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No place for negative emotions? The effects of message valence, communication channel, and social distance on users' willingness to respond to SNS status updates



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ABSTRACT

The present study contributes to the investigation of communicative norms and social support in Social Network Sites (SNSs). We suggest that a positivity bias restricts the availability of social support users receive from others via public responses to negative status updates. Moderated mediation analyses of the data of an online experiment ($N = 870$, $M_{\text{age}} = 25.16$ years, 64% female) show that users are less willing to comment on negative status updates than on positive ones. In contrast, users are more willing to respond to negative status updates with private messages. These effects are moderated by the strength of the relationship between sender and receiver of the status update and mediated by perceived message appropriateness and support urgency. The results suggest that SNS users canalize supportive reactions to negative experience of their close SNS friends through private modes of communication.

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1. Introduction

Social Network Sites (SNSs) have frequently been characterized as a significant social resource (Ellison, Steinfield, & Lampe, 2007). In fact, SNSs such as Facebook provide their users with a variety of features that help them keep in touch and interact both with close friends and acquaintances. One popular Facebook feature are status updates that allow users, amongst others, to broadcast requests for informational, instrumental, or emotional support to their entire network of Facebook friends (Gray, Ellison, Lampe, & Vitak, 2013). These support-seeking status updates aim at stimulating feedback which readers can provide by publicly commenting on the status update, by responding with “Likes” or “Reactions”, and/or by sending private messages to the support-seeker (Deters & Mehl, 2013; Winter et al., 2014). Recent research, however, suggests that the availability of social support on SNSs is limited (e.g., Stefanone, Kwon, & Lackaff, 2012; Treppe, Dienlin, & Reinecke, 2014) and that many support-requesting status updates remain unanswered (Lampe, Gray, Fiore, & Ellison, 2014). This is

problematic, as a lack of feedback on support-requesting status updates can reduce SNS users' levels of belonging, self-esteem, control, and meaningful existence (Tobin, Vanman, Verreynne, & Saeri, 2013). Additionally, if specific types of status updates are less likely to stimulate responses, it could be difficult for some users to present themselves authentically on SNS (Reinecke & Treppe, 2014).

Still, research has only begun to investigate the characteristics of status updates that readers are more or less likely to respond to. Based on research on the communicative norms and expectations of the Social Web (McLaughlin & Vitak, 2012; Reinecke & Treppe, 2014), the present study argues that a “positivity bias” (Reinecke & Treppe, 2014, p. 95) exists with regard to the types of status updates users preferably respond to – at least via public modes of communication such as the comment function. More specifically, we assume that users are reluctant to comment on support-seeking status updates that contain negative emotions and experiences because these status updates are perceived as a violation of the “positivity norm” of public SNS communication (e.g., Bazarova, 2012). To evaluate the consequences of a lack of public feedback on status updates in more detail, we will also investigate whether potential responders substitute a lower willingness to publicly

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comment on a negative status update with an increased willingness to reply with a private message. Finally, we will assess whether the strength of the relationship between the sender and the receiver of a status update moderates these effects. Our hypotheses will be tested by analyzing data from an online experiment with moderated mediation techniques (Hayes, 2013). Thereby, our research contributes to the investigation of the norms of public and private SNS communication and specifies the conditions under which SNS users can expect public or private feedback to support-seeking status updates.

1.1. Social network sites as platforms for social support

Social support has been defined as a “the assistance and protection given to others, especially to individuals” (Langford, Bowsher, Maloney, & Lillis, 1997). It is a multifaceted concept that can be subdivided into the categories of emotional support, instrumental support, and informational support (Trepte et al., 2014, p. 75). That is, individuals can request or provide tangible (e.g., information or financial aid) and intangible (e.g., emotional aid) forms of social support (Langford et al., 1997). Receiving social support has been linked to various beneficial mental and physical health outcomes, most importantly life satisfaction and well-being (Cohen & Wills, 1985). SNSs have been described as a relevant source of online social support because they enable users to reach out to a large network of familiar contacts who can possibly provide support that is tailored to the users’ needs (Ellison et al., 2013). Moreover, characteristics of the online communication environment, such as asynchronous interaction and a reduced social presence between the communication partners, have been assumed to facilitate support-seeking particularly for individuals with low self-esteem (Forest & Wood, 2012). In fact, SNS users frequently turn to their friends and acquaintances to request various kinds of assistance (Gray et al., 2013; Lampe et al., 2014; Morris, Teevan, & Panovich, 2010; Trepte et al., 2014). For example, in a survey of 612 Microsoft employees (25% female, most frequently aged between 26 and 35 years), more than half of the respondents said that they had already broadcasted questions via their Facebook or Twitter status updates (Morris et al., 2010).

SNS users requesting social support rely on others to provide this support. Research has shown that, similar to social support “offline”, the feedback users receive on their messages from members of their networks is key to beneficial outcomes such as future network activity, well-being, and life satisfaction (Lampe et al., 2014; Tobin et al., 2013; Trepte et al., 2014). For example, Tobin and colleagues showed that Facebook users felt less socially integrated when they received no responses on their status updates (Tobin et al., 2013). Similarly, Grey and colleagues argued that the mere act of getting a response is more important than the quality of the response because any feedback would signal that someone pays attention and cares for the author of the status update (Gray et al., 2013).

Given this high importance of receiving feedback on support-seeking messages for the psychological well-being of SNS users, the current study attempts to identify some of the mechanisms that guide users’ decisions on whether or not to respond to these messages. Similar to previous research (e.g., Deters & Mehl, 2013; Gray et al., 2013; Winter et al., 2014), we will focus on responses to messages published via Facebook’s status update feature. Building on social support research, we will, however, not investigate explicit mobilization requests (Ellison et al., 2013), but support mobilization through the self-disclosure of positive and negative emotions or experiences. That is, we distinguish between status updates that contain negative and weary emotions and experiences

(negative status updates) and status updates that contain positive and happy emotions and experiences (positive status updates). Both types of status updates are common in SNS communication (Moreno et al., 2011; Qiu, Lin, Leung, & Tov, 2012; Wang, Burke, & Kraut, 2013) and include emotions such as love, thankfulness, and joy on the positive side as well as complaints, disappointment, depressed mood, and negative sentiments and attitudes with regard to other people on the negative side (Moreno et al., 2011; Wang et al., 2013). Although the sharing of emotions can be self-rewarding (Choi & Toma, 2014), SNS users also disclose their feelings to others to elicit various kinds of social support (Lin, Tov, & Qiu, 2014). That is, both the senders of positive and negative status updates may expect their network to respond to these postings by clicking the “Like” or “Reactions” buttons, by commenting on the status update or by sending messages to the communicator through private communication channels. Still, in the following section, we will provide reasons why readers could not be equally willing to respond to positive and negative status updates.

