Disclosures about important life events on Facebook: Relationships with stress and quality of life

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ABSTRACT

The current study examined the relationship between general perceived levels of stress, quality of life, social networking usage, and disclosing important life events on Facebook in order to better understand the complex relationship between online disclosure and individual well-being. An online survey was completed by adult Facebook users aged 18–70. Results indicate that the more time spent on and the more social network memberships, the higher stress and lower quality of life; Facebook-specific usage was unrelated to either well-being variable. Together, these findings suggest that the current increase in social media variety and usage may be detrimental to user well-being. Users who shared important, bad health news on Facebook had higher stress and lower quality of life than those who did not, with no significant differences for sharing good health news. The more that users did not share important news on Facebook for self-protection and friend unresponsiveness reasons, the greater their stress. The self-protection reason was also negatively related to quality of life. These inconsistent findings can likely be partially explained by the nature of the information that is shared. These findings are discussed in light of disclosure and relationship patterns on social networks.

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1. Introduction

Computer mediated communication (CMC) is now an integral part of personal relationship maintenance: 62% of adults in the United States use the Internet to communicate with family and friends either on a daily or weekly basis (Greene & Magsamen-Conrad, 2010). A predominant form of CMC is being a user of social networking sites (SNSs) such as Facebook. Facebook has become one of the most prominent SNSs since its creation in 2004, and is the second most visited website in the United States and the world (Alexa, 2013), with an estimated 1.23 billion active users as of December 2013 (Facebook Key Facts, 2014). Facebook also accounts for approximately 75% of time spent on social networking sites and one in every seven minutes spent online (Ellison, Steinfield, & Lampe, 2007; Nabi, Prestin, & So, 2013). Facebook users engage in this SNS to foster a sense of community and connectedness (Sheldon, 2008), which reflects the site's mission of connecting and opening the world by giving users the "power to share" (Facebook Key Facts, 2014, para. 1).

Facebook's "power to share" mission is of particular interest to this study, and also to much of the extant Facebook research that has also centered on social network sites (SNSs) users' understanding of issues related to maintaining and negotiating disclosures and privacy (see Christofides, Muise, & Desmarais, 2009; Wilson, Gosling, & Graham, 2012). What is less understood, however, is the extent to which disclosing, and not disclosing, information about important life events on Facebook is related to users' general well-being. Thus, this will explore the relationships between information sharing on Facebook in relation to general perceived levels of stress and quality of life, focusing on whether or not information about significant health events is shared and the reasons why individuals choose not to disclose news about important life events on Facebook.

2. Facebook and well-being

As Facebook has continued to grow in size and reach, CMC and SNS researchers have accordingly become interested in how Facebook use is related to individual well-being. While research has found associations between aspects of Facebook usage and maintenance or creation of social capital (Ellison et al., 2007), increased self-esteem (Valkenburg, Peter, & Schouten, 2006), and a more

positive view of one's physical appearance (Rutledge, Gillmor, & Gillen, 2013), other findings also indicate that there are potential negative consequences. For example, spending a great deal of time on Facebook was negatively related to self-esteem (Kalpidou, Costin, & Morris, 2011) and was positively correlated with depression (Wright et al., 2013). Furthermore, Kross et al. (2013) examined subjective well-being, a useful predictor of mental and physical health consequences, in relation to Facebook use. Specifically, the more people used Facebook at one time point, the worse they felt, and the more their life satisfaction levels declined over time (Kross et al., 2013). Direct social interaction, on the other hand, led study participants to feel better over time (Kross et al., 2013). As such, research yields increasingly contradictory results about the association between Facebook use and well-being. To begin to untangle these research findings, we turn now to stress and quality of life, two concepts that have been examined in previous SNS research and that offer a general assessment of individual well-being, in relation to sharing important life events on Facebook.

2.1. Stress

Stress is defined as a group of events consisting of a stimulus (i.e., a stressor) that triggers a reaction in a person's brain about whether or not there are resources necessary to meet the demands placed on them by the stimulus, which then sparks a physiological fight-or-flight response (Campisi et al., 2012; Nabi et al., 2013). Physical and psychological well-being have both been inversely associated with stress (Nabi et al., 2013). Zhang, He, and Sang (2013) argued that by providing emotional, instrumental, informational, and appraisal support, social networks can influence a person's health, which could then help improve that person's ability to cope with stressful health challenges. From this idea that social support can abate stress, then, using SNSs such as Facebook should be associated with decreased stress levels.

