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Do Social Network Sites Enhance or Undermine Subjective Well-Being? A Critical Review

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Social network sites are ubiquitous and now constitute a common tool people use to interact with one another in daily life. Here we review the consequences of interacting with social network sites for subjective well-being—that is, how people feel moment-to-moment and how satisfied they are with their lives. We begin by clarifying the constructs that we focus on in this review: social network sites and subjective well-being. Next, we review the literature that explains how these constructs are related. This research reveals: (a) negative relationships between passively *using social network sites and subjective well-being, and (b) positive relationships between* actively *using social network sites and subjective well-being, with the former relationship being more robust than the latter. Specifically, passively using social network sites provokes social comparisons and envy, which have negative downstream consequences for subjective well-being. In contrast, when active usage of social network sites predicts subjective well-being, it seems to do so by creating social capital and stimulating feelings of social connectedness. We conclude by discussing the policy implications of this work.*

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Introduction

Social media are rapidly changing the way people interact. A defining feature of these internet-based applications is that they allow for the creation and exchange of user-generated content (Kaplan & Haenlein, 2010). Typical examples of such content are blog posts, Wikipedia entries, Facebook messages and YouTube videos. These illustrations also reflect the fact that "social media" is a broad term that encompasses a range of communication channels.

Among the most widespread social media sites are so-called social network sites. These sites enable users to connect with others by creating personal information profiles and inviting others to have access to their profiles and messages. Examples of popular social network sites are Facebook, Twitter, Instagram, and LinkedIn. Social network sites differ in the purposes they serve (e.g., LinkedIn and Facebook are mainly used for professional and leisure purposes, respectively) and their dominant mode of communication (e.g., Twitter and Instagram are centered around text-based and image-based messages, respectively). People spend a significant amount of time on these platforms. Mark Zuckerberg, Facebook's chief executive, recently revealed that users around the world spend on average 50 minutes using Facebook and Instagram combined each day (Stewart, 2016).

The enormous amount of time that people invest in using these sites raises the question: What are the consequences of interacting with social network sites for people's subjective well-being—that is, how people feel moment to moment and how satisfied they are with their lives? Many people around the world pursue happiness as a basic life goal (Tay, Kuykendall, & Diener, 2015), and subjective well-being predicts a range of consequential benefits, including enhanced health and longevity (Boehm, Peterson, & Kubzansky, 2011; Diener & Chan, 2011; Steptoe & Wardle, 2011). As such, identifying how frequent usage of social network sites impact subjective well-being represents a basic question for social scientists to address, the answer to which has potentially important policy implications.

Here we address this issue by reviewing the current state of the literature surrounding how usage of social network sites influences subjective well-being. Our review is organized into five sections. First, we clarify the scope of our review, identifying the criteria we used to include and exclude studies. Next, we clarify the two concepts that constitute the focus of this article—social network sites and subjective well-being. We then review research examining how social network sites affect subjective well-being and discuss the mechanisms underlying their influence. Finally, we end by discussing the policy implication of this work.

Clarifying Scope

Over the past decade a substantial amount of research has examined the role that Internet activity in general, and usage of social network sites in particular, plays in influencing a wide array of socioemotional outcome variables. Thus, before proceeding we clarify the scope of our review by identifying the variables of interest.

Social Network Sites

Studies examining the impact of overall internet usage on subjective well-being are not included here, as categorizing all internet activities (including social network usage) into one overarching category is considered suboptimal (Bessière, Kiesler, Kraut, & Boneva, 2008; Burke, Kraut, & Marlow, 2011). Studies assessing the impact of specific social network site behaviors such as cyberbullying (e.g., Kwan & Skoric, 2013) or sexual solicitation and harassment (e.g., Ybarra & Mitchell, 2008) are likewise not included as each of these behaviors are governed by specific mechanisms and, hence, require separate treatments. As such, rather than adopting a macro (internet usage) or micro (very specific social network site behaviors) approach, we adopt a meso approach in this article, focusing on studies that assess the impact of overall social network site usage and broad categories of social network usage patterns (e.g., passive and active ways of using social network sites).

Subjective Well-Being

Studies are included if the dependent variable can be directly subsumed under the construct of subjective well-being (Diener, 1984, 2009; Myers & Diener, 1995). Thus, our review will focus on studies assessing the impact of usage of social network sites on life satisfaction (i.e., the "cognitive" component of subjective well-being) or how good or bad people feel (i.e., the "affective" component of subjective well-being) including symptoms of affective disorders in the subclinical domain.