1.2. The positivity bias in SNS self-disclosure

Support-seekers can receive help more easily when they disclose their problems and feelings openly to the potential providers of the support (Graham, Huang, Clark, & Helgeson, 2008). However, in recent years, evidence has accumulated that users prefer disclosing positive forms of self-presentation on SNSs (Reinecke & Trepte, 2014) and that positivity is more appreciated by the SNS audience (Bazarova, 2012). For example, results by Qiu et al. (2012) show that SNS users were more willing to disclose positive than negative emotions on Facebook and that their friends’ Facebook communication was perceived as more positive than in real life. Similarly, in a longitudinal study on the effects of SNS use on well-being, users who reported being in a negative affective condition (i.e., low well-being) found it harder to present themselves authentically on SNSs. Users in a positive affective condition, in contrast, could easily engage in authentic (i.e., positive) self-presentation and reap the positive effects of self-disclosure that further increased their well-being (Reinecke & Trepte, 2014).

These findings have lend support to the argument that there is a “positivity bias” in SNS communication (Reinecke & Trepte, 2014, p. 95). This bias has been explained from the conceptual view of norm evolution on Facebook. Generally spoken, social norms are a set of written or unwritten rules that determine acceptable and unacceptable behaviors in a given context (McLaughlin & Vitak, 2012). Due to the relative novelty of Facebook, communication rules on SNSs are assumed to be mostly implicit in their nature (McLaughlin & Vitak, 2012). Using focus group data, Bryant and Marmo (2012) identified 36 “unwritten” Facebook friendship rules that were rated by the participants of a quantitative survey in a follow-up study. Strongly supporting the note of a positivity bias, the rule “I should present myself positively but honestly” received one of the highest agreements among the participants of the survey (Bryant & Marmo, 2012, p. 1025). Similarly, participants of another study perceived highly emotional and support-requesting status updates as inappropriate for public Facebook communication (McLaughlin & Vitak, 2012, p. 307). Most closely related to the current study, an experiment found that participants evaluated fictitious positive status updates about day-to-day experiences significantly more appropriate for public Facebook communication than the respective negative messages (Bazarova, 2012).

In sum, there is strong evidence that positivity works as a social norm in SNS communication and that the broadcasting of negative feelings and experiences via status updates could be perceived as

inappropriate by SNS audiences.

1.3. Context-sensitivity of the positivity bias

Previous research suggests that the effects of message valence on the perceived appropriateness of communication are most strongly pronounced with regard to public modes of Facebook communication (Bazarova, 2012). Facebook, however, also offers more intimate modes of communication such as the private messaging feature. Transmitting information through this mode of communication allows users to keep their intimate discussions “out of Facebook’s public eye” (McLaughlin & Vitak, 2012, p. 308). Such private forms of communication on Facebook could underlie different social norms and expectations than public communication via status updates and comments. In fact, participants rated a message that was perceived as inappropriate when communicated via status updates as significantly less inappropriate when it was communicated via a private message (Bazarova, 2012). Other studies corroborate the finding that private messaging features of SNSs are rated as more appropriate for highly intimate self-disclosures such as the disclosure of negative feelings and experiences (Bazarova & Choi, 2014; Bazarova, Taft, Choi, & Cosley, 2013; Utz, 2015).

Therefore, the appropriateness mechanism behind the positivity bias in SNS self-disclosure seems to be context-sensitive; that is, communicating negativity may be inappropriate in public SNS contexts while being legitimate in more private contexts such as Facebook’s private messaging feature. In the following section, we will apply these arguments to derive hypotheses about when and why positive and negative status updates are more likely to receive feedback via different Facebook communication channels.

2. The present study

2.1. A positivity bias in public and private responses to SNS status updates?

Despite the positivity bias in public SNS self-disclosure, a considerable amount of users still broadcast negative content to their networks of friends, often in expectance of receiving social support (Lin et al., 2014; Vitak & Ellison, 2013). Little is known, however, about whether negativity and positivity differently influence receivers’ willingness to respond to status updates. Assuming that the positivity bias in SNS self-disclosure and its context-sensitivity are basically transferrable to SNS reactions, we propose that the willingness to respond to positive or negative information depends on the communication channel used for responding – that is, public comments or private messages.

For public responses via the comment function, it is hypothesized here that negative status updates reduce the receivers’ willingness to respond due to a perceived inappropriateness of the communication. The link between negative status updates and perceived inappropriateness has been established by several studies (e.g., Bazarova, 2012) while the assumption that perceived inappropriateness reduces the willingness to respond with a public comment has not been tested yet. However, several theoretical explanations support this assumption. First, based on the expectancy violations approach (Burgoon, 1978), it has been argued that it can be rational to ignore minor norm-violating behavior—such as posting status updates about negative feelings or experiences—because this avoids potential interpersonal conflicts and can help “keep the peace” (McLaughlin & Vitak, 2012, p. 299). Second, the reciprocity effect of self-disclosure implicates that people feel a need to respond to the intimate self-disclosures of one person with a personal disclosure of equal

intimacy (e.g., Collins & Miller, 1994). However, users deeming intimate public self-disclosure of others as inappropriate should regulate their own behavior in a public communication context accordingly. Hence, an unwillingness to respond to negative status updates could also be interpreted as the receiver’s unwillingness to reciprocate the sender’s message with equally intimate public self-disclosure. Both interpretations suggest the following mediation hypothesis:

H1a. Perceived appropriateness will mediate the effect of status update valence on the willingness to respond with a public comment: Negative status updates will be perceived as more inappropriate than positive ones and this perception will decrease readers’ willingness to respond.

Although the appropriateness mechanism described above suggests a detrimental effect of the self-disclosure of negative feelings and experiences on the probability of receiving feedback, another mechanism could operate in the opposite direction. In a qualitative study, Facebook users argued that the disclosure of negative feelings and experiences lets them appear “needy” (Vitak & Ellison, 2013, p. 251). Similarly, the literature on social support shows that people perceive it as particularly important to provide support when a person experiences negative feelings and experiences (such as stress or a job loss, Lakey & Cohen, 2000). Therefore, it can be assumed that readers of status updates assess the urgency of providing support; and that this assessment will be more positive when senders disclose negative feelings and experiences (McLaughlin & Vitak, 2012). Research on help behavior has shown that a positive assessment of the urgency of providing support is likely to increase the actual willingness to provide support (e.g., Latané & Nida, 1981), thus, the following mediation hypothesis can be derived:

H1b. Perceived need for social support will mediate the effect of status update valence on the willingness to respond with a public comment: Negative status updates imply to a higher extent than positive status updates that their authors need help and this perception will increase the readers’ willingness to respond.

However, in the context of help provision through public comments, the feedback-stimulating perception that the discloser of negative feelings or experiences needs help could be weaker than the detrimental effect of perceived communication inappropriateness – in part because support can also be provided via alternative ways than public responses (see the following section). Therefore, we expect a negative total effect of negative status update valence on the readers’ willingness to respond with a public comment:

H1c. Overall, readers will be less willing to respond to negative status updates with public comments than to positive ones.

Getting less or even no public responses does not necessarily mean that the authors of negative status updates receive no feedback at all. Instead, as suggested in section 1.3., SNS users prefer private modes of communication for the exchange of intimate information which they perceive as inappropriate in public communication (Bazarova & Choi, 2014; Utz, 2015; Vitak & Ellison, 2013). It can therefore be assumed that the appropriateness norm which inhibits public feedback to negative status updates is less relevant for responses via private messages. In contrast, the perception that the sender of a negative status update needs help should increase a reader’s willingness to respond with a private message in a similar way as it increases the willingness to respond with a public comment. Therefore, we hypothesize the following:

H2a. Perceived need for social support will mediate the effect of

status update valence on the willingness to respond with a private message: Negative status updates imply to a higher extent than positive status updates that their authors need help and this perception will increase the readers' willingness to respond.

Finally, it has been argued in earlier sections that users could likely substitute a reduced willingness to respond to a negative status update with a public comment with an increased willingness to respond privately (Vitak & Ellison, 2013): Private messages allow for a supportive reaction to negative events or experience without the danger of breaking social norms of perceived appropriateness. In contrast, with regard to positive status updates, users should see less necessity to respond with a private message rather than a public comment, because these status updates do not violate public SNS communication norms.

H2b. Overall, readers will be more willing to respond to negative status updates with a private message than to positive ones.

2.2. The influence of the social distance between the discloser and receiver of status updates

Per default, users' status updates reach the entire network of one's Facebook contacts (Utz, 2015; Vitak, 2012). For the majority of Facebook users in the U.S., this means that their status updates potentially can be seen by more than 200 "Friends" (Smith, 2014). While some of these contacts are hardly more than acquaintances, including work colleagues, friends of friends, and/or former schoolmates ("weak ties"), others are closer friends, relatives, and/or family members to whom users usually have a more intimate relationship ("strong ties", Bazarova, 2012; Ellison et al., 2007; Trepte et al., 2014; Utz, 2015).

A possible consequence of this heterogeneity of SNS friends is that users may frequently receive intimate and support-requesting status updates from a network contact with whom they do not share a close relation. Regarding the willingness to respond to such status updates, research suggests that intimate self-disclosures will primarily be reciprocated when the discloser is a good friend (Clark, Oullette, Powell, & Milberg, 1987; Ellison & Vitak, 2015; Lin et al., 2014). A possible explanation refers to the different interaction frequency and the different social orientations among strong and weak ties (e.g., Clark & Mils, 1993); studies have shown that SNS users interact with close friends more often than with casual acquaintances (not only on Facebook) and that the relationships with close friends are characterized by a communal orientation (i.e., feeling responsible for others' well-being) rather than an exchange orientation (i.e., providing benefits only in response to benefits received or expected). Due to this communal orientation, strong ties should show a higher general willingness to provide social support. In fact, research has demonstrated that weak ties are not as willing as strong ties to respond to support-seeking requests in general (Clark et al., 1987; Krackhardt, 1992; Stefanone et al., 2012).

Similar patterns have also been observed in the SNS context: Stefanone et al. (2012) analyzed requests for instrumental support on Facebook and showed that strong ties were significantly more likely to provide support than weak ties. It appears plausible to assume that this finding is also valid in the case of emotional support (Ellison & Vitak, 2015; Trepte et al., 2014). Based on these assumptions, we propose that social distance will moderate the effects of status update valence on readers' willingness to respond: The willingness to respond to a status update from a weak tie should be generally low (as no communal orientation between both interaction partners exists), irrespective of message characteristics or response channel (public vs. private). In contrast, the willingness to respond to a message from a strong tie should vary

significantly as a function of message characteristics and response channel. That is, users can be assumed to be more willing to publicly comment on positive status updates from close friends (and, therefore, less willing to comment on their negative status updates) because only in communal relationships do they consider writing a response at all. The inverse effect should occur for users' willingness to respond with a private message.

H3a/b. Social distance will moderate the effect of message valence on the willingness to respond with a public comment (**H3a**) and with a private message (**H3b**): Message valence will only affect the willingness to respond to status updates from strong ties.

Additionally, the social distance between sender and receiver could affect the mediating effects of perceived support urgency and perceived appropriateness. The communal orientation of strong ties suggests that perceived support urgency should be a particularly powerful motivator to respond to negative status updates sent by a close Facebook friend: Due to their communal orientation, close ties feel responsible for each other's well-being (Clark et al., 1987; Krackhardt, 1992; Stefanone et al., 2012), and the perception that a close friend needs help should particularly stimulate the willingness to provide support. We thus propose the following:

H4a/b. Social distance will moderate the indirect effect of message valence on the willingness to respond with a public comment (**H4a**) and with a private message (**H4b**) via perceived need for social support: The amount of perceived need for social support will increase the willingness to respond only for strong ties.

With regard to the mediating role of perceived appropriateness, the picture is less clear. Self-disclosure research has proposed that the perceived social distance between a discloser and a receiver of information can moderate the indirect effect of intimate self-disclosure via perceived appropriateness on relational outcomes. More specifically, receiving too much or too intimate information is said to be perceived as particularly inappropriate when the information is disclosed by a mostly unfamiliar person (Moon, 2000). On the other hand, previous research has also indicated that the violation of Facebook communication rules is perceived as inappropriate regardless of the social distance between the communicator and the receiver of norm-violating information (McLaughlin & Vitak, 2012). Due to these inconsistencies, we pose the following research question:

RQ1. How does social distance between the discloser and the receiver of a status update affect the indirect effect of message valence on the willingness to respond via message appropriateness?

3. Method

3.1. Research design and sample

The hypotheses and the research question were assessed in a 2 (status update valence: positive vs. negative messages) x 2 (tie strength: strong vs. weak tie) between-subjects online experiment. The participants were recruited with the help of 60 students of an undergraduate course at a large university in Germany who were enrolled in the communication program. The student recruiters were asked to distribute the link to the online survey in their online social networks (e.g., by posting it on Facebook or by inviting their friends and relatives via email) in exchange for course credit. The student recruiters were not allowed to participate in the survey themselves.

This procedure generated a total of 880 participants. As the study was designed for Facebook users only, ten nonusers had to be

excluded from the sample. The final sample thus consisted of 870 participants. 64 percent of the participants were female and they were aged between 16 and 66 years with a mean age of 25.16 years ($SD = 7.26$). 61 percent of the participants had finished high school and another 28 percent held an academic degree. Most participants were either students (66 percent) or employees (21 percent). Regarding their Facebook usage patterns, the mode of participants' daily Facebook visiting time was between 30 and 60 min, and the mode of participants' size of contact networks was between 300 and 399 Facebook "Friends". Participants indicated to write private messages on Facebook regularly ($M = 5.29$, $SD = 1.51$ on a scale from 1 = 'never' to 7 = 'very frequently') while they commented on their friends' status updates only occasionally ($M = 3.55$, $SD = 1.39$).

3.2. Procedure and stimulus material

The present study fully complied with German legal standards and ethics guidelines for empirical social research.¹ On the first page, participants were informed that they would participate in a survey on their use of the Social Network Site Facebook. They were further informed that their anonymity is granted, that their responses would only be used for research purposes, and that they could terminate participation at any time during the survey. By clicking the "Continue" button, the respondents declared their informed consent to participate in the survey. Participants then had to indicate whether they used Facebook. Facebook users were asked a number of questions about their Facebook profile and usage patterns (e.g., number of Facebook friends, average daily Facebook visiting time, and usage frequency of specific Facebook functions). After that, participants were randomly assigned to an experimental condition in which they were either asked to provide the names of three strong ties ("good friends") or the names of three weak ties ("casual acquaintances"). For this purpose, participants were allowed to open their Facebook account in a separate tab, browse through their list of friends and then enter the names of the selected friends in three text boxes. One of these names was then randomly selected (IV1: tie strength) and participants were asked to provide some more details about this contact (see Measures section). Then, participants were prompted to imagine that the selected tie had posted the status update that would follow on the next page on Facebook. On this page, one positive or negative status update was randomly chosen and presented to the participants (IV2: message valence). The status updates dealt with successes or setbacks of the communicator in the domains of relationship and work. For example, in relationship-related status updates, the discloser happily reported her/his two-year-anniversary with her/his boyfriend/girlfriend while sadly announcing the end of their relationship exactly on their two-year-anniversary in negative relationship status updates. Similarly, in work-related status updates, the discloser either happily reported to have landed a new job or sadly announced that she/he had been fired from her/his current position. Apart from the emotional markers implying success or setback, the wording of the status updates was kept constant in the negative and positive conditions. We chose the domains of relationship and work because they were among the most common topics in a content analysis of more than 500,000 status updates from U.S. users (Wang et al., 2013). Moreover, it has been argued that status updates are useful to share information about

significant life events (Ellison & Vitak, 2015) and the job and relationship domains are likely of central importance in the everyday life of SNS users. After reading the status update, participants reported their willingness to respond to it a) with a public comment and b) with a private message and evaluated the appropriateness of the status update as well as the amount of social support the discloser needed. On the last page of the survey, participants were debriefed about the fictitious character of the stimulus material. The participants received no financial compensation for participation.

3.3. Measures

Willingness to write a comment and willingness to send a private message were measured by asking the participants a) how likely it was that they would comment on the status update and b) how likely it was that they would send the author of this status update a private message. Answers were recorded on a scale from 1 = 'very unlikely' to 7 = 'very likely'.

Perceived need for social support was measured using five items from the UCLA Social Support Inventory (Schwarzer, 1991; Trepte et al., 2014). The items had to be adapted because the original inventory aims at measuring the amount of emotional, informational, and tangible social support a person has received during the last month (e.g., "How often during the last month did your friends bolster you up?"). In contrast, the current research aimed at measuring whether the participants perceived that the author of the respective status update needed social support. Thus, the wording of the items was changed to measure *perceived need* for social support: On a scale from 1 = 'do not agree at all' to 7 = 'fully agree', participants indicated whether the author of the status update seemed to need someone who provides emotional, informational or tangible help (e.g., "[NAME OF FRIEND] seems to need someone to bolster him up"). The five items showed a satisfactory internal consistency ($\alpha = 0.87$).

Perceived Facebook appropriateness of the status update was measured with a single item. On a scale from 1 = 'do not agree at all' to 7 = 'fully agree', participants were asked to provide their evaluation whether they felt that "the content of the status update is appropriate for public Facebook communication". The wording of the item followed the results of qualitative studies in which participants similarly described that when posting status updates, they made sure "that whatever you say is appropriate for everyone" (McLaughlin & Vitak, 2012, p. 305; Vitak & Ellison, 2013).

Treatment checks. To ensure successful manipulation of *tie strength*, we used three items from Stefanone et al. (2012). Participants were asked whether the randomly selected contact was a close friend or a casual acquaintance (scale from 1 = 'casual acquaintance' to 7 = 'very good friend'), how close they were with this person (very distant, very close), and whether they interacted with this person voluntarily rather than because they were both members of the same social institutions (not voluntary, completely voluntary).² Internal consistency was satisfactory with $\alpha = 0.89$. For

¹ As a substitute for an institutional approval (which is not required in Germany for studies with participants above the age of 15), our research design underwent an institutional peer review and was approved regarding soundness of method and compliance with ethical standards.

² While the current study operationalized social distance as an index of relationship voluntariness, contact frequency, and intimacy of the relationship, other measures could also have been used. For example, perceived interpersonal similarity between two individuals (e.g., similar interests, attitudes, or personality characteristics) has been discussed as a form of social distance (e.g., Liviatan, Trope, & Liberman, 2008). Perceived similarity can, but does not need to involve an intimate relationship between two individuals. Future research should investigate more closely whether the intimacy of a relationship or the perceived similarity between two individuals perform better in explaining specific interaction patterns between these communication partners.

the treatment check of the *valence* of the status update, we constructed a scale with three items that measured the participants' agreement (1 = 'do not agree at all', 7 = 'fully agree') with the statements that the status update was a) 'sad' (reversed), b) 'negative' (reversed), and 'positive' ($\alpha = 0.91$).

3.4. Data analysis

All analyses were performed with IBM SPSS 23. Mediation and moderation models were calculated using the PROCESS procedure for SPSS (Hayes, 2013). Significance of indirect effects was established by obtaining bias-corrected confidence intervals through bootstrapping ($m = 10,000$). Significance of moderated indirect effects is reported by referencing the bias corrected confidence intervals. In this context, the abbreviation "LLCI" refers to "Lower level confidence interval", and "ULCI" to "Upper level confidence interval". If the confidence interval does not include zero, the respective effect is significant.

4. Results

Preliminary analyses. Randomization checks showed no significant differences between the participants of the experimental groups regarding age, gender, education, and Facebook use. Group sizes were also fairly equal (negative status update: 430 participants, positive status update: 440 participants, close friend: 436 participants, acquaintance: 434 participants). Manipulation checks revealed that participants on average reported a higher *tie strength* when they were asked to imagine that the Facebook status update had been posted by one of their randomly selected good friends ($M = 6.39$, $SD = 0.81$) than by one of their casual acquaintances ($M = 2.48$, $SD = 1.06$), $F(1, 866) = 3739.427$, $p < .001$, $\eta^2 = 0.81$. Regarding the manipulation of the valence of the status updates, participants perceived positive status updates as more positive ($M_{rel.shp.} = 6.30$, $M_{work} = 6.44$, $SD_{rel.shp.} = 1.13$, $SD_{work} = 0.95$) than the negative status updates ($M_{rel.shp.} = 2.30$, $M_{work} = 2.18$, $SD_{rel.shp.} = 1.10$, $SD_{work} = 1.09$). There were no substantial differences between the valence perceptions of the two types of status updates, and therefore they were combined into the two categories "positive" and "negative" status updates for the following analyses. The difference between the participants' average perception of positive and negative status updates was significant, $F(1, 866) = 3788.55$, $p < .001$, $\eta^2 = 0.82$.

Hypotheses testing. To address H1a–c and H2a–b, the effects of perceived appropriateness and perceived need for social support on the relationship between message valence and willingness to respond were tested in two separate mediation models. Results for the "comment model" are displayed in Fig. 1a and results for the "private message model" are shown in Fig. 1b.

In support of H1a and H1b, both the perceived appropriateness of a status update and the perceived need for social support of the sender of the status update mediated the effect of status update valence on the participants' willingness to write a comment (F1a). Regarding perceived need for social support, a negative status update increased the participants' perception that the communicator needs help ($b = 1.74$, $p < .001$), which in turn increased their willingness to write a comment ($b = 0.22$, $p < .001$). This mediation effect was significant ($b = 0.38$, $LLCI = 0.18$, $ULCI = 0.58$). Regarding perceived appropriateness, a negative status update was perceived as significantly more inappropriate for public Facebook communication than a positive one ($b = -2.27$, $p < .001$), yet the more appropriate the participants perceived a status update to be, the more willing they were to reply to it using a public comment ($b = 0.18$, $p < .001$). This mediation effect was significant as well ($b = -0.59$, $LLCI = -0.86$, $ULCI = -0.33$), confirming that two

opposing mechanisms influence the decision of a reader of a status update to comment on it. However, as expected in H1c, the total effect of a negative message valence on the willingness to write a comment was negative as well ($b = -0.60$, $p < .001$, $LLCI = -0.85$, $ULCI = -0.31$).

According to our data, the impact of these two underlying mechanisms driving the willingness to respond changed when the participants switched their communication mode to private messaging (F1b). The mediation effect of perceived need for social support remained significant ($b = 0.35$, $LLCI = 0.09$, $ULCI = 0.63$), which supports H2a. However, perceived inappropriateness did no longer influence the willingness of a reader to respond to a negative status update via a private message ($b = -0.01$, $LLCI = -0.20$, $ULCI = 0.19$). The total effect of negative message valence was positive ($b = 0.94$, $p < .001$, $LLCI = 0.59$, $ULCI = 1.29$), supporting H2b and demonstrating that a negative status update increased the willingness to send the communicator a private message. These findings imply that Facebook responses via private message are primarily driven by perceived need for social support, irrespective of the perceived appropriateness of the initial status update.

Finally, to investigate the impact of the social distance between discloser and receiver on the described effects, PROCESS was used to calculate two moderated mediation models (Fig. 2a–b). The variables of the mediation models were included in these models. Additionally, "social distance" was tested as a moderator of all direct and indirect effects.

Regarding the moderated "public comment model" (F2a), the most remarkable difference to the previous models is that social distance had a direct and strong impact on the participants' willingness to comment. Participants generally were more willing to comment on a status update from a good friend than on an update from a casual acquaintance ($b = -3.52$, $p < .001$, $LLCI = -4.26$, $ULCI = -2.79$). Regarding moderation effects, the data shows that social distance moderated the direct effect of status update valence ($b = -1.52$, $p < .001$, $LLCI = 0.90$, $ULCI = 2.13$) and the direct effect of perceived need for social support ($b = -0.25$, $p = 0.01$, $LLCI = -0.44$, $ULCI = -0.06$) but neither the direct effect of perceived appropriateness ($b = -0.10$, $p = 0.08$, $LLCI = -0.21$, $ULCI = 0.01$) nor the direct effects of message valence on perceived appropriateness ($b = 0.38$, $p = 0.16$, $LLCI = -0.16$, $ULCI = 0.92$) and on perceived need for social support ($b = 0.03$, $p = 0.83$, $LLCI = -0.28$, $ULCI = 0.35$). Hence, supporting H3a and H4a, status update valence and perceived need for social support significantly affected participants' willingness to comment when the update was posted by a strong tie (cond. direct effect of valence: $b = -1.26$, $p < .001$, $LLCI = -1.70$, $ULCI = -0.82$, cond. indirect effect of social support: $b = 0.55$, $LLCI = 0.25$, $ULCI = 0.84$) but remained inefficient when the status update was posted by an acquaintance (cond. direct effect of valence: $b = 0.26$, $p = 0.24$, $LLCI = -0.17$, $ULCI = 0.70$, cond. indirect effect of social support: $b = 0.11$, $LLCI = -0.32$, $ULCI = 0.28$).

Essentially, the same pattern of influences was found in the moderated "private message model" (F2b): First, social distance had a direct impact on the participants' willingness to send a private message, that is, the participants' willingness to send private messages to good friends was generally higher than to send private messages to casual acquaintances ($b = -1.96$, $p < .001$, $LLCI = -2.61$, $ULCI = -1.32$). Similarly to the moderated "public comment model", social distance significantly moderated the direct effects of message valence ($b = -0.80$, $p = 0.004$, $LLCI = -1.34$, $ULCI = -0.26$) and perceived need for social support ($b = -0.23$, $p = 0.008$, $LLCI = -0.40$, $ULCI = -0.06$) in that these variables only increased the participants' willingness to send private messages when the author of the negative status update was a good friend (cond. direct

effect of valence: $b = 1.13$, $p < .001$, $LLCI = 0.75$, $ULCI = 1.52$, cond. indirect effect of social support: $b = 0.46$, $LLCI = 0.23$, $ULCI = 0.75$). Their influence was not significant for status updates posted by casual acquaintances (cond. direct effect of valence: $b = 0.33$, $p = 0.08$, $LLCI = -0.04$, $ULCI = 0.72$, cond. effect of social support: $b = 0.07$, $LLCI = -0.11$, $ULCI = 0.25$). These findings support [H3b](#) and [H4b](#). The mediated effect of perceived appropriateness was already insignificant in the mediation model ([Fig. 1b](#)) and therefore was not moderated, too.

5. Discussion

The current study contributes to the investigation of the communicative norms and expectations guiding SNS users' willingness to respond to other users' status updates. Previous research has suggested that a "positivity bias" exists with regard to what SNS users publicly disclose in their status updates, and our results complement this finding by demonstrating that a positivity bias also exists with regard to feedback processes in SNS communication: Public reactions to status updates on SNS were significantly impaired by negative message valence ([H1c](#)). Our results further demonstrate that this effect can partly be attributed to a perceived norm violation; participants evaluated the public disclosure of negative emotions in status updates as inappropriate and therefore were less willing to provide public support ([H1a](#)) – even though they were aware that the communicator needed help ([H1b](#)).

What are the implications of these findings? The degree to which a public status update adheres to the rules and norms in SNS communication seems to be a strong regulator of users' public response behavior. As a consequence, users publicly disclosing negative emotions might not get the amount of public feedback they need or expect (see also [Forest & Wood, 2012](#)). In the long term, such experiences could well decrease the willingness of SNS users in a negative mood to present themselves authentically ([Reinecke & Trepte, 2014](#)) and this unwillingness could ultimately reduce the frequency of negative status updates in the newsfeeds of other SNS contacts. This, in turn, might reinforce SNS users' perception that positivity is a dominant norm in public SNS communication.

Furthermore, the social norms of appropriateness found in the SNS context could mirror larger societal norms and processes. More specifically, the positivity bias in SNS communication found in the present study and in previous research ([Reinecke & Trepte, 2014](#)) seems to echo a larger societal tendency to stigmatize physical and mental illness. Both individuals suffering from physical (e.g., HIV or Hepatitis C, [Zacks et al., 2006](#)) and mental illness (e.g., depression, [Corrigan, 1998](#)) frequently experience social stigmatization, resulting in social exclusion and impaired life satisfaction ([Markowitz, 1998](#)). While the finding that similar forms of stigmatization might take place in the public SNS context may seem discouraging at first sight, our results also suggest that users' increased willingness to provide support via private messages could antagonize these detrimental effects to some degree. Moreover, social media may also provide new opportunities to overcome social stigma in public communication. Online campaigns such as the "ice bucket challenge" that went viral in 2014 ([Koohey & Koohey, 2014](#)), collecting donations to support research on the chronic disease ALS (amyotrophic lateral sclerosis), are new avenues to increase public awareness and reduce the stigmatization of social groups or minorities. Better understanding the mechanisms guiding appropriateness evaluations in the SNS context could help create a social climate on SNS that encourages self-disclosure about negative topics (e.g., illness, divorces, or other critical life events) to inform other SNS users, raise

awareness for stigmatized groups, or provide coping strategies for other users facing similar challenges. The implications of the present study thus go beyond the availability of social support to individual users and extend to the broader societal issue of stigmatization and prejudice.

While the focus of the current study was on the appropriateness mechanism, additional cognitions might further explain the lower willingness to respond to negative status updates with a public comment. First, this finding can be interpreted from a privacy perspective: users' networks of SNS friends are usually heterogeneous ("context collapse", see [Vitak, 2012](#), p. 451) and often include contacts towards whom the maintenance of a positive self-presentation is of particular importance (e.g., work colleagues or seniors). Given this importance, the public disclosure of negative and intimate feelings violates the privacy rule that public SNS messages should contain content suitable for every member of the network ("lowest common denominator approach", [Hogan, 2010](#), p. 377). Assuming that a public response to a negative status update would require some reciprocal self-disclosure, readers' unwillingness to publicly respond to such posts can also be interpreted as high privacy awareness.

A related second explanation can be derived from research on bystander behavior. Here, the concept of audience inhibition ([Latané & Nida, 1981](#)) implies that users could generally be willing to respond to negative status updates, however, they might be inhibited to do so with a public comment due to the fear of being evaluated by other members of the sender's or their own social network or due to the fear of disgracing themselves (e.g., [Morris et al., 2010](#)). These interpretations do not necessarily contradict the appropriateness mechanism but rather explain why the direct effect between message valence and willingness to respond remained significant even after including perceived appropriateness as a mediator.

While SNS users who publicly disclose their negative emotions might not get enthusiastic public support via comments from others according to our results, the opposite effect was found for private reactions to status updates ([H2b](#)): Users were more willing to respond to negative status updates with a private message, partly due to the persisting positive indirect effect of perceived support urgency ([H2a](#)) and due to the insignificant negative indirect effect of perceived communication inappropriateness. With regard to the availability of emotional support on SNS, the present study thus provides a complex picture: While support seems to be limited in public SNS communication, SNS users show a tendency to canalize supportive reactions to negative experience of their SNS friends through private modes of communication. This finding is in line with previous research on the affordances of Facebook's private message feature ([Bazarova & Choi, 2014](#); [Utz, 2015](#)) and it provides empirical support that a lack of public feedback does not necessarily mean that a communicator does not receive any feedback at all. The switch of communication modes can also explain why some studies did not find a lack of public feedback to negatively affect users' feelings of social inclusion ([Deters & Mehl, 2013](#)). Regarding the communicators' appreciation of such feedback, however, it remains an open question for future research whether a lack of public responses to status updates still bothers the communicator due to the fear that others could interpret this lack of public feedback as an indicator for social isolation.

Regarding the influence of the relationship between the discloser and the reader of a status update, our results reveal that only strong ties showed a substantial willingness to respond to status updates either with public comments or with private messages ([H3a/b](#)). Furthermore, the increase in users' perception that the author of a negative status update needs help significantly stimulated their willingness to respond only when the author was a

close friend (H4a/b). These findings extend previous research that focused on the effects of self-disclosure in different SNS contexts on observers' disclosure perceptions without considering the influence of relational factors (Bazarova, 2012). According to our study, SNSs primarily seem to mirror emotional support resources (i.e., close friends) that are also available offline. At a first glance, this finding seems to contradict previous research that emphasized the importance of weak ties in users' social networks (Ellison & Vitak, 2015). For example, previous studies reported that weak ties provide particularly useful responses to mobilization requests on SNS (Gray et al., 2013). To resolve these seemingly contradicting findings, it is important to disentangle the different types of social support that strong and weak ties provide. Our study focused on *emotional* status updates that primarily aimed at mobilizing *emotional* support. Close ties are assumed to be more willing to provide this type of support (Ellison & Vitak, 2015) because their relationship to the discloser is characterized by a caring communal orientation and because they can provide support tailored to the individual needs and personality of the discloser more easily (Gray et al., 2013). On the other hand, weak ties are assumed to be particularly useful in providing *informational* benefits such as access to different worldviews and opinions as well as access to new information in general (Gray et al., 2013; Vitak & Ellison, 2013). Our finding that emotional support on SNS is available only from a limited number of close friends hence does not exclude that informational support on SNS is available from a wider range of contacts (Trepte et al., 2014).

Finally, it is important to note that social distance did not affect the perceived inappropriateness of a negative status update; negative status updates were perceived as a norm violation of public Facebook communication irrespective of whether the communicator was a close friend or acquaintance (RQ1). As perceived communication inappropriateness has been shown to potentially damage interpersonal relationships (Clark & Taraban, 1991), this finding implies that even close friends could be annoyed when a communicator continuously broadcasts negativity via public status updates. While this presumption is supported by an earlier study (Forest & Wood, 2012), more research is needed to investigate the consequences of inappropriate online communication in close relationships in detail.

The findings of the current study need to be interpreted in light of several limitations. Our experimental approach grants high internal validity of the findings but limits their generalizability. For example, we only measured the impact of a specific set of status updates. Although we think that these status updates were typical examples of positive and negative emotional disclosures, future studies should validate our findings by using other status update topics and contexts. Moreover, other types of support and mobilization requests (e.g., for informational support) should be tested in future research. This research should also assess whether Facebook's "Reactions" feature possibly shifts the social norms that encourage the positivity bias in feedback processes to SNS status updates: With the introduction of this feature, readers of status updates can provide support-seekers with standardized feedback that is more nuanced than the "Like" button (i.e., they can choose among reactions such as "Love", "Haha", "Wow", "Sad", or "Angry", Facebook Inc, 2016). Responding to a negative Facebook status update with a sad reaction, for example, could signal a support-seeker that a reader pays attention and cares for her or him (Gray et al., 2013). Still, it does not oblige the reader to reciprocate the status update with a disclosure of equal intimacy. An increased willingness to reply with a "Reaction" could potentially compensate for a reader's reduced willingness to respond with a public comment.

