unwanted attention to otherwise mundane or dated content in ways that people fear can affect impression formation.

This last type of other-generated face threat, reported in 4.7% of cases, described when participants felt embarrassed because of extra attention paid to them. The shared information did not display the person engaged in counter-normative or unflattering behavior, but additional viewing of the content or knowledge that it was being broadcasted in the News Feed led to feelings of face threat. A 20-year-old female summed this up:

I recently wrote an endorsement for a student group candidate, and attached a photo of myself to it on a website. Pretty soon, to my embarrassment people were commenting on my photo on my Facebook wall, noting how nice it looked, but to a point where the attention made me uncomfortable.

This example highlights that even simple behavior by multiple others acting independently – such as commenting or liking – can have significant effects in the aggregate. The others in this case likely felt that they were being polite and flattering in responding positively to the photo, and had no idea that their behaviors were contributing to an aggregation that became embarrassing.

All of these categories and examples highlight how self-presentation on Facebook is collectively constructed, and others' behavior can affect self-presentation. These sometimes result from errors in audience judgment, neglect of others' self-presentation goals, but they can also result from simple aggregations or broadcasts of otherwise polite and innocuous behaviors. In the next section we turn to understanding how people interpret and experience these situations.

Effects on Face Threat Severity

Our next research questions and hypotheses asked about factors that affect how people experience face threats on Facebook. Table 3 contains the OLS model described above, with face threat severity as the dependent variable. In Model 1 we tested for effects of demographic factors including gender and age, but neither value nor the overall initial model was significant, $F(2,142) = .30$, $p = 0.74$.

Individual-Level Factors

In Model 2, we included the individual-level factors leading to a significant increase in R^2, to 0.20, $F(5,139) = 6.74$, $p < 0.001$.

We first examined self-monitoring, which H1 predicted would have a positive relationship with face threat severity. As Table 3 shows, the data support this hypothesis ($\beta = .38$, $p < .001$). This suggests that those with higher self-monitoring levels will feel more emotion when they encounter an other-generated Facebook threat. This may be because the very identity that they work so hard to craft and monitor is at stake. Because high self-

	Gender	Age	Self-Monitoring	Perceived Internet Skill	Perceived Facebook Skill	Closeness with Other	Other Perceived Intentionality	Audience Diversity	Audience Size
Age	-0.13	——							
Self-monitoring	0.16*	-0.09	——						
Perceived Internet Skill	-0.21**	0.04	0.16*	——					
Perceived Facebook Skill	0.13	-0.37**	0.32**	0.28**	——				
Closeness with Other	0.11	-0.09	0.13	-0.06	0.06	——			
Other Perceived Intentionality	-0.23**	0.10	-0.03	0.07	0.00	-0.15	——		
Audience Diversity	0.00	-0.15	0.17*	0.15	0.09	0.04	0.05	——	
Audience Size	-0.05	-0.27**	0.03	0.00	0.23**	-0.05	0.12	0.20*	——
Time Since Situation	0.18*	-0.15	-0.01	-0.15	-0.08	0.21**	-0.16	0.15	0.06

Notes: * $p < .05$, ** $p < .01$. Two-Tailed.

Table 2. Correlation matrix of predictor variables.

monitors tend to modify their self-presentation based on their audience, they may find spaces like social network sites particularly stressful because they must present in spaces that collapse the very social contexts on which they rely.

In response to RQ2 about perceived general Internet skills, Table 3 shows there was a positive relationship with perceived severity. Those with more perceived general Internet skills may feel more at risk because they may be more cognizant of the collective self-presentation process and understand that other-generated information may pose a threat to their offline reputation. For example, many scenarios participants provided highlighted users being concerned that future employers might form impressions based on the face-threatening post.

Interestingly, perceived Facebook skills had a different effect. In response to RQ3, there was a negative relationship between perceived Facebook skills and face threat severity. This finding suggests that feeling that one knows more about Facebook's features may reduce the severity of face threat. Perceived Facebook skills may ameliorate the feeling of face threat because skilled users know how to resolve the situation (e.g., make the face-threatening content disappear), and/or prevent it from worsening.

Situation-Level Factors
In Model 3, we include the situation-level factors leading to another statistically significant increase in R^2, to 0.34 $F(10, 134) = 6.93$, $p < 0.001$. Even while controlling for these additional factors, all three individual-level factors remain significant with similar relationships to Model 2.

H2 predicted a positive relationship between severity and participants' perceptions of the others' intentionality. Consistent with this hypothesis, participants perceived the situation more severely if they felt the other more intentionally embarrassed them, even when controlling for the other factors in the model.

Next, H3 predicted a positive relationship between relational closeness to the other and perceived severity. However, we do not find support for H3. There was no evidence that the closeness between two individuals relates to face threat severity. These results may in part be because the variable was slightly negatively skewed.

H4 predicted a positive relationship between audience size and perceived face threat severity. The data did not support H4. Participants' reported audience size did not influence perceived severity. In interpreting this result, it bears mentioning that most participants reported a

Model	1	2	3
Demographic			
Gender	0.03	0.05	0.14
Age	-0.05	-0.11	-0.13
Individual-level			
Self-monitoring		0.38***	0.35***
Perceived Internet skill		0.23**	0.19*
Perceived Facebook skill		-0.23*	-0.28**
Situation-level			
Perceived Closeness			0.00
Perceived intentionality			0.26**
Audience diversity			0.17*
Audience size			0.09
Time since situation			-0.18*
R^2	0.00	0.20***	0.34***

Notes: * $p < .05$, ** $p < .01$, *** $p < .001$. All values are standardized β coefficients.

Table 3. OLS regression models showing effects on perceived severity of face threat.

relatively large number of Facebook friends such that even a "small" audience among our participants may be just as face threatening as a larger one.

H5 predicted a positive relationship between audience diversity and severity. There is support for H5. Diversity of participants' Facebook audience influenced their perception of face threat severity, with those having more diverse audiences (i.e., the more types of people users have in their audience) reporting higher levels of severity. Given the findings regarding audience size, the number of people witnessing the situation seems to be less consequential than to which groups a particular face threat might be visible.

This is consistent with our qualitative evidence presented earlier in which participants experienced face threats due to information shared with an inappropriate sub-audience, and builds on this finding by suggesting that increasing diversity in the audience means increased face threat severity.

DISCUSSION

Theoretical Implications

While we tend to emphasize the 'self' when thinking about and researching self-presentation, our study highlights that *others* can influence and pose challenges to our self-presentation goals on social network sites like Facebook. While others influence self-presentation and threaten face in a range of situations, our results showcase unique attributes of social network sites that can make this particularly challenging.

Audience Matters

A clear theme in our results was the role of audience. Many threats to individuals' online presence stemmed from people's (in)ability or lack of care in judging the potential audience for a post and its effects. While this may be true of individuals posting content to their own audiences [1, 3], this seems particularly true when someone else posts something—likely because others have even fewer audience cues, and may be attending to their own self-presentation goals and audiences. The majority of other-generated face threats described by our participants occurred primarily because others had difficulty navigating and/or lacked motivation in understanding the targets' diverse audiences. They often shared information about the target that may have been normative in one context or with one audience, but violated another audience's expectations (both of whom were in the same overall Facebook audience). Not knowing who is in the potential audience for a post or the norms for different groups in an audience makes it particularly difficult to know whether or not shared content is likely to present a face-threatening scenario. This resulted in many frustrating or difficult experiences for our participants, who then had to deal with the face threat consequences.

The quantitative results also reflected aspects of audience concerns. While audience size did not affect face threat severity, the diversity of the audience did have a positive relationship with severity. People with more groups represented in their Facebook networks experienced face threats as more severe, thus suggesting that information crossing group boundaries is potentially an ongoing and stressful issue.

Collective Self-Presentation is Complex

Another clear theme in our results was that even sharing socially appropriate information could be perceived as face threatening, such as when others' shared content goes against a person's ideal self-presentation. However, perhaps the most interesting cases of this occurred when others interacted with otherwise innocuous content (such as "liking" or adding harmless comments) that eventually garnered extra attention in people's News Feeds leading to an inadvertent face threat because of the increased visibility [9]. Individuals felt a similar sense of embarrassment when a post drew attention because another's presence created an unwanted association. Targets were concerned that people would form impressions based on others' self-presentations. This echoes the warranting principle [41], and leaves open the question of whether these concerns are borne out in actual negative impressions.

These cases highlight how collective self-presentation on Facebook can extend well beyond notions of context collapse explored in prior work [4, 29]. In these examples, the visibility of certain behaviors begets further visibility of both individuals and content; and this can have unpredictable consequences for impression formation. This suggests a need to reconsider notions of collective self-presentation in light of this complexity.

Skills Matter

While all participants reported face threats they had experienced recently, our results suggest that some individuals are more concerned about collective self-presentation and other-generated face threats than others. As might be expected, higher self-monitors reported more severe face threats. Since many of participants' reported situations revolved around norm violations and audience awareness, it is understandable that people who are more concerned with social appropriateness would interpret these situations with more affect [10, 38, 39].

Perhaps more importantly, people's perceived general Internet and more specific Facebook skills impacted their experience of face threats even when controlling for this social skill. However, these technological skillsets seemed to function in different ways. General Internet skills seemed to tap into participants' understanding of the importance of their online presence; those with more Internet skills perceived face threats more emotionally, likely because they understood the potential reputational harm that could come from the threat [5, 21, 26].

Facebook skills, however, seemed to play a remediating role for participants. Those who perceived a better understanding of Facebook's features, including those needed for self-presentation management, likely felt less face threat after an encounter because they knew how to use the technology to ameliorate the situation. These results highlight the importance of both general and more nuanced skills, and the need for more studies capturing users' technological skills. We have developed and tested the novel perceived Facebook skills measure used in this study in hopes that other scholars will use it in future Facebook-related research.

Design Implications
In contrast to the prevailing focus on self-presentation and privacy management as individual activities, we urge designers to consider these acts as collective processes.

Following from our consideration of audience and others' frequent audience inconsideration, one possibility would be a feature that provides potential audience cues for a particular post. For example, an audience cue feature might allow a poster to see a post's potential visibility (in terms of the target's selected groups and privacy settings). Another feature might allow others to restrict posts involving the target to certain individuals or groups already configured by the target. Designers may also want to consider tools that allow users to anonymously suggest content be removed to other users, taking some of the pressure off the face-threatened individual.

Given that perceived Facebook-specific skill relates to a person's face-threatening experience, part of the issue may be that users are not aware of existing tools or do not know how to use them. Half of the participants reported the face-threatening content is still visible to at least some of their network contacts—future work should investigate why. Other researchers have suggested incorporating "privacy nudges" that could alert users when they are about to post something that may be face threatening to themselves or others (e.g., images with alcohol) [37, 43].

Building on the idea of privacy nudges, we also have suggestions for the complex situations of aggregation and association effects. Sites have detailed logs of content that are regularly used to increase the visibility of certain content or people. In the interest of helping users avoid the face threats described here, designers could use this information to decrease visibility. A post from a long-lost relative, for example, might trigger a "Somebody new is posting on your Timeline. Make this visible to everybody?" message. Similarly, a photo getting a lot of attention could prompt a message such as "Your friends like this photo. Is it ok to show it to more of them?"

Limitations and Future Directions
There are a few limitations to consider in interpreting these results. While our sample was diverse in some respects, it had a disproportionate number of females and undergraduate students. It is worth noting however, that young adults tend be some of the most common and active users on the site [15]. Given that we collapsed different types of posts (e.g., comments, likes, photos etc.), these results may not capture important differences linked with the posting format that future research will need to explore. Furthermore, our data are correlational and self-reported indicating they may contain biases due to social desirability effects and memory recall issues. Additionally, it is worth reiterating that many of the variables used in this study focused on participants' perceptions (e.g., Internet skills and/or others' intentionality), which may not reflect users' actual experiences and may have been influenced by the participants' current mental state. Future experimental work can strengthen these results.

Future research may also wish to explore how people take specific actions to resolve face-threatening acts and the extent to which these mitigation processes are collective versus individual. For example, when do users untag and/or remove the content? When does a person confront the other? While these findings provide foundational work on collective self-presentation and face-threatening experiences in networked environments, there are many more questions to be answered.

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APPENDIX

Severity of face threat scale
How did the post make you feel? Please indicate how much you agree or disagree with the following statements.
1. I felt awkward.
2. I felt embarrassed.
3. I felt uncomfortable.
4. I felt flustered.
5. I felt uneasy.
6. I felt exposed.
7. I felt it made me look bad.

Response options: Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree

Facebook skill
Generally speaking, how well do you know how to do the following activities on Facebook? Please indicate your understanding of the following Facebook activities.
1. Posting a status update
2. Tagging a photo
3. Editing a posted comment
4. Untagging yourself from a photo
5. Deleting a post from your profile
6. Deleting a posted photo
7. Hiding a post on your profile
8. Limiting access to view your profile

Response options: No understanding, Little, Some, Good, Full understanding

Perceived closeness
How close were you to this person prior to this embarrassing incident?

Response options: No relationship at all, Not close, Somewhat close, Close, Very close

Perceived intentionality
The following questions are about the person who posted the embarrassing content on Facebook. Please indicate the extent to which you agree or disagree with each of the following statements.

Thinking about the person who embarrassed you, would you say that…
1. …his/her actions were not meant to be harmful.
2. …his/her actions were rude.
3. …his/her actions were insensitive.
4. …his/her actions showed disrespect towards me.
5. …his/her actions were on purpose.

Response options: Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree

Facebook audience size
About how many total Facebook Friends do you have? If you're not sure, take your best guess. [Open-ended]

Facebook audience diversity
Do your Facebook friends include any of the following groups? Check ALL that apply.
1. Boyfriend/Girlfriend/Spouse
2. Friends
3. Acquaintances
4. Family members
5. Classmates (Current or former)
6. Teachers/Professors (Current or former)
7. Co-workers/Colleagues/Clients (Current or former)
8. Boss/Manager (Current or former)
9. Potential employers/Recruiters
10. People I don't know
11. Other