Healthy Participants

In this article, we will review studies assessing the relationship between social network site usage and subjective well-being in healthy participants. As such, the present review does not directly speak to the relationship between social network usage and the development or recovery from psychopathologies such as depression or other mental disorders (see e.g., Brusilovskiy, Townley, Snethen, & Salzer, 2016; Park et al., 2016). Neither will we review studies on pathological usage of

social network sites such as social network site addiction (see e.g., Andreassen & Pallesen, 2014).

Features of the Constructs

Social Network Sites

Social network sites are generally defined by three elements. First, users have a personal profile. On most contemporary social network sites, these profiles do not merely contain static self-descriptive information but are continuously changing as a result of updated content provided by the user (e.g., status updates describing what one is currently doing or thinking about), by others (e.g., pictures of the user attending an event of another user), or by the system (e.g., activities on third-party sites). A second key feature is that publicly visible lists of connections are shown. These lists represent users' online social network, which refers to the collection of social relations of varying strengths and importance that a person maintains. Finally, rather than surfing from profile to profile to discover updated content, most social network sites are organized around a stream of frequently updated content (e.g., Facebook's News Feed), which is primarily populated by posts from one's connections (Ellison & Boyd, 2013).

Use of social network sites has boomed during the last decade. According to the Pew Internet and American Life Project, which tracks Internet use trends over time, 65% of all American adults use social network sites as of 2015. This is nearly a 10-fold jump compared to 10 years ago (Perrin, 2015). These numbers do not only represent young adults. Posting messages on Facebook or Twitter has become part of everyday life for older adults as well. Indeed, whereas 90% of people between the ages of 18 and 29 currently use social network sites, those aged between 30 and 49 (77%) and 50 and 64 (51%) are rapidly catching up. People aged 65 and older also are increasingly attracted to social network sites: In 2005, 2% of seniors used social network sites, compared with 35% today (Perrin, 2015).

The social network landscape is inhabited by many different sites (e.g., Facebook, Instagram, Twitter, and LinkedIn), and each tries to attract as many users as possible. With 1.65 billion active monthly users, Facebook is currently the most popular social network site (Facebook, 2016b). However, several other social network sites have a large number of members as well. For example, 400 million people log in at least once a month to their Instagram accounts (Instagram, 2016), and Twitter and LinkedIn have 310 million (Twitter, 2016) and 106 million (LinkedIn, 2016) monthly active users, respectively.

Users spend on average 50 minutes each day interacting on Facebook and Instagram combined (Stewart, 2016). This is more than the amount of time people spend engaging in sports (17 minutes) or even socializing directly with others

(e.g., visiting friends, attending or hosting events—43 minutes). It is only somewhat less compared to the amount of time people spend eating (64 minutes) (Bureau of Labor Statistics, 2014).

What motivates people to spend so much time interacting on Facebook and similar platforms? Most people report that they do so in order to stay in touch with family and friends (Joinson, 2008). Other reasons people report include (a) connecting with old friends with whom one has lost contact, (b) connecting with others with shared hobbies or interests, (c) making new friends, (d) following celebrities, and (e) finding romantic partners (Smith, 2011). Clearly, people have many reasons for using social network sites. However, does time spent interacting with these social network sites influence subjective well-being? Before addressing this question, it is important to clarify what we mean when we use this term.

Subjective Well-Being

Subjective well-being as a concept refers to how people evaluate their life (Diener, 2009). It entails both cognitive judgments of satisfaction (i.e., cognitive subjective well-being) and affective evaluations of ones' mood and emotions (i.e., affective subjective well-being) (Diener, 1984) with high levels of subjective well-being being characterized by frequent positive affect, infrequent negative affect, and a global sense of satisfaction with life (Myers & Diener, 1995). When reviewing studies on subjective well-being in this article, we use the prefix "affective" or "cognitive" depending on how subjective well-being was measured.