Ultimately, it could have been valuable to consider the influence

of users' previous SNS-related behaviors on readers' evaluations of their status updates and on readers' willingness to respond to these status updates. Forest and Wood (2012) showed that SNS contacts rated a communicator more positively when she/he "broke out" of a typical communication behavior. That is, users who regularly disclosed their negative feelings were rated more favorable when they disclosed positive feelings and vice versa. Although we prompted our participants to imagine that one of their randomly chosen SNS contacts had posted the status update, we did not assess whether the valence of the status update was perceived as typical or atypical for that user. A similar argument can be made with regard to the individual composition of users' contact networks: Specific rules and communication norms are likely to exist on a network-level and the communication of negative feelings and emotions might well be tolerated in some networks while being perceived as inappropriate in others. On a macro level, this argument applies to the study of SNS in different countries and cultures: Our participants are socialized with the norms and values of the German culture, and these norms and values possibly influenced how our participants behave in SNS, what they disclose, and which messages they respond to. For example, the willingness to trade privacy for greater convenience is particularly low in Germany (EMC, 2014), and therefore, our participants might not have been willing to trade the risk of disclosing negative feelings for the possibility to receive social support. Although we do not believe that the validity of our findings is restricted to Germany—various studies from other countries, such as the U.S., New Zealand, and Singapore, reported similar behavioral norms of SNS users (e.g., Bazarova, 2012; Hooper & Kalidas, 2012; Qiu et al., 2012; Vitak & Ellison, 2013)—more research is needed to investigate whether these norms also apply to countries where Facebook is not the most popular SNS (e.g., China) and to cultures where a public disclosure of success and positive feelings is likely to be interpreted as "boasting". Such research can also help disentangle to which extent social norms on SNSs are a product of culture or of a specific SNS environment.

In sum, the current study strongly supports the existence of a positivity bias with regard to feedback processes in public SNS communication. Status updates containing negative emotions and experiences were not only perceived as less appropriate but also significantly reduced the willingness of the potential supporters to respond with a public comment. Only close friends of the communicators partly compensated this unwillingness by responding to the status update with a private message. These findings imply that, currently, SNS users who set a high value on context-appropriate communication should consider using "Friends Lists" to limit the visibility of negative status updates to their close friends or to contact these friends directly via more private modes of communication. This would not only facilitate intimacy between the participants (Forest & Wood, 2012) but would also likely circumvent the privacy-related risks of publicly disclosing negative emotions and the potential disappointment of not receiving a sufficient amount of public feedback to these status updates. Still, in the long term, such behavior will possibly reinforce the positivity bias in public SNS communication rather than reducing it. This could prevent individuals in a negative mood from presenting themselves authentically (Reinecke & Trepte, 2014). Therefore, with the current study's findings of perceived communication inappropriateness being a major inhibitor of public feedback processes, it remains an important question for future research whether SNS norms can be modified in a way that dissolves the tradeoff between users' need to communicate appropriately yet authentically in public SNS contexts.

Appendix

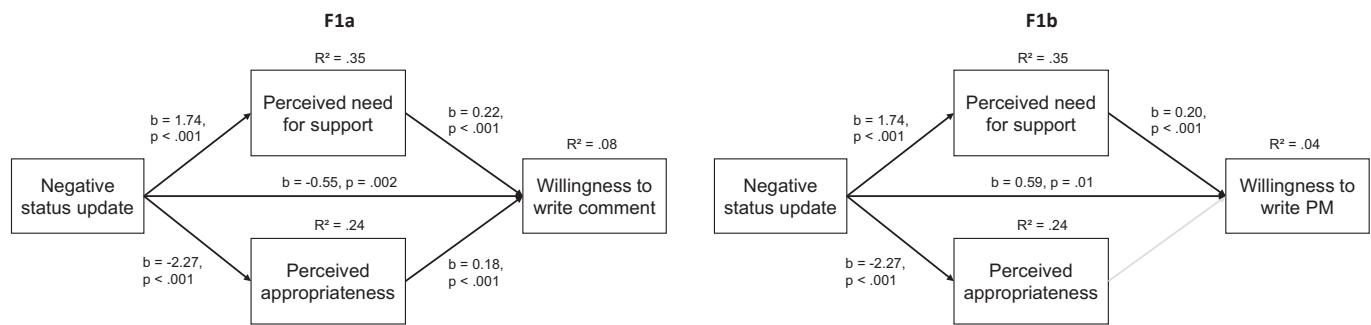


Fig. 1a–b. Comment mediation model (F1a) and private message mediation model (F1b). Note: $n = 870$. Grey lines indicate insignificant effects.

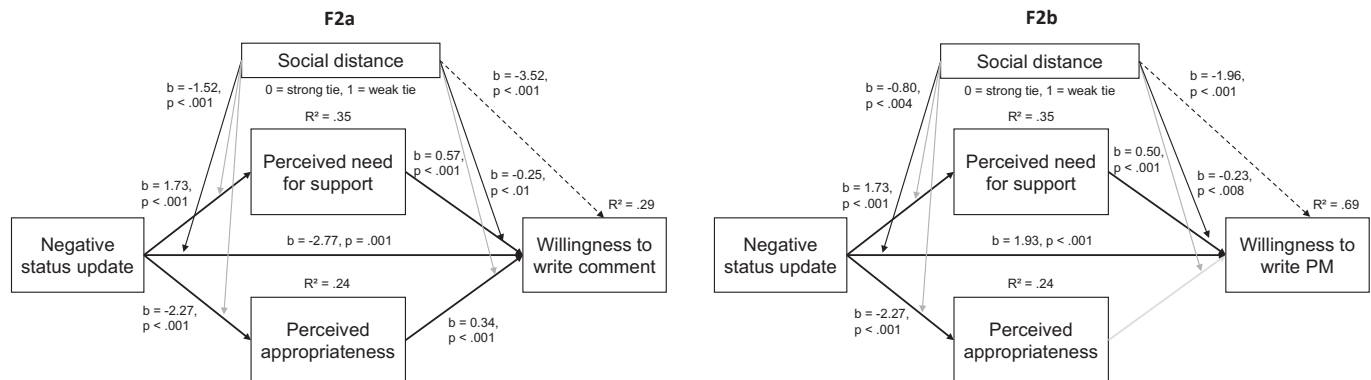


Fig. 2a–b. Comment moderated mediation model (F2a) and private message moderated mediation model (F2b). Note: $n = 870$. Grey lines indicate insignificant effects.

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