However, as the amount of research on this topic continues to accrue, so do contradictory findings. On one hand, stress relief was one reason why undergraduates used Facebook (Stevens, Humphrey, Wheatley, & Galliher, 2011). In addition, Nabi et al. (2013) found that number of Facebook friends was associated with greater perceived social support, which then was associated with reduced stress, and, in turn, reduced physical illness and greater psychological well-being. Further, Mauri, Cipresso, Balgera, Villamira, and Riva (2011) found that greater Facebook use evoked high arousal and high positive valence. Studies have also reported negative associations between Facebook usage and symptoms of anxiety, depression, dysthymia, and schizoid disorder (Grieve, Indian, Witteveen, Tolan, & Marrington, 2013; Rosen, Whaling, Rab, Carrier, & Cheever, 2013). In addition, amount of SNS usage was unrelated to self-reported depression in Jelenchick, Eickhoff, and Moreno's (2013) research, leading these authors to contest the "Facebook depression" phenomenon that had been suggested.

On the other hand, Facebook-induced stress was experienced by a majority of college student respondents, according to Campisi et al. (2012). More frequent Facebook interaction (including sharing photos and news stories, liking, and commenting, but not disclosures via status updates) was also positively related to psychological distress (Chen & Lee, 2013). Relatedly, anxiousness was positively related to Facebook intensity and use of Facebook to connect with others, and greater Facebook intensity was also linked to increased alcohol use, but decreased marijuana use, in college students (Clayton, Osborne, Miller, & Oberle, 2013). Those with greater Facebook network diversity and size were also more likely to have symptoms of upper respiratory illness over a 10-week period (Campisi et al., 2012). Finally, a variety of Facebook usage variables were also positively linked to symptoms of narcis-

sistic, histrionic, and antisocial personality disorders, and bipolar mania disorder (Rosen et al., 2013; Ryan & Xenos, 2011).

2.2. Quality of life

Quality of life refers to the overall well-being of individuals and includes both physical and mental health; it is an individual's subjective belief about how they feel and how satisfied they are with their lives (Kross et al., 2013). There is a positive association between life satisfaction and Facebook use (Ellison et al., 2007; Valenzuela, Park, & Kee, 2009) and Facebook social connectedness (Grieve et al., 2013). Manago, Taylor, and Greenfield (2012) found that having larger social networks predicted higher levels of life satisfaction and perceived social support on Facebook. Research also indicates that an individual's self-esteem and well-being are positively influenced by SNS usage and the ability to selectively self-present on these sites (Gonzales & Hancock, 2011; Valkenburg et al., 2006). Further, in a recent study by Asbury and Hall (2013), Facebook users who were more heavily engaged in the site reported having higher perceived mental health and wellness compared to low engaged users.

As is evident by the above findings, research connecting elements of well-being to SNS usage has thus far focused almost exclusively on Facebook, which Asbury and Hall (2013) note is a limitation to this research area. However, overall SNS usage by American adults who go online has exponentially increased from 8% in 2005 to 73% in 2013, with 42% of these adults now belonging to multiple social networking sites (Duggan & Smith, 2013). For example, Twitter is now used by 18% of online U.S. adults, a 10% increase since 2010 (Brenner & Smith, 2013), and Instagram is used by 17% of online adults, up from 13% in 2012 (Duggan & Smith, 2013). This SNS growth and diversification suggests that expanding our understanding of how social networking usage beyond and including Facebook is linked to stress and quality of life is an important next research step that reflects these changing social networking trends. As such, to explore this new area and reflect previous inconsistent findings, research question one inquires:

RQ1: Which social network usage variables are related to (a) stress and (b) quality of life?

3. Information sharing on Facebook

Greene and Magsamen-Conrad (2010) found that motives for information disclosure via CMC channels include immediacy, convenience and efficiency, and ease and comfort. Despite unique channel-related challenges such as reduction of subtle nonverbal cues (Chou & Edge, 2012), self-disclosure is an important way to communicate on Facebook (Ledbetter et al., 2011), although the authenticity of these disclosures is often in doubt (Greene & Magsamen-Conrad, 2010). On Facebook, for example, users tend to strategically present themselves in a favorable light via their selections of flattering photographs and thoughtful wording and editing of posts and messages.