Subjective well-being is generally considered to be an important, if not the most important, goal that individuals seek throughout their lives (Tay et al., 2015). For example, in a large study across 41 countries participants reported that subjective well-being is "extraordinarily important and valuable" to them (Diener, Sapyta, & Suh, 1998). Consistent with these findings, results from other studies indicate that people view subjective well-being as more important in judging quality of life than either wealth or moral goodness (Diener, 2000; King & Napa, 1998). Overall, these studies demonstrate that experiencing high levels of subjective well-being is, for most people, an end in itself. It thus represents a potentially important policy issue given the goal of policy makers to create circumstances that allow people to fulfill their aims (Bartolini, Bilancini, Bruni, & Porta, 2016; Layard, 2006).

In addition to having intrinsic value, subjective well-being is also beneficial to a wide range of valued outcomes including objective indicators of well-being (Tay et al., 2015). In particular, there is a large amount of evidence showing that subjective well-being leads to enhanced health and longevity (Boehm et al., 2011; Diener & Chan, 2011; Steptoe & Wardle, 2011). Moreover, subjective well-being improves social relationships; it promotes marital satisfaction, sociability, and prosocial behaviors, among others (Lyubomirsky, King, & Diener, 2005).

Subjective well-being also has consequences for productivity and success, including future income levels (Diener, Nickerson, Lucas, & Sandvik, 2002). Thus, policy measures that target subjective well-being may have additional downstream implications for these other policy-relevant variables as well.

Importantly, despite studies indicating that subjective well-being has a genetic basis, we now also know that it can be modified. In particular, whereas genetics account for 50% of variation among people in subjective well-being, life circumstances (10%), and intentional activities (40%) are responsible for the other half (Lyubomirsky, Sheldon, & Schkade, 2005). This suggests that there is ample room for policy makers to enhance people's subjective well-being.

A growing number of people spend an increasing amount of time on social network sites. Therefore, policy makers have a unique opportunity to enhance subjective well-being by encouraging people towards adaptively interacting with these sites. In the next section we review what is currently known about the relationship between use of social network sites and subjective well-being to inform potential policy.

Social Network Sites and Subjective Well-Being: Charting the Relationship

This section is divided into two parts. First, we discuss early empirical studies on overall social network usage and subjective well-being. This encompasses studies that assess time spent on social network sites without specifying how people interact with such sites when they are on them, as well as studies that calculate an overall social network usage index by aggregating across several ways that people use such sites (e.g., visiting profiles, posting messages or pictures). Second, we review more recent studies that examine the relationship between different forms of social network usage (i.e., active usage vs. passive usage) and subjective well-being, which presents a more granular approach.

The predictor or independent variable in most of the reviewed studies is Facebook usage. This is due to Facebook being the most popular social network site worldwide. Whenever findings pertain to another social network site, this will be explicitly noted. The outcome or dependent variable of interest is subjective well-being (see Table 1 for an overview of the reviewed studies).

Overall Usage of Social Network Sites and Subjective Well-Being

In this section, we organize our discussion of these findings around the designs used to collect them—that is, cross-sectional, longitudinal, or experimental designs. We describe work employing experimental and longitudinal frameworks in the most detail because they provide stronger designs than cross-sectional studies, which do not permit one to separate cause from effect (in contrast to experimental

studies), or draw inferences about the short- and long-term consequences of social network usage (in contrast to longitudinal studies).

Cross-sectional designs. Several cross-sectional studies have revealed a positive relationship between subjective well-being and overall usage of Facebook (Valenzuela, Park, & Kee, 2009), Instagram (Pittman & Reich, 2016), and Tuenti, which is a Spanish social network site (Apaolaza, Hartmann, Medina, Barrutia, & Echebarria, 2013). However, a number of other cross-sectional studies show an opposite pattern of results (Farahani, Kazemi, Aghamohamadi, Bakhtiarvand, & Ansari, 2011; Labrague, 2014; Lin et al., 2016; Pantic et al., 2012; Sampasa-kanyinga & Lewis, 2015). Other authors argue that the relationship between social network site usage and subjective well-being is more nuanced. For example, Rae and Lonborg (2015) found that Facebook usage was associated with high levels of subjective well-being among users who accessed Facebook to maintain existing relationship (e.g., keeping in touch with current friends) but was negatively associated with subjective well-being among those who accessed Facebook to create new relationships (e.g., making new friends). Valkenburg, Peter, and Schouten (2006) found in a study on CU2, a Dutch social network site, that the feedback one receives from their social connections moderates the relationship between these variables—adolescents who received predominantly positive (negative) feedback reported increases (decreases) in subjective well-being when using the social network site.

Longitudinal designs. To better understand cause and effect in these patterns of results, Kross et al. (2013) asked people to report several times a day (for a 2-week period) how much they used Facebook and how they felt. They found that Facebook usage predicted decreases in affective subjective well-being over time such that participants felt 8% worse when they engaged Facebook usage "a lot" during the time period between any two affect assessments compared to when they did not use Facebook at all. In contrast, affective subjective well-being did not predict subsequent changes in Facebook usage. This implies that usage of Facebook was more likely to influence subjective well-being rather than the other way around. Moreover, mean levels of Facebook usage during the 2-week study period also predicted declines in cognitive subjective well-being across the study period. These relationships were not moderated by size of people's Facebook networks, their perceived supportiveness, motivation for using Facebook, gender, loneliness, self-esteem, or depression. Compared to the cross-sectional studies reviewed above, this longitudinal study constituted a major step forward as it provided evidence on the likely causal sequence underlying the relationship between social network sites and subjective well-being.

Experimental designs. Sagioglou and Greitemeyer (2014) assigned participants to either a Facebook use condition (i.e., spending 20 minutes on Facebook),

an Internet use condition (i.e., spending 20 minutes browsing the internet without using social network sites), or a control condition (i.e., immediately completing the postmanipulation questionnaires). Participants in the Facebook use condition reported lower levels of affective subjective well-being compared to the other two conditions.

Recently, in a large scale study (n = 1,095), researchers of the Happiness Research Institute in Denmark further tested whether Facebook use influences subjective well-being (Tromholt, Marie, Andsbjerg, & Wiking, 2015). After evaluating their lives on several dimensions, half of the participants were allocated to a treatment condition (i.e., do not use Facebook for an entire week), whereas the other half were allocated to a control condition (i.e., continue to use Facebook as usual). One week later participants evaluated their lives again. After 1 week without Facebook, the treatment group reported significantly higher levels of affective and cognitive subjective well-being.

Conclusions. Initial cross-sectional studies on the relationship between overall usage of social network sites and subjective well-being resulted in a mixed pattern of findings. The pattern has become clearer, however, when stronger research designs started to be used. In particular, Kross et al. (2013) were the first to study changes in both Facebook usage and subjective well-being over time and found that Facebook usage predicted declines in both affective and cognitive subjective well-being. Subsequent experimental studies confirmed that overall usage of social network sites negatively impacts subjective well-being. In the next section, we add nuance to this conclusion, however, by making a distinction between different types of social network site usage.

Specific Types of Usage of Social Network Sites and Subjective Well-Being

Most social network sites allow for a range of activities. These activities can be broadly classified into two categories: active and passive usage (Burke, Marlow, & Lento, 2010; Deters & Mehl, 2013; Krasnova, Wenninger, Widjaja, & Buxmann, 2013; Verduyn et al., 2015).

Active usage refers to activities that facilitate direct exchanges with other(s). It encompasses both targeted one-on-one exchanges (i.e., directed communication, Burke et al., 2011) as well as nontargeted exchanges (i.e., broadcasting, Burke et al., 2011). During active usage of social network sites information is often produced, as when posting a status update, sharing links, or sending private messages on Facebook. The term can also be applied to other social network sites. For example, Tweeting (i.e., posting a short message) or uploading a picture could be considered active ways of using Twitter and Instagram, respectively.

Passive usage refers to the monitoring of other people's lives without engaging in direct exchanges with others. During passive usage of social network sites,

information is typically consumed without communicating with the owner of the content. Typical examples of passive usage on Facebook are scrolling through news feeds or looking at other users' profiles, pictures, and status updates. Again, the term can also be applied to other social network sites. For example, reading Tweets or looking at Instagram pictures represent passive ways of interacting on those platforms.

Importantly, active and passive usage of social network sites are associated with different subjective well-being outcomes. Below we review relevant empirical studies, again making a distinction between cross-sectional, longitudinal and experimental studies.

Cross-sectional designs. Several cross-sectional studies have linked the passive usage of social network sites with reduced levels of subjective well-being (Krasnova et al., 2015, 2013; Shaw, Timpano, Tran, & Joormann, 2015; Tandoc, Ferrucci, & Duffy, 2015). In contrast, self-disclosure on Facebook (i.e., active Facebook usage) has been found to correlate positively with subjective well-being (Kim & Lee, 2011; Kim, Chung, & Ahn, 2013; Lee, Lee, & Kwon, 2011; Wang, 2013). Two recent studies provided evidence for moderation by gender, with female Facebook users especially benefiting from active Facebook use possibly due to female users being more socially skilled and less involved in negative online interactions than their male counterparts (Frison & Eggermont, 2015a; Simoncic, Kuhlman, Vargas, Houchins, & Lopez-duran, 2014).

Longitudinal studies. More recently, researchers have begun to use longitudinal designs to examine the impact of active and passive usage of social network sites on subjective well-being. In one diary study, active Facebook use was found to be positively related to life satisfaction, whereas the opposite was observed for passive Facebook use (Wenninger, Krasnova, & Buxmann, 2014). However, it should be noted that in this study only Facebook usage was repeatedly assessed. Thus these findings do not speak to whether different types of social network usage predicted changes in subjective well-being over time. In an experience sampling study (Verduyn et al., 2015), active Facebook usage was not found to be related to changes in affective or cognitive subjective well-being. In contrast, passive Facebook usage predicted declines in affective subjective well-being over time. As in prior work, this relationship was not moderated by participants' number of Facebook friends, their perceptions of Facebook network support, depressive symptoms, loneliness, gender, self-esteem, or their motivations for using Facebook. Specifically, participants felt 5% worse when they engaged in passive Facebook usage "a lot" during the time period separating any two affect assessments compared to when they did not use Facebook passively at all. The reverse relationship (i.e., affective subjective well-being predicting changes in passive Facebook use over time) was not significant. Passive Facebook usage was not, however, related

to changes in cognitive subjective well-being. Finally, in a two-wave panel study (Frison & Eggermont, 2015b), it was found that active (passive) Facebook usage was related to increases (decreases) in affective subjective well-being.

Experimental designs. Verduyn et al. (2015) used an experimental design to contrast the effects of active and passive Facebook usage on subjective well-being. Half of the participants were instructed to use Facebook actively in the lab for 10 minutes. The other half were told to use Facebook passively for 10 minutes. Immediately after the manipulation, no difference in affective subjective well-being between the two conditions was observed. However, at the end of the day, participants in the passive Facebook condition reported lower levels of affective subjective well-being compared to how they felt immediately before and after the manipulation as well as compared to the active Facebook condition. The manipulation was not found to impact cognitive subjective well-being. In another experimental study, passive Facebook usage was contrasted with visiting a control website (Fardouly, Diedrichs, Vartanian, & Halliwell, 2015). Participants who were instructed to spend time on Facebook reported being in a more negative mood than those who spent time on the control website.

Conclusion. Compared to research assessing overall levels of social network usage, studies on the relationship between types of social network usage and subjective well-being provide a clearer picture. One can conclude that passive usage is associated with low levels of subjective well-being even though more longitudinal and experimental studies are needed to determine the size of this effect. The relationship between active usage of social network sites and subjective well-being is more tenuous, with most but not all studies reporting a positive relationship. In this vein, it is important to note that passive usage of social network sites is more frequent than active usage, at least on Facebook (Constine, 2012; Pempek, Yermolayeva, & Calvert, 2009; Verduyn et al., 2015). For example, one study (Verduyn et al., 2015) found that participants used Facebook passively about 50% more than they used it actively. As such, passive Facebook usage may underlie the observed negative association between overall measures of time spent on Facebook and subjective well-being (Krasnova et al., 2015; Verduyn et al., 2015).

Social Network Sites and Subjective Well-Being: Explaining the Relationship

In this section, we review what is currently known about the mechanisms underlying the effects of social network site usage on subjective well-being focusing specifically on the role that social capital and social comparisons play in mediating the above described effects. This does not imply that these are the

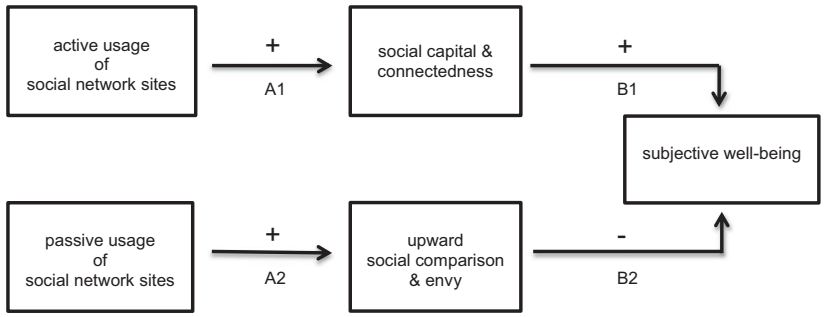


Fig. 1. The relation between social network sites and subjective well-being. Active usage of social network sites increases social capital and feelings of connectedness (path A1), which, in turn, positively impact subjective well-being (path B1). Passive usage of social network sites stimulates upward social comparisions and envy (path A2), which, in turn, negatively impact subjective well-being (path B2).

only mechanisms that account for the relationship between social network sites and subjective well-being. Other mechanisms that have been proposed include the perception of having wasted time (Sagioglou & Greitemeyer, 2014), brooding or worrying (Shaw et al., 2015), and information overload (Koroleva, Krasnova, & Günther, 2010). However, in contrast to social capital and social comparisons, these other mechanisms have not been frequently studied and, consequently, their possible mediating role in the relationship between social network sites and subjective well-being is not yet equally well established.

For each of the proposed mediators we first briefly describe the wide range of studies that confirm their significant effects on people's subjective well-being (see Figure 1, path B1 and B2 of the mediation model). Next, we discuss at a theoretical and empirical level how different ways of using social network sites influence these proposed mediators (see Figure 1, path A1 and A2 of the mediation model). Finally, we review empirical studies that directly test the full mediation model.

Positive Consequences of Active Usage of Social Network Sites: Social Capital and Connectedness

Social capital and connectedness impact subjective well-being. Humans have a fundamental need to create and maintain interpersonal relationships (Baumeister & Leary, 1995). Therefore, it should come as no surprise that research reveals a robust reciprocal link between subjective well-being and positive social relationships (Myers, 2000). On the one hand, subjective well-being promotes marital satisfaction, sociability, and prosocial behaviors (Lyubomirsky, King, & Diener, 2005). On the other hand, having close friends and a network of social support has positive effects on subjective well-being too, and to such a degree that it has

Table 1. Overview of Reviewed Studies on the Relationship between Social Network Sites and Subjective Well-Being

Authors	Year	Design	IV	DV	Relation	IV-measure	DV-measure
Valenzuela, Park, and Kee	2009	CS	OU	cSWB	+	intensity of FB use	SWL
Pittmann and Reich	2016	CS	OU	aSWB	+	time spent on Instagram	happiness
	2016	CS	OU	cSWB	+	time spent on Instagram	SWL
Apaolaza et al.	2013	CS	OU	cSWB	+	time spent on Tuenti	SWL
Farahani et al.	2011	CS	OU	aSWB	−	amount of FB use	depression, anxiety and stress (r)
Labrague	2014	CS	OU	aSWB	−	time spent on FB	depression, anxiety and stress (r)
Lin et al.	2016	CS	OU	aSWB	−	frequency and time spent on SNS	symptoms of depression (r)
Pantic et al.	2012	CS	OU	aSWB	−	time spent on SNS	symptoms of depression (r)
Sampasa-Kanyinga and Lewis	2015	CS	OU	aSWB	−	time spent on SNS	symptoms of depression and anxiety (r)
Rae and Lonborg	2015	CS	OU	SWB	mod	time spent on FB	psychological well-being
Valkenburg, Peter, and Schouten	2006	CS	OU	cSWB	mod	frequency and time spent on CU2	SWL
Kross et al.	2013	LT	OU	aSWB	−	amount of FB use	bipolar emotional valence scale
	2013	LT	OU	cSWB	−	amount of FB use	SWL
Sagioglou and Greitemeyer	2014	EXP	OU	aSWB	−	FB use vs. internet use vs. no activity	positive and negative affect
Tromholt et al.	2015	EXP	OU	cSWB	−	FB use vs. no FB use	SWL
	2015	EXP	OU	aSWB	−	FB use vs. no FB use	positive and negative affect
Krasnova et al.	2013	CS	PU	cSWB	−	multi-item measure of PU on FB	SWL
Krasnova et al.	2015	CS	PU	cSWB	−	multi-item measure of PU on FB	SWL
	2015	CS	PU	aSWB	−	multi-item measure of PU on FB	sadness (r)
Shaw et al.	2015	CS	PU	aSWB	−	multi-item measure of PU on FB	social anxiety symptoms (r)
Tandoc	2015	CS	PU	aSWB	−	multi-item measure of PU on FB	symptoms of depression (r)

(*Continued*)

Table 1. Continued

Authors	Year	Design	IV	DV	Relation	IV-measure	DV-measure
Kim and Lee	2011	CS	AU	aSWB	+	multi-item measure of AU on FB	happiness
Kim, Chung, and Ahn	2013	CS	AU	aSWB	+	multi-item measure of AU on SNS	happiness
Lee, Lee, and Kwon	2011	CS	AU	aSWB	+	multi-item measure of AU on SNS	positive and negative affect
	2011	CS	AU	cSWB	+	multi-item measure of AU on SNS	SWL
Wang	2013	CS	AU	cSWB	+	multi-item measure of AU on FB	SWL
Frison and Eggermont	2015a	CS	AU	aSWB	mod	multi-item measure of AU on FB	symptoms of depression (r)
Simoncic et al	2014	CS	AU	aSWB	mod	multi-item measure of AU on FB	symptoms of depression (r)
Wenninger, Krasnova, and Buxmann	2014	LT	AU	cSWB	+	chatting and posting on FB	SWL
	2014	LT	PU	cSWB	−	single-item measure of PU on FB	SWL
Verduyn et al. (study 2)	2015	LT	AU	aSWB	n.s.	single-item measure of AU on FB	bipolar emotional valence scale
	2015	LT	AU	cSWB	n.s.	single-item measure of AU on FB	SWL
	2015	LT	PU	aSWB	−	single-item measure of AU on FB	bipolar emotional valence scale
	2015	LT	PU	cSWB	n.s.	single-item measure of PU on FB	SWL
Frison and Eggermont	2015b	LT	AU	aSWB	+	multi-item measure of AU on FB	symptoms of depression (r)
	2015	LT	PU	aSWB	-	multi-item measure of PU on FB	symptoms of depression (r)
Verduyn et al. (study 1)	2015	EXP	PU	aSWB	−	passive use vs. active use	bipolar emotional valence scale
	2015	EXP	PU	cSWB	n.s.	passive use vs. active use	SWL
Fardouly et al.	2015	EXP	PU	aSWB	−	browse FB vs. control website	positive and negative affect

CS = cross-sectional, LT = longitudinal, EXP = experimental, IV = independent variable, OU = overall usage, AU = active usage, PU = passive usage, DV = dependent variable, cSWB = cognitive Subjective Well-Being, aSWB = affective Subjective Well-Being, mod = moderated, n.s. = not significant, FB = Facebook, SNS = Social Network Sites, SWL = satisfaction with life, (r) = reversely related to subjective well-being.

been suggested that social relationships could be the single most important source of subjective well-being (Reis & Gable, 2003). In this vein, a now classic study on happiness demonstrated that every participant who scored high on subjective well-being had excellent social relationships (Diener & Seligman, 2002).

The benefits obtained from one's social relationships or social network are often referred to by the term "social capital." Formally, Bourdieu (1985) defined social capital as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (p. 51). The term social capital tends to be used primarily by sociologists and political scientists, whereas psychologists often refer to a related concept using the term "social support" (Burke et al., 2011).

Two types of social capital have been distinguished: bridging and bonding (Putnam, 2000). Bridging social capital refers to having access to new information, being exposed to diverse perspectives and feeling part of a broader community. This type of social capital is mainly provided by acquaintances or weak-ties. Bonding social capital refers to receiving emotional support, instrumental support and companionship. This type of social capital is largely derived from one's inner circle of connections (i.e., strong ties) such as close friends and family members. Both bridging and bonding social capital have been found to be positively related to subjective well-being (Ferlander, 2007; Helliwell & Putnam, 2004; Steinfield, Ellison, & Lampe, 2008).

Active usage of social network sites affects social capital and connectedness. Social network sites are aimed at satisfying people's need to create and establish social relationships. For example, Facebook's mission is "to give people the power to share and make the world more open and connected. People use Facebook to stay connected with friends and family, to discover what's going on in the world, and to share and express what matters to them" (Facebook, 2016a).

Compared to offline settings (e.g., face-to-face conversations), social network sites provide unique opportunities for users to increase their social capital (Ellison & Vitak, 2015). In particular, in offline settings people often do not have the time or energy to maintain a large number of weak ties. However, the cost of maintaining relationships on social network sites is comparatively low, and these sites may allow for a strong expansion of one's social network. This, in turn, may increase access to various resources including novel information and diverse perspectives (Donath & Boyd, 2004; Donath, 2008). Moreover, social network sites have the capacity to change latent ties (i.e., ties that are technically possible but are not yet activated; Haythornthwaite, 2005) into weak or even strong ties. Further, social network sites might help individuals maintain weak or strong ties that would otherwise become extinguished due to an absence of offline interactions (e.g., high school friends who stay in touch on Facebook despite living in different countries). In sum, social network sites seem to be well suited for increasing bridging social

capital by allowing users to maintain large networks of connections and even possibly bonding social capital by allowing users to stay in touch with friends and providing a medium through which support can be sought and provided.

Researchers have examined whether usage of these social network sites indeed increases levels of social capital. In initial studies using cross-sectional designs, positive associations were observed between overall usage of social network sites and social capital (e.g., Ellison, Steinfield, & Lampe, 2007; Steinfield et al., 2008). However, recent studies have revealed that the way people use online social networks matters, not unlike the case for the relationship between usage of social network sites and subjective well-being. These more recent studies are discussed below.

Cross-sectional designs. Active engagement on Facebook has been shown to be negatively related to loneliness (i.e., active usage promotes feeling connected), whereas the opposite holds for passive engagement (Matook, Cummings, & Bala, 2015; Ryan & Xenos, 2011). Similarly, when examining server logs of participants' activity on Facebook (Burke et al., 2010), active Facebook usage was found to be associated with greater feelings of bonding social capital and lower levels of loneliness. The opposite pattern of results was found for passive Facebook usage. Koroleva, Krasnova, Veltri, and Günther (2011) examined a range of social capital benefits. Both active and passive Facebook usage increased levels of social capital, but the former was related to more social capital outcomes compared to the latter.

Longitudinal designs. Burke et al. (2011) showed that directed communication (i.e., active Facebook usage) predicted increases in bridging social capital. However, neither active nor passive Facebook usage was found to predict changes in bonding social capital. In contrast, in a more recent longitudinal study (Burke & Kraut, 2014), relationship closeness between friends (i.e., bonding social capital) was found to increase with one-on-one communication (i.e., active Facebook usage) as well as through reading friends' broadcasted content (i.e., passive Facebook usage).

Experimental designs. Deters and Mehl (2013) tested the psychological effects of posting status updates on Facebook. For 1 week, participants in the experimental condition were asked to post more than they usually do. Participants in the control condition received no instructions. Results indicated that the experimentally induced increase in status updating activity increased feelings of social connectedness and reduced loneliness. In another experiment, participants were either instructed to use Facebook as they normally do (post-as-usual condition) or to refrain from using Facebook actively for 2 days (do-not-post condition). Participants in the do-not-post condition were found to report lower levels of belonging (Tobin, Vanman, Verreynne, & Saeri, 2014).

In sum, whereas evidence for passive usage is mixed, studies reveal a positive relationship between active usage of social network sites and social capital. Given the effects that social relationships have on subjective well-being, the positive effect of active usage of social network sites on subjective well-being may be partially due to an increase in social capital and associated feelings of social connectedness.

Direct tests of the meditation model. Recently, a number of studies have begun to provide direct evidence for the proposed mediating role of social capital and social connectedness. In a cross-sectional study (Frison & Eggermont, 2015a) data were collected from a large sample of adolescents to explore the relationship between different types of Facebook use, perceived online social support and depressive symptoms. Using structural equation modeling, evidence was obtained that active Facebook use increases perceived online social support, which in turn predicted a decrease in depressive symptoms. It should be noted, however, that this relationship was only found for female participants.

Similarly, Kim and Lee (2011) also conducted a cross-sectional study among college students to explore the relationship between self-presentation (i.e., active usage of social network sites), perceived online support and subjective well-being. Self-presentation was found to have a positive effect on subjective well-being mediated by perceived social support but only when self-presentation was honest. A study by Frison and Eggermont (2015b) established that active Facebook usage positively predicts perceