



Full length article

# The positivity bias and prosocial deception on facebook

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## ABSTRACT

Can the positivity bias, observed across various Social Network Sites (SNSs), predict the use of prosocial lies in a SNS such as Facebook? The positivity bias may be a product of politeness norms (i.e., positive face concern) that have influenced communication phenomena before these sites existed. In addition, positive face concern may also be affected by unconscious cues or primes that promote prosocial behavior on Facebook. We conducted an online experiment using current Facebook users to examine how positive face concern and surveillance primes affect prosocial lying in public and private Facebook contexts. Although positive face concern and publicness predicted the use of prosocial lying, positive face concern was not affected by the publicness and surveillance primes did not affect positive face concern or the use of prosocial lies in our study. This hints towards the nuance of positive face concern and the potential limitations of surveillance primes on prosocial lying behavior.

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## 1. Introduction

An important asymmetry of affect in how people post information on Social Networking Sites (SNSs) has been observed in many studies, with a bias towards posting positive emotions and successes rather than personal struggles and failures (Reinecke & Trepte, 2014; Tobin, Vanman, Verreynne, & Saeri, 2015; Utz, 2015). This bias potentially stems from users applying politeness norms (Brown & Levinson, 1987) to their Facebook posts (Georgalou, 2016). For example, Bryant and Marmo (2012) found that refraining from posting disrespectful content was one of the norms that users believe is important to follow on Facebook. McLaughlin and Vitak (2012) found that Facebook users think they should avoid publicly posting insulting or offensive content about other users on the site. These findings partially explain the observed positivity bias on SNSs such as Facebook; users believe their posts should be polite and positive rather than rude and disrespectful. These findings also suggest that users may resort to posting a white or prosocial lie in order to avoid posting rude or disrespectful content on SNSs such as Facebook. We posit that aspects of a SNS's design and visual layout likely contribute to the observed positivity bias on Facebook, and seek to explore how

politeness theory (Brown & Levinson, 1987), affordances (Boyd, 2010), and surveillance primes or subtle cues that promote prosocial behavior (Bateson, Nettle, & Roberts, 2006), potentially predict prosocial lying on Facebook. We will then describe an online experiment designed to uncover factors which affect prosocial lying on Facebook, followed by a description of the findings. Finally, we will discuss the theoretical implications of our study, the limitations of our methodology, and offer recommendations for future research.

## 2. Literature review

In the 1950s, Goffman developed and defined “face theory” which depicts how and why people behave politely versus bluntly in public versus private interactions.

Brown and Levinson (1987) built upon Goffman (1955) work and distinguished between different kinds of face. “Positive face” focuses on how interaction partners work together to uphold each other's desired identity before, during, and after their interaction. Interaction partners are expected to be especially mindful of each other's positive face when they perceive that what they say will affect their partner's positive face beyond the interaction itself. For example, if Amanda says something positive-face threatening to her friend Brandy (e.g., “Your haircut looks awful”), Amanda undermines Brandy's positive face as an attractive and stylish woman during the interaction. Should Amanda's blunt comment spread throughout her social network, Brandy could accrue more negative

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judgments about her appearance from her peers. It is this concern for an interaction partner's positive face that may explain why people engage in positive facework generally and on SNSs, such as Facebook. Moreover, there are a few key Facebook affordances that may heighten positive face concern and increase the use of prosocial communication on the site: identifiability and publicness.

Identifiability is one of the key affordances inherent in Facebook's design that may partially explain the positivity bias or the high degree of positive facework observed on the site (Reinecke & Trepte, 2014; Tobin, et al., 2015; Utz, 2015). Affordances are the perceived functions and utilities of an object (Gibson, 1986). Facebook's design forces users to create a profile using "the name they use in real life" (Facebook, 2016), linking their Facebook profile to the identity known to their family, friends, colleagues, boss, acquaintances, etc. Facebook also encourages users to connect to these same offline contacts on the site itself. These site connections or "friends" comprise a user's Facebook "friend" network. This means that when two users interact with each other on the site, they can see who they are interacting with and be reminded of their relationship to that person. According to Bazarova and Choi (2014) functional approach, "SNS affordances amplify and make more visible a set of strategic concerns and motivations that shape self-disclosure characteristics" on these sites (p. 635). According to this approach, the perception of being identifiable activates relationship goals when friends are interacting with each other on Facebook, and prompts them to post positive-face oriented messages to or about each other on these sites.

Another Facebook affordance that may heighten positive face concern is publicness or the perception that others can view a post that is displayed on their own or another user's Timeline. The Facebook Timeline is a history of content that includes what a user has posted, or others have posted about or to them, on the site that is made accessible to their "friend" network (depending on their privacy settings). When a user posts something on their own or another user's timeline, it alerts each other's "friends" of the post, increasing the likelihood their "friends" will see and evaluate their post. Given that users and their "friends" are identifiable on the site, public posts heighten positive face concern due to the perception that some or all of their "friends" on the site could see their public posts coupled with their identifying information (e.g., birth name). It is akin to Amanda telling Brandy, "Your haircut looks awful" in front of their mutual friends, colleagues, acquaintances etc. at a large in-person gathering. The only difference is that people can usually see whether or not they know anyone within earshot when interacting FtF (i.e., face-to-face), while on Facebook, it is unclear when their "friends" will see and evaluate their public posts (Litt, 2012). As a result, users strive to ensure that their public posts support each other's positive face on the site just as they would in any other public and identifiable environment. This leads us to expect that:

**H1.** Users are more likely to be concerned about their friend's positive face when interacting with them publicly on Facebook.

Identifiability and publicness should promote communication behaviors meant to preserve an interaction partners' positive face when communicating on Facebook. These behaviors include compliments, social support, and even prosocial deception.

### 2.1. Prosocial deception

Although studies have highlighted the potential negative interpersonal effects of deception (Brandt, Miller, & Hocking, 1982; Pollack & Bosse, 2014), several other studies have demonstrated how deception can be used to uphold social norms and preserve relationships (DePaulo & Kashy, 1998; Levine & Schweitzer, 2014;

Levine, Kim, & Hamel, 2010). The crucial difference between the former and latter type of lie is the intent of the lie itself. Lies are "messages knowingly transmitted by a sender to foster a false belief or conclusion by the receiver" (Burgoon, Buller, Guerrero, Affi, & Feldman, 1996, p. 51). Prosocial lies are "false statements made with the intention of misleading and benefitting" the receiver (Levine & Schweitzer, 2014, p. 108). It is the intent to benefit that determines a prosocial from an antisocial lie. In situations where a friend asks a question that cannot be answered truthfully without undermining the friend's positive face, a prosocial lie is told in hopes it will preserve the friend's positive face.

Levine et al. (2010) tested this premise by asking participants to imagine themselves in scenarios where they were either motivated or not motivated to tell a prosocial lie. For example, participants were asked to imagine themselves in a scenario where their friend gets a new haircut and then asks them if they like the haircut. Half the participants were told they did not like the haircut (deception condition) and the other half were told they did like the haircut (control condition). Levine et al. (2010) found that participants composed more prosocial lies in the deception condition. Although Levine et al. (2010) did not assess what motivated these lies, it is likely that their participants composed prosocial lies in order to preserve the friend's positive face. This leads us to predict that:

The tendency to use prosocial lies to preserve a friend's positive face should persist on Facebook when users perceive that they are identifiable and their interaction is publicly accessible. For example, imagine Brandy publicly posts a picture of her new haircut on Facebook and asks Amanda what she thinks of her haircut on the site instead of FtF. Now imagine that Amanda does not like Brandy's new haircut, but given the fact that they are both identifiable and Brandy made their conversation publicly visible on the site, Amanda is prompted to be mindful of Brandy's positive face and will likely post a prosocial lie (e.g., "You look great!") in order to preserve Brandy's positive face both on and off the site. Therefore, we expect that:

### 2.2. Surveillance primes

In addition to publicness, more subtle variations in Facebook's design may unconsciously activate positive face goals and prompt prosocial lying on these sites. Primes are implicit cues that are embedded in a person's environment that can unconsciously affect their social behavior (Aarts & Dijksterhuis, 2003; Kay, Wheeler, Bargh, & Ross, 2004; Peña & Blackburn, 2013). Although there is some debate concerning whether the effect of primes is wholly unconscious (Newell & Shanks, 2014), there are others who contend that some priming effects are robust and warrant further examination (Pashler, Coburn, & Harris, 2012; Stafford, 2013). We attempted to uncover how primes that are embedded in Facebook's visual layout might affect users' posting behavior on the site.

One of Facebook's main sources of revenue comes from sponsors who pay to have their advertisements visually displayed on the site (Curran, Graham, & Temple, 2011). These ads include images that may unconsciously influence posting behavior on the site. For example, Buchanan (2015) examined whether violent images embedded in Facebook ads would prime aggressiveness. He found that the participants that were given the violent prime recalled seeing violent words on the Facebook page more than participants who did not get the violent prime. It is important to note that only the images varied between the prime and control conditions, meaning the violent prime may have activated thoughts and words associated with aggression and made these words more cognitively accessible during the recall task. Although Buchanan (2015) did not examine communication behavior, the ability of ads to affect the cognitive accessibility of behavioral constructs might in turn

promote behaviors users associate with those constructs (e.g., posting rude or insulting updates, comments, and content). We examined a different type of prime found to affect prosocial behavior: surveillance primes.

Surveillance primes are a type of prime thought to affect social behavior by unconsciously activating the perception of being watched. The primary method of priming surveillance is by embedding a picture or image of eyes in something that is visible (e.g., a poster, an advertisement, a desktop image, etc.). These eye images supposedly activate thoughts about being watched, which in turn promote behaviors that are considered prosocial (being generous, recycling, etc.) and decrease behaviors that are considered anti-social (stealing, cheating, etc.; Ernest-Jones, Nettle, & Bateson, 2011; Haley & Fessler, 2005). For example, Bateson et al. (2006) conducted a field experiment where they either placed pictures of eyes (i.e., surveillance primes) or pictures of flowers above an “honesty box” where office workers were expected to allocate money in return for coffee/tea (p. 412). Office workers allocated significantly more money when surveillance primes were placed above the honesty box than when pictures of flowers were placed above the honesty box. If the surveillance primes activated thoughts about being observed or watched in that setting, they may have nudged the office workers to be prosocial by paying for the milk they took from the break room. In other words, the surveillance primes activated the perception of being watched and prompted them to do the prosocial act in that environment.

Given that surveillance primes promote prosocial behavior, and the content displayed on Facebook can affect cognitive associations, it is possible that embedding surveillance primes in Facebook’s visual layout may affect prosocial lying on the site. Spottswood and Hancock (2013) tested this premise by asking participants to imagine that a friend had asked them a question on either a public or private Facebook page that either did or did not embed surveillance primes in the advertisements. Participants had to choose between a prosocial lie response or a blunt truth response, and explained their answer post-experiment. The results indicated that publicness increased the selection of the prosocial lie response, and that surveillance primes increased the selection of the prosocial lie response in the public setting.

To date, there is very little research on what motivates interpersonal deception on Facebook. As a result, we want to explore how key concepts such as positive face concern, publicness, and surveillance primes may motivate the use of prosocial deception on Facebook.

RQ1: How do positive face concern, publicness, and surveillance primes affect prosocial lying behavior on SNSs such as Facebook?

### 3. Methods

#### 3.1. Participants

We started with 210 current Facebook users, 8 were dropped for not completing the survey. There were 116 men, 84 women, and 2 who did not indicate their gender. Their ages ranged from 21 to 67 ( $M = 35.7$ ,  $SD = 10.64$ ,  $Mdn = 33$ ). Participants predominantly identified as Caucasian (84.2%), followed by African American (5.4%), Hispanic (4.0%), Asian (2.0%), Biracial (1.5%), Pacific Islander (1.0%), and Native American (0.5%). They were recruited from Amazon’s Mechanical Turk (AMT) website and given unique access and payment codes to guard against repeat participation. Although there is some debate regarding the use of AMT for social science research, a recent survey of AMT workers indicated that samples drawn from the site are as representative of the U.S. population and provide data with similar quality as traditional subject pools (Woo, Keith, & Thornton, 2015). The AMT description depicted our study

as an inquiry about how people connect to their friends on Facebook. Participants received \$0.50 for completing the survey.

#### 3.2. Procedure

In order to examine how positive face concern, publicness, and surveillance primes affect prosocial deception on Facebook, this study employed a 2 (public versus private) X 2 (surveillance primes versus control image) between-subjects design and made positive face concern within-subjects. After reading and consenting to participate in the study, participants were directed to a mock Facebook page populated by photos, posts/comments, and other types of content typically seen on the site. Participants were asked to imagine that a friend of theirs had asked them a question on the site, replicating Levine et al. (2010, study 2) previous work.

The situations included a gift given by a friend, a friend’s weight, a friend’s haircut, a friend’s cooking, a second date with a friend, an opinion of a movie a friend likes, a friend’s performance in a musical, and a book recommend by a friend (see [Supplementary Material](#)). All of these scenarios were depicted as threatening to the friend’s positive face. For example, in the friend’s haircut scenario, participants first saw the message: “Your friend recently got a haircut. You think it looks awful. One day, they send a message asking, ‘Do you like my haircut?’” Each participant saw one out of the eight positive face-threatening scenarios.

Participants were identified as “Me” and friends were identified with pictures of people from a protected corpus of photos and fictional but gendered names (e.g., “Nathan Stevenson or Lauren Steege”). The gender of the friend was randomized. Below the scenario, participants saw a public comment or private message response box, as they would on the actual Facebook site during the time of data collection. Participants were asked to write a comment or response, though they had the option of leaving the text box blank. They were then prompted to the next survey page where they were asked to explain their response, answer additional survey and demographic questions as well as what they thought the study was about, thanked for their participation, and instructed about how to obtain their compensation on Amazon’s site.

#### 3.3. Deception

Two trained coders analyzed participants’ responses to determine if they were deceptive or honest. Following Burgoon et al. (1996) contention that deception is determined by whether a message is “knowingly transmitted by a sender to foster a false belief or conclusion by the receiver” (p. 51), any response that was inconsistent with the scenario description was coded as deceptive. For example, in the friend’s haircut scenario, responses that were consistent with the scenario were coded as honest (e.g., “Honestly, I think the color is a little off ... Sorry”). Responses that were inconsistent with the scenario were coded as deceptive (e.g., “It’s cute. Do you like it?”). Responses that were ambiguous (e.g., “Well, it is different but I think I need to see it in person.”) were also coded as deceptive because they omitted truthful information. Inter-rater reliability was high ( $\alpha = 87.8$ ). In total, 67.3% of the responses were coded as deceptive.

#### 3.4. Positive face

Two different trained coders analyzed participants’ explanations for their responses to determine if they expressed concern for their friend’s positive face. Coders read Arundale (2006), Brown and Levinson (1987), Cupach and Metts (1994) and Goffman (1955) work on face theory and developed the following definition of positive face: “Positive face is the need to be accepted, included, and approved of by those they interact with, usually in

alignment with respectable social norms.” The coders used this definition to assess whether participants’ response explanations expressed concern for the friend’s positive face when composing a response. Inter-rater reliability was high ( $\alpha = 92.9$ ). In total, 57.9% of the explanations expressed concern for the friend’s positive face.

### 3.5. Publicness

In order to manipulate participants’ perception of publicness, the scenario was displayed on either a mock Facebook Timeline (Fig. 1) or private message page (Fig. 2). These mock Facebook pages contained content that was typically displayed on the site during the time of data collection and clearly indicated whether their message would be public or not.

### 3.6. Surveillance primes

In order to manipulate surveillance primes, the ads on the mock Timeline and private message Facebook pages contained

pictures of eyes (Fig. 3) or pictures of generic objects (Fig. 4). These ads were displayed in the upper right-hand corner of the mock Facebook pages, in the same way that actual ads are displayed on Facebook. The primes were featured in ads for eye drops, contact lenses, and a horror movie. The control advertisements featured an online game, an internship competition, and credit card company information that did not include primes. All of the Facebook user profile photos contained pictures of people who were always looking away from the camera so as not to interact with the eye images in the prime ad. It is important that participants are not consciously aware of a visual prime in order for it to have an unconscious effect on their social behavior (for review, see Bargh, 2006). We checked to see if participants mentioned the surveillance primes in any of the open ended responses as well as their response to what they thought the study was about at the end of the survey. None of the participants mentioned the primes in the follow-up survey, suggesting that the primes did not consciously affect participants’ behavior during the study.



Fig. 1. Public timeline condition.

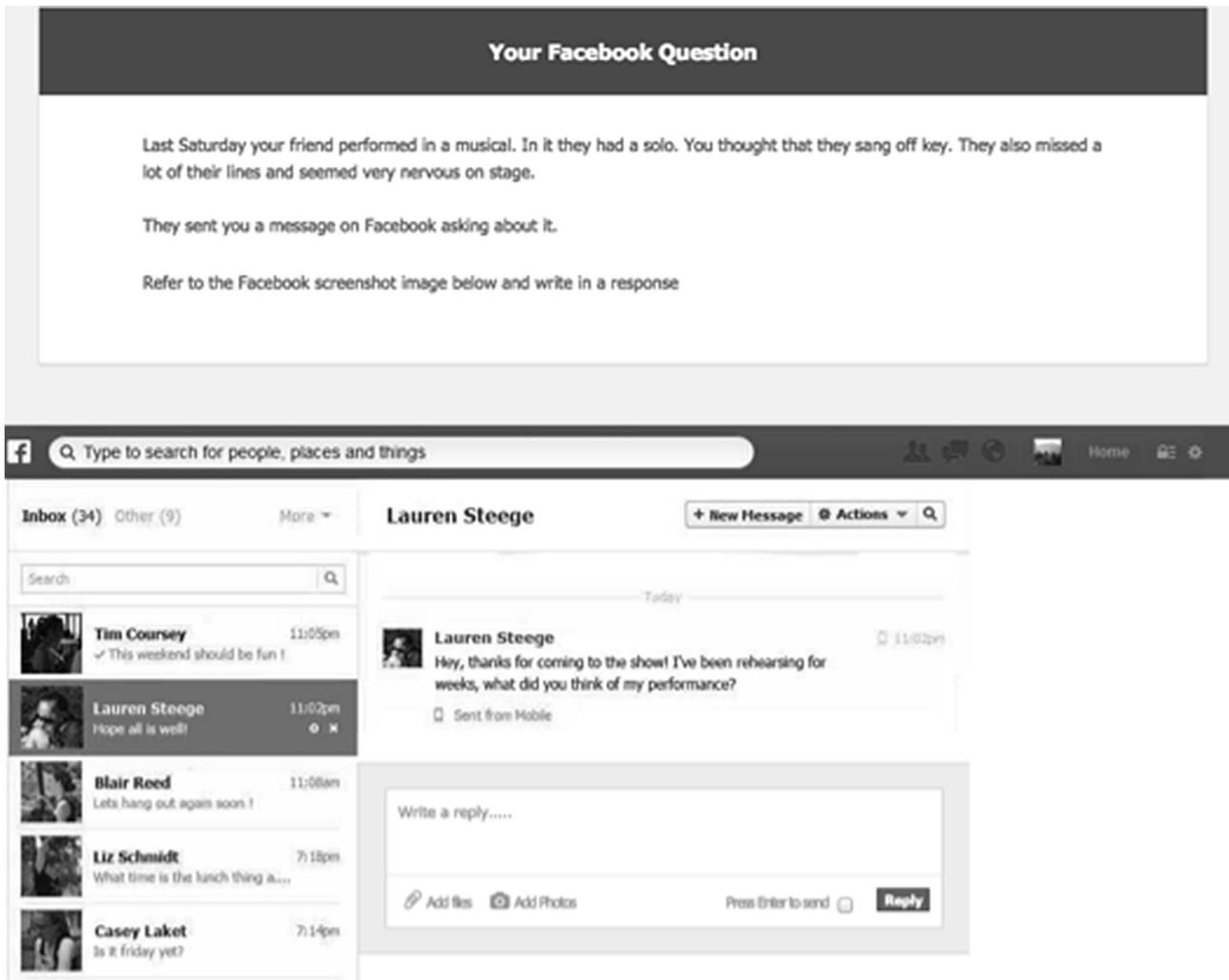


Fig. 2. Private message condition.

#### 4. Results

We used binary logistic regression in SPSS v. 23 to evaluate the effects of the three dichotomous predictor variables (positive face concern, publicness, and presence of surveillance primes) on one dichotomous response variable (honest or deceptive response). All of the variables were standardized prior to analysis.

We began by testing the full model where we set out to uncover if concern for a friends' positive face, the publicness of the interaction context, and the presence of surveillance primes, predict the use of pro-social lies in a SNS such as Facebook (RQ1). The full model was significant  $\chi^2(3) = 34.67, p < 0.001$ , and explained 22.1% (Nagelkerke  $R^2$ ) of the variance and correctly classified 73.6% of cases (Table 1). Moreover, positive face concern  $p < 0.001$ , and publicness  $p < 0.01$ , predicted the use of prosocial lies. These results suggest that social norms that activate positive face concern and indicate what is appropriate communication in FtF contexts persist on Facebook.

However, in a separate logistic model, we tested to see if publicness predicted positive face concern (H1), and this model was not significant ( $p = 0.85$ ). We then set out to examine the combined effects of positive face concern and publicness on the use of pro-social deception, and it was not significant ( $p = 0.70$ ). These last two results suggest that positive face concern may operate in private

and public contexts, but manifest differently depending on what is perceived as positive face threatening in either type of context.<sup>1</sup> Finally, the presence of surveillance primes did not predict prosocial lying behavior ( $p = 0.25$ ), and further inspection of the results in the full model reveal that neither the combined effects of surveillance primes with positive face concern ( $p = 0.52$ ), nor the combined effects of surveillance primes and publicness ( $p = 0.29$ ), predicted the use of prosocial lies (Table 1). These results suggest that surveillance primes may affect some, but not all, types of prosocial behaviors.

#### 5. Discussion

The positivity bias observed on Facebook and similarly designed SNSs is reminiscent of social norms that have encouraged positive facework before these sites existed. We sought to uncover how Facebook affordances such as identifiability and public interaction prompt users to care for each other's positive face on these sites.

<sup>1</sup> Participants' explanations were also coded for self-positive face concern. However, this variable did not predict the use of prosocial deception ( $p = 0.87$ ) and did not interact with publicness ( $p = 0.53$ ) or surveillance primes ( $p = 0.80$ ) to predict prosocial deception. It also did not affect the  $p$  value ( $p < 0.001$ ) of the full model reported above.



Fig. 3. Surveillance prime advertisement.



Fig. 4. Control image advertisement.

The results suggest that when users are concerned for a friend's positive face they will post a prosocial lie in order to avoid threatening a friend's positive face on Facebook. This may partially explain the positive bias phenomenon observed on the site. However, publicness did not affect positive face concern, and positive face concern was more predictive of responding with a prosocial lie than publicness. Moreover, surveillance primes did not affect prosocial lying, indicating the limitations of this type of prime's effects on prosocial behavior. The theoretical and methodological implications of these findings are discussed below.

5.1. Theoretical implications

The positivity bias seen to affect communication behavior on Facebook is likely due to users' concern for each others' positive face. Our results support this claim; participants' posts and messages included more prosocial lies when they were concerned for a friend's positive face. However, although the publicness of the context had a similar positive effect on participants' prosocial lying behavior, the combination of publicness and positive face concern did not affect prosocial lying. The lack of an interaction effect may be partially explained by how positive face concern was operationalized. The positive face coders read four key pieces that describe and explain the construct of positive face. One of these

Table 1

Full logistic regression model predicting deception from positive face concern (PFC), publicness, and surveillance primes (SP).

Predictor	$\beta$	Wald $\chi^2$	<i>p</i>	Odds ratio
SP	0.21	1.33	0.25	6.46
PFC	0.92	29.13	<0.001	2.50
Publicness	0.49	6.89	<0.01	1.62
SP X Publicness	0.19	1.12	0.29	1.22
SP X PFC	-0.11	0.41	0.52	0.90
Publicness X PFC	0.07	0.15	0.70	1.10
Publicness X PFC X SP	-0.04	0.04	0.84	0.97

pieces discussed how insulting or hurting the feelings of another person is perceived as a positive face threatening act (Brown & Levinson, 1987). This emphasis on feelings in the Brown and Levinson (1987) piece may have led the positive face coders to code participant explanations that mention concern for a friend's feelings as indicative of concern for the friend's positive face. Upon reviewing participants' explanations for their responses, there were several who mentioned concern for their friend's feelings in both the private and public conditions. For example, in the cooking condition, one participant said they used a prosocial lie in their private message response because they wouldn't "want to hurt their feelings" given the friend had "put a lot of time into the meal." Similarly, a different participant said they posted a prosocial lie on a friend's Timeline because, "it would be awful to hurt her feelings or embarrass her on Facebook where everyone can see it ..." According to Annis (1987), friends concern for each other feelings should remain intact regardless of the publicness of an interaction context. The confound in our study potentially exposes the confounded constructs currently in Face Theory and suggests that the theory may be too broad to predict and explain prosocial communication in public versus private contexts.

Another reason why publicness may not have affected positive face concern may be due to a lack of relational motivation.

According to Goffman (1959), interaction partners should uphold each other's positive face to avoid being rude and to help maintain a pleasant social atmosphere. However, avoiding another's public humiliation is particularly important for those in close relationships (Cupach & Metts, 1994). For example, Wohn and Spottswood (2016) found that Facebook users felt less close to a friend who had posted embarrassing content about them publicly on the site, suggesting that Facebook users believe their close friends should be especially concerned with and motivated to uphold each other's positive face publicly on the site. Similarly, Cupach and Carson (2002) found that friends are equally likely to discuss positive face-threatening complaints in public and private FtF contexts, whereas romantic partners are more likely to discuss positive face-threatening complaints in private than public FtF contexts. They believe this effect is explained by relational closeness; although friends do tend to care about each other, romantic partners are closer than those in friendships and care more about each other's reputations. As a result, romantic partners are inclined to preserve each other's positive face in public because they are relationally motivated not to embarrass each other publicly. The findings from the two studies mentioned above might explain why asking participants to imagine that they are responding to a friend's positive face threatening post rather than have them actually respond to a friend's face-threatening post was not affected by publicness. The fictitious nature of our scenarios likely undermined participant motivation to care if their response would actually preserve their friend's public persona. Future research should explore how relational closeness might affect positive face concern in public versus private Facebook contexts to uncover if the former is more predictive of positively biased communication on Facebook than the latter.

In summary, although publicness does not necessarily affect positive face concern, positive face concern promotes positively biased or prosocial communication on SNSs such as Facebook. In addition, certain subtle cues such as surveillance primes may be less effective at influencing prosocial communication behavior on Facebook and potentially in FtF environments as well.

Embedding surveillance primes in the visual layout of Facebook did not affect communication behavior in our study. This stands in contrast to other studies that have found that surveillance primes promote prosocial behavior. Perhaps asking participants to take the time to compose a response undermined the potential unconscious effects of the primes. Schwanda-Sosik, Zhao, and Cosley (2012) surveyed pairs of friends on how their Facebook use affects their friendship and found that the act of composing and posting messages to each other encouraged friends to consider the evolution and nature of their friendship. In our study, some of the participants' response explanations expressed how they thought their post might affect a friend's positive face, suggesting they spent time reflecting on the potential interpersonal consequences of their response prior to posting a response. The extra time spent in reflection in the current study may have drowned out any unconscious effects the primes could have had on their response. The temporal nature of primes has been debated in the literature, with the majority of researchers highlighting the brief and ephemeral nature of their effects (for review see Bargh, 2006). Our findings suggest that surveillance primes may lose their potency when the prosocial task requires more time and consideration.

### 5.2. Methodological implications

The importance of replicating and extending work in the social sciences was recently highlighted by the replication project in psychology (Open Science Collaboration, 2015). Replication and extension helps uncover the boundary conditions of current

theories that attempt to uncover human communication phenomena (e.g., the positivity bias on Facebook). Our study showcases how positive face concerns drive prosocial lying on Facebook as they have been found to do offline, extending the boundary conditions of positive face and prosocial lying research and partially explaining the positivity bias on Facebook and similar SNSs. However, the failure of surveillance primes to affect prosocial lying suggests they may not work in conditions where people are asked to do a prolonged task. The more we resist the need to publish novel results and instead focus on replicating and expanding what we know so far, the better we will fundamentally understand how human communication is affected by social norms, communication technology, and unconscious influences.

### 5.3. Limitations and future research

There are a few limitations that need to be addressed. First, as mentioned above, the positive face coders coded concern for a friend's feelings and concern for a friend's reputation as indicative of concern for that friend's positive face. Future work should train coders to code different elements of positive face more discretely to see if the reputational components of positive face are more prevalent in public rather than private contexts. In addition, our study used the vague term "friend" so we could replicate Levine et al. (2010) methods as closely as possible. Although the term "friend" connotes a known and relatively close person (Annis, 1987), its definition varies wildly and can mean something entirely different on Facebook (Vitak, Lampe, Gray, & Ellison, 2012). This may have occluded our ability to see if publicness affected positive face concern. Future research should examine how relational closeness affects prosocial lying specifically and positively biased communication generally on Facebook and similar SNSs.

Another limitation concerns the use of a mock Facebook page rather than actually observe prosocial lying on Facebook. Our participants were asked to imagine they saw a scripted post or message from a friend on Facebook rather than have them actually engage with others on the site. Although this precaution was taken to enhance the study's internal validity and better protect participants' privacy, it undermines the generalizability of the findings. Future research could use a diary method to uncover how positive face concern and/or publicness affect prosocial lying behavior on Facebook. However, this approach would make it difficult to determine what unconscious influences (e.g., surveillance primes) could be affecting communication behavior on Facebook. Although past research has manipulated Facebook's algorithms to examine how subtle variations in a site's visual layout affect posting behavior (Kramer, Guillory, & Hancock, 2014), there has been a great deal of debate regarding the ethicality of such methods (Fiske & Hauser, 2014). However, there is still a need to further explore how the visual content of Facebook and other SNSs affect communication behavior on these sites. Future research may want to utilize screen-recording technology (e.g., Inspectlet) in an attempt to see how patterns of behavior potentially correlate with certain ads, posts, and content that is typically featured but not consciously processed on these sites.

### 5.4. Conclusion

Being concerned for another's positive face prompts users to post positively biased messages about and to each other on Facebook. This explains why our participants posted prosocial lies more frequently when they were concerned for a friend's positive face on the site. In addition, participants' public posts included more prosocial lies than their private messages, but this was unrelated or unaffected by their concern for a friend's positive face. Finally,

surveillance primes did not affect prosocial lying behavior, potentially uncovering the limitations of this type of prime's effects on prosocial behavior.

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## Appendix A. Supplementary data

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.chb.2016.08.019>.

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