On a typical day, 15% of American Facebook users update their status, 22% comment on a friend's status, and 26% "like" a friend's content (Hampton, Goulet, Rainie, & Purcell, 2011). Facebook users post status updates an average of nine times a month (Hampton, Goulet, Marlow, & Rainie, 2012), primarily to emotionally disclose to others (Manago et al., 2012). In fact, users are more likely to disclose personal information on Facebook than via face-to-face channels (Christofides et al., 2009). Indeed, Livingstone (2008) argues that the standards for sharing information have changed; for example, personal information now shared by teenagers on SNSs would have been regarded as private by their parents, who are members of a previous generation.

These findings show that Facebook users are now disclosing more information on this SNS, and also sharing more personal disclosures, than ever before. Disclosing in general has been shown to help alleviate stress, which in turn makes individuals both happier, as they perceive social support, and healthier, given that psychological stress is associated with compromised host resistance to viral infectious illness (Hamrick, Cohen, & Rodriguez, 2002). Indeed, Pennebaker's (1989, 1992) theory of inhibition, which states that individuals are less likely to become ill or experience increased stress or compromised health when they disclose about traumatic events, has accrued significant, consistent empirical support (e.g., Frattaroli, 2006; Smyth, Pennebaker, & Arigo, 2012).

This relationship was recently extended to online contexts: for example, experiencing social support via Facebook is positively associated with users' general well-being (Liu & Yu, 2013; Nabi et al., 2013). In addition, Facebook users experienced greater social support and life satisfaction when they believed that they had a larger audience for their status updates (Manago et al., 2012). However, associations between online disclosure and stress and well-being have not been assessed in relation to a specific form of disclosure: information about important life events, which are significant, critical, and have the potential for far-reaching implications for that individual. These life events can be positive or negative; in the case of important health life events, for example, a negative event could be a cancer diagnosis, whereas a positive event example is losing a substantial amount of weight. This extension reflects the theory of inhibition's emphasis on traumatic life events and focuses in on a specific type of disclosure that individuals will likely spend some time pondering about whether and how they will share on Facebook.

3.1. Sharing important health news on Facebook

As a specific type of SNS disclosure, health-related disclosures have only recently begun to be studied. For example, college students were found to regularly tweet about using the prescription medication Adderall as a study aid (Hanson et al., 2013). On Facebook, 37% of college freshmen referenced stress (Egan & Moreno, 2011) and 33% referenced depression (Whitehill, Brockman, & Moreno, 2013), mainly via their status updates. Facebook depression references increased with greater Facebook usage and when users received reinforcement from their Facebook friends (Moreno et al., 2011), and were positively correlated with self-reported depression symptoms (Moreno et al., 2011). Further, all participants were open to being approached by a friend in response to their Facebook depression references (Whitehill et al., 2013). These findings reflect the notion that individuals who share their health information with their family and friends aid in creating "informed social networks that are prepared to actively assist them in managing serious illnesses" (Hartzler et al., 2011, p. 559).

Facebook can also be a medium for health education and promotion. For example, Jeong Yoon et al. (2013) determined that Facebook was a useful tool for depression screening and education. Facebook groups and fan pages devoted to health topics and conditions such as diabetes also offer opportunities for health disclosure, education, and the receipt of social support (Greene, Choudhry, Kilabuk, & Shrank, 2010; Woolley & Peterson, 2013; Zhang et al., 2013). Together, these findings suggest that individuals are growing more and more accustomed to sharing and encountering health-related information on Facebook and are comfortable with their Facebook health disclosures opening a dialogue with other users.

Nineteen percent of participants in one study selected text or instant messages to inform their friends about a stressful event (Iacovelli & Johnson, 2012). However, those who shared this stressful news via these mediated channels did not receive the physiological benefits of those who did so face-to-face, though there was no channel difference with regard to the negative affect that was experienced (Iacovelli & Johnson, 2012). In addition, positive Facebook self-presentation positively predicted subjective well-being, which was unrelated to honest Facebook self-presentation (Kim & Lee, 2011). As the inconsistent findings in these two studies thus do not provide us with a rationale for a clear prediction about the relationship between disclosure of information about important health events and stress and well-being, we consider these associations in our second research question:

RQ2: Do Facebook users who share news about important positive and negative health events on Facebook have different levels of (a) stress and (b) quality of life than Facebook users who do not?

3.2. Reasons for non-disclosure of important life events on Facebook

Despite the growth and prevalence of online disclosures, Facebook users do not share each and every thing that occurs in their lives with their online friends. Instead, they consciously select and control what to share and what to keep to themselves, weighing privacy and disclosure concerns as they do so. Wilson et al. (2012, p. 212) call this the "the information disclosure-privacy dilemma," and identified a number of disclosure risks, such as unintentional disclosure, use of private information by a third party, damaged reputation, and vulnerability. These risks are consistent with a number of reasons why individuals may decide not to share information on Facebook, including not wanting to be punished or incriminated, believing that their friends might misunderstand or be unsure how to respond (e.g., Christofides, Muise, & Desmarais, 2012), and wanting to control information and maintain privacy (e.g., Christofides et al., 2009).

The above reasons for not sharing information on Facebook are also generally consistent with the reasons why individuals choose to not disclose positive information about themselves (Derlega, Anderson, Winstead, & Greene, 2011), and also mirror the self-protection, partner unresponsiveness, and privacy motivations for topic avoidance in close relationships (Caughlin & Afifi, 2004). Research has found that being motivated by self-protection and partner unresponsiveness reasons when avoiding the topic of distant caregiving positively predicted distant caregiver negative health perceptions (Bevan, Rogers, Andrews, & Sparks, 2012). Further, when partner unresponsiveness was a reason for general topic avoidance with a close relational partner, it was positively associated with irritable bowel syndrome (IBS) symptom severity, and individuals diagnosed with IBS had stronger self-protection and privacy topic avoidance motivations than those not diagnosed with IBS (Bevan, 2009). Therefore, we extend these findings to the SNS context and to the disclosure of important life events in our final three hypotheses:

H1: The greater the self-protection reason for not sharing news about important life events on Facebook, the (a) greater stress and (b) reduced quality of life.
H2: The greater the friend unresponsiveness reason for not sharing news about important life events on Facebook, the (a) greater stress and (b) reduced quality of life.
H3: The greater the privacy reason for not sharing news about important life events on Facebook, the (a) greater stress and (b) reduced quality of life.

4. Method

4.1. Participants and general procedures

The study was conducted online by researchers at a small, private university in the western United States. To qualify for participation, individuals had to be over 18 with a Facebook account. The sample ($N = 599$) was primarily female ($n = 442$, male $n = 114$) and white ($n = 389$, American Indian/Alaska native $n = 5$, Asian $n = 67$, Bi/multiracial $n = 28$, black/African American $n = 14$, Hispanic/Latino/a $n = 47$, Native Hawaiian or other Pacific Islander $n = 4$, other $n = 1$).[1] At the time of the survey, 332 respondents were enrolled at a college or university; 216 were not. Most participants reported some college as their highest level of education ($n = 292$, high school/GED $n = 13$, college $n = 150$, some graduate school $n = 31$, graduate school or equivalent $n = 68$). Participant age ranged from 18 to 70 years ($M = 26.22$, $SD = 10.84$).

Participants were recruited in a variety of ways. Upon describing the study, which was part of a larger research project on sharing important news on Facebook, research team members asked interested individuals to provide their email addresses on a recruitment sheet wherein they consented to receive two emails with the study link. Study participants were also recruited via posts on Facebook, LinkedIn, Instagram, and Twitter. Individuals were additionally recruited by other study participants reposting or sharing the study information and survey weblink. Finally, information and the study weblink were posted on the communication studies department subject pool Blackboard site. Upon completion of the survey, university students in this pool were directed to a separate online survey that recorded their name so that they could receive a small amount of required class credit, which preserved their anonymity.

Participants provided consent upon reading the consent form and clicking on the SurveyMonkey.com weblink. Prior to answering items about sharing news about important life events on Facebook, participants read the following definition and were asked to think of important life events that directly involve them:

> We consider important life events as those that are significant to you – ones that do not happen every day and that could change or impact an aspect of your life. These life events can be good ones, such as getting engaged, or bad ones, such as receiving a negative health diagnosis. These events may be ones that you anticipate, or ones that come as a surprise to you.

The anonymous survey, which contained quantitative scales measuring general SNS usage, whether and how news about important life events were shared on Facebook, why information was not shared on Facebook, stress and quality of life, demographic information, and related measures not relevant to this investigation, took approximately 10–15 min to complete. Except for the communication studies subject pool participants, no compensation was provided.

5. Measures

5.1. SNS usage

Participants responded to six items about their Facebook and SNS usage. Most had been on Facebook longer than five years ($n = 308$, 37 months–5 years $n = 220$, 13 months–3 years $n = 58$, 7 months–1 year, 3–6 months $n = 3$, less than 3 months $n = 6$, did not respond $n = 1$) and spent 31–60 min per day on the site ($n = 160$, more than 3 h $n = 31$, 2–3 h $n = 51$, 1–2 h $n = 149$, 10–

30 min $n = 154$, less than 10 min $n = 52$, did not respond $n = 2$). Participants' mean number of Facebook friends was 702.65 ($SD = 505.33$, range = 20–4900). These items were adapted from Ellison et al. (2007).

The next three items were developed by the authors in order to understand SNS usage beyond and including Facebook. When asked how many SNSs participants were members of, including Facebook, 156 reported three (1 $n = 65$, 2 $n = 140$, 4 $n = 138$, 5 $n = 65$, 6 $n = 15$, 7 $n = 7$, more than 7 $n = 13$). Finally, most participants considered Facebook to be their primary (i.e., where Ps spent the most time and tended to engage in the most interaction with other users) social network ($n = 406$, Instagram $n = 120$, Twitter $n = 38$, Tumbler $n = 21$, LinkedIn $n = 8$, other $n = 4$, Google Plus $n = 0$, did not to respond $n = 2$) and spent 10–30 min a day on all SNSs other than Facebook ($n = 137$, less than 10 min $n = 118$, 31–60 min $n = 111$, 1–2 h $n = 113$, 2–3 h $n = 67$, more than 3 h $n = 43$, did not respond $n = 10$).

5.2. Stress

This variable was measured with the 4-item, Likert-type, short-form measure of Cohen, Kamarck, and Marmelstein's (1983) Perceived Stress Scale (PSS; 1 = Never, 5 = Often). The items were designed to measure the degree to which life situations are considered stressful (e.g., "In the last month, how often have you felt that you were unable to control the important things in your life?"). Higher values indicate greater stress ($\alpha = .79$, $M = 2.58$, $SD = .80$).

5.3. Quality of life

This measure consisted of two Likert-type items from Aaronson et al. (1993) European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-C30. The items are "How would you rate your overall health during the past month?" and "How would you rate your overall quality of life during the past month?" (1 = Very poor, 7 = Excellent). Higher values reflect greater quality of life ($\alpha = .75$, $M = 5.18$, $SD = 1.17$).

5.4. Whether or not important health news was shared on Facebook

Sharing positive and negative important health news on Facebook were each assessed via single items created for this study ("What type of good news have you shared on Facebook: Health news [positive diagnosis, weight loss, major physical milestone such as completing a marathon, etc.]"; "What type of bad news have you shared on Facebook: Health news [negative health diagnosis, health scare, weight gain, etc.]"). Response options were: yes (good health news $n = 152$, bad health news $n = 44$), no (good health news $n = 336$, bad health news $n = 419$), and not applicable – I have not experienced this important life event since I joined Facebook (good health news $n = 111$, bad health news $n = 113$).

5.5. Reasons for not sharing important life events on Facebook

Participants were asked if they have ever decided to not share news about a good or bad important life event on Facebook. Those who responded yes ($n = 576$, no $n = 23$) were directed to a series of items adapted from Caughlin and Afifi's (2004) topic avoidance motivations scale that: (1) measured the three specific motivations of interest; and (2) were appropriate for the Facebook context. These items (1 = Strongly disagree, 7 = Strongly agree) were preceded with the prompt "I decided not to share this news about an important event with my Facebook friends because..." Four items each measured the self-protection (e.g., "I might get hurt;" $\alpha = .78$, $M = 3.32$, $SD = 1.54$) and friend unresponsiveness (e.g., "My friends may not respond or say anything in return;" $\alpha = .77$,

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[1] Totals do not add up to 599 because participants did not complete all items.

M = 2.96, SD = 1.44) motivations. The two items that assessed the privacy motivation did not form a reliable scale (α = .49), so were analyzed separately ("I want to keep my privacy" M = 6.07, SD = 1.49; "The information is none of my friends' business" M = 4.50, SD = 2.13).

6. Results

RQ1 explored which aspects of Facebook and general SNS usage were related to stress and quality of life. A series of two-tailed, bivariate correlations tested these associations for the five continuous SNS variables. The more total social networks participants used and the more minutes per day participants spent on all social networks other than Facebook, the significantly greater their stress and the lower their quality of life. Number of Facebook friends, minutes per day spent on Facebook, and length of time using Facebook were unrelated to stress and quality of life (see Table 1 for correlation values).

Next, ANOVA tests (with the LinkedIn, GooglePlus, and "other" SNS categories excluded due to low cell sizes) with Tukey LSD *post hoc* tests were conducted for the primary SNS variable. Participants who selected Tumblr as their primary SNS (M = 3.13, SD = .56) were significantly more stressed than those who chose Facebook (M = 2.51, SD = .80), with no other significant differences, $F(3,539)$ = 5.43, p < .01, partial eta^2 = .03. According to the *post hoc* test, quality of life levels did not differ by participant primary SNS, though the ANOVA test was significant, $F(3,541)$ = 3.55, p < .05, partial eta^2 = .02. Based on these findings, number of social networks and time spent per day on SNSs other than Facebook were entered as covariates when answering the remaining research question and hypotheses for both stress and quality of life. A dummy coded Tumblr or Facebook (coded as 1 and 0, respectively) primary SNS variable was also included in tests that analyzed stress. Only significant covariates are reported.

RQ2 examined whether or not important health news shared on Facebook was related to (a) stress and (b) quality of life. Two sets of ANCOVA tests were conducted for good and bad health news. Because being a university student or not was related to sharing good health news on Facebook (χ^2 [1] = 5.25, p < .05) and age was related to sharing both good ($F[1,445]$ = 7.62, p < .01, eta^2 = .02) and bad ($F[1,424]$ = 9.88, p < .01, eta^2 = .02) health news on Facebook, these two variables were also entered as covariates where appropriate when testing RQ2.

For RQ2a, sharing important, good health news on Facebook was unrelated to stress, $F(1,297)$ = 2.66, p = .10, with Facebook versus Tumblr preferred SNS, $F(1,297)$ = 4.58, p < .05, partial eta^2 = .03, and age, $F(1,297)$ = 7.79, p < .01, partial eta^2 = .03, as significant covariates. Individuals who shared important, bad health news on Facebook reported significantly higher stress, $F(1,283)$ = 4.33, p < .05, partial eta^2 = .02, than those who did not share bad health news (see Table 2 for RQ2 means). Regarding RQ2b, sharing good, important health news on Facebook was unrelated to quality of life, $F(1,425)$ = .13, p = .72. Those sharing their important, bad health news on Facebook indicated that they had significantly lower quality of life than users not sharing this type of news, $F(1,412)$ = 5.33, p < .05, partial eta^2 = .01 (see Table 2 for means).

Our three hypotheses predicted that having self-protection (H1), friend unresponsiveness (H2), and privacy (H3) reasons for not sharing important life event news on Facebook would be related to (a) increased stress and (b) decreased quality of life. A series of multiple linear regression models tested these relationships, with appropriate covariates entered in the first step, and each reason entered in the second step. The self-protection, $F(4,373)$ = 6.26, p < .001, adjusted R^2 = .05, β = .17, t = 3.43, p < .01, and friend unresponsiveness reasons, $F(4,373)$ = 4.65, p < .01, adjusted R^2 = .04, β = .12, t = 2.35, p < .05, both positively predicted stress. Keeping one's privacy, $F(4,370)$ = 3.20, p < .05, adjusted R^2 = .02, β = −.02, t = .35, p = .73, and none of friends' business, $F(4,373)$ = 3.42, p < .01, adjusted R^2 = .03, β = .05, t = .87, p = .38, were not related to stress. The Facebook versus Tumblr primary SNS covariate was significant in each model, self-protection β = .13, t = 2.51, p < .05, friend unresponsiveness β = .13, t = 2.51, p < .05, keeping privacy β = .14, t = 2.56, p < .05, none of friends' business β = .13, t = 2.50, p < .05. H1a and H2a were supported, but H3a was not.

Only the self-protection reason to not share important news on Facebook was a significant, negative predictor of quality of life, $F(3,523)$ = 4.43, p < .05, adjusted R^2 = .02, β = −.09, t = −2.02, p < .05. The friend unresponsiveness, $F(3,522)$ = 3.42, p < .05, adjusted R^2 = .01, β = −.04, t = −1.07, p = .29, keep one's privacy, $F(3,520)$ = 3.96, p < .01, adjusted R^2 = .02, β = −.07, t = −1.64, p = .10, and none of friends' business, $F(3,522)$ = 3.05, p < .05, adjusted R^2 = .01, β = −.01, t = −.23, p = .82, reasons did not significantly predict quality of life. No covariates were significant. Thus, only H1b was supported.

7. Discussion

This research contributed knowledge to two related research areas regarding SNS disclosures: stress and quality of life in relation to social network usage in general and to the decision to disclose or not about important life events on Facebook in particular. Our findings expanded scholarly understanding of how social network usage is linked to stress and quality of life. In addition, we learned that choosing to share important, negative health news, as well as having self-protective and friend unresponsiveness

Table 1
Two-tailed correlations among continuous study variables.

	1	2	3	4	5	6	7	8	9	10	11
1. Stress	1	−.53***	.05	.03	.04	.11*	.12**	.16***	.15**	.02	.08
2. Quality of life		1	−.06	−.03	−.06	−.11*	−.13**	−.09*	−.05	−.07	−.02
3. Length on Facebook			1	.16***	.15***	.15***	.07	.03	−.03	.00	−.01
4. Number of Facebook friends				1	.17***	.28***	.25***	.09*	.07	−.04	.03
5. Minutes per day on Facebook					1	.17***	.36***	.05	.00	−.03	.06
6. Number of total social networks						1	.45***	.05	.05	.05	.03
7. Minutes per day on other social networks							1	.02	.06	−.04	.07
8. Self-protection reason not to disclose on Facebook								1	.72***	.17***	.37***
9. Friend unresponsiveness reason not to disclose on Facebook									1	.15***	.47***
10. Keep one's privacy reason not to disclose on Facebook										1	.34***
11. None of friends' business reason not to disclose on Facebook											1

* p < .05.
** p < .01.
*** p < .001.

Table 2
Means and standard deviations for research question two.

	Well-being variable	
	Stress	Quality of life
Sharing good, important health news on Facebook	M (SD)	
Yes	2.59 (.86)[a]	5.18 (1.28)[a]
No	2.48 (.77)[a]	5.19 (1.57)[a]
Sharing bad, important health news on Facebook		
Yes	2.81 (.94)[a]	4.74 (1.22)[b]
No	2.56 (.81)[b]	5.17 (1.16)[a]

Note: Means in columns with different subscript letters significantly differ at *p* < .05.

reasons for not sharing news about important life events, on Facebook is associated with increased stress. These seemingly counterintuitive findings are explored in more detail in this section, along with study limitations and suggestions for future research.

8. SNS usage

Findings for RQ1 indicated that general SNS usage (in the forms of time spent per day on social networks other than Facebook and total number of SNSs participants belonged to) was related to higher stress and decreased quality of life for SNS users. In addition, results for RQ1 determined that preferring Tumblr as one's primary SNS was associated with more stress than having a preference for Facebook. Further, stress and quality of life were each unrelated to the three Facebook-specific usage variables (i.e., number of friends, time spent per day, and length of time since joining). These findings are in conflict with studies that have observed a positive relationship between Facebook usage and compromised health (e.g., Kross et al., 2013; Rosen et al., 2013; Wright et al., 2013), and unfortunately do little to clarify the contradictory findings regarding specific elements of Facebook usage and well-being. Perhaps considering social support as a mediator between these multiple Facebook usage aspects and stress and quality of life, similar to Nabi et al. (2013), would assist in clarifying these findings in future research.

As far as we know, this is the first study known to examine general SNS usage variables in relation to stress or quality of life. These findings tentatively suggest that the current increases in SNS usage and diversity (Brenner & Smith, 2013; Duggan & Smith, 2013) may be to some extent stressful and detrimental to users' quality of life. Perhaps the time and energy that is needed to manage multiple SNSs explains these associations. What may be specifically taxing is consistently crafting, updating, and maintaining a variety of online identities, which are controllable, selective presentations of the self online (e.g., Toma, 2012). These findings indicate that future research should continue to examine how individual well-being is related to various aspects of SNS usage beyond just Facebook.

9. Sharing or not sharing news about important life events on Facebook

Our second RQ and three hypotheses examined stress levels and quality of life in relation to a specific form of Facebook disclosure: sharing news about a significant life event. Specifically, RQ2 found that, when Facebook users disclosed about bad health news such as a negative diagnosis, they experienced greater stress and lower quality of life than those who did not share this type of important news. In contrast, there were no stress or quality of life differences for those who did or did not share good important health news such as weight loss or a positive diagnosis.

The possibility of multiple, negative implications for individual well-being may be why only 9.5% of our participants who experienced a bad health event since joining Facebook reported that they had shared this type of health news on this SNS, compared to the 31% of eligible participants who shared important, positive health news. Perhaps important health news – both good and bad – is a specific form of information that our participants feel is better shared one-on-one and/or via face-to-face channels. In other words, Facebook users may inherently understand that an SNS is a public domain and that health matters are typically considered to be more private than other disclosures and updates. We must note, though, that the effect sizes for the findings for RQ2 were small, and should be considered when interpreting these associations.

Interestingly, the findings for RQ2 do not align with Pennebaker's (1989), Pennebaker's (1992) inhibition theory, which research has consistently supported (e.g., Smyth et al., 2012). A negative and significant health event represents a type of traumatic experience that inhibition theory would posit that disclosing about is associated with a variety of health benefits. The channel through which the information is shared might explain the discrepancy, as the bulk of inhibition theory research has asked individuals to disclose via handwritten or face-to-face channels. Thus, the fundamental principle underpinning inhibition theory may not extend to mediated or SNS channels such as Facebook. Future research should explore the mechanisms underlying this possibility.

Finally, our hypotheses predicted that having three reasons for not disclosing important news on Facebook – self-protection (H1), friend unresponsiveness (H2), and privacy (H3) – would be associated with (a) increased stress and (b) decreased quality of life. H1 and H2a were supported, but the privacy non-disclosure reason was unrelated to either well-being variable. The positive relationships between these reasons for not sharing important news on Facebook and stress and/or quality of life are consistent with previous research (Bevan, 2009; Bevan et al., 2012) and extend these links to mediated communication channels.

But, how do we rectify the seemingly inconsistent nature of our findings for RQ2 and H1 and H2a? Essentially, we determined that sharing news about important health events, and possessing particular reasons for not disclosing about important life events, are both associated with more stress and decreased quality of life. The topic itself may be one explanation – sharing important health news on Facebook may be perceived as a qualitatively different experience than disclosing about other topics such as work or school, family, or close relationships. Further, the valence of the news may also be a factor: choosing to share important good news on Facebook or not may be unrelated to well-being because users may not consider what their friends' responses to this news may be to the same extent that users who are deciding whether or not to share significant bad news might.

Another possibility is that self-disclosures on SNSs are fundamentally different than in person. Facebook disclosures tend to take more of the form of broadcasting information to a large group of people, rather than being an interpersonal conversation where both interaction partners build upon and reciprocally disclose to one another (McEwan, 2013). This may mean that Facebook disclosures do not build and sustain relationships in the same way that interpersonal interactions do; indeed, McEwan (2013) found that sharing on Facebook was negatively related to relationship satisfaction and liking. Thus, the unique nature of Facebook disclosures could be detrimental to well-being both if the news is shared and if the news is not shared in order to protect users or because users do not believe that their friends will respond. Future research that compares the individual and relationship implications of SNS and face-to-face disclosures in relation to a variety of different topics would be helpful in further understanding these relationships.

10. Limitations and future research directions

There were several limitations of this study that are worth noting. First, our participants were predominantly young adult white females whose mean participant age was 26.22, even though the average Facebook user is 38 years old (Hollenbaugh & Ferris, 2014). We also did not collect data from high school and young adolescent Facebook users. However, compared to the existing Facebook study samples that tend to be comprised exclusively of undergraduate students, our sample is somewhat diverse. Future SNS studies, though, should seek to capture a wider range of ethnicities and age groups.

The second limitation was the unreliable measure for the privacy reason for not sharing important life events on Facebook. Having to analyze the two items individually may explain why there were no significant findings for this reason for not sharing. The means for the two privacy reason items indicated that this was the strongest motivation for not sharing this type of information on Facebook. Thus, having a valid, reliable scale for this variable in an SNS context is important for future research.

The results of this study indicate that future research should perhaps consider other variables, including the perceived outcomes of sharing this type of information, whether users have previously shared the information within and across different channels, and what the response is from the users' intended audience. Future studies should also employ objective measures or different methodologies, such as an unobtrusive content analysis of public Facebook profiles, or a longitudinal study to establish patterns over time. Indeed, a longitudinal study may be a more reliable and valid method of measuring stress and quality of life, which are dynamic variables that can vary at different points in time.

In conclusion, this study was the first known to examine the relationship between stress, quality of life, and whether and how information about important life events is shared on Facebook. Our findings expanded knowledge about the nature of well-being in relation to SNS usage beyond simply the Facebook site. Further, our focus on a particular type of information that can be disclosed on Facebook – that of important life events – assists in clarifying the associations between Facebook sharing and individual well-being. As social networks continue to grow in number and influence and as more individuals gain access to the Internet, continued research regarding user well-being and SNS usage and information disclosure is clearly warranted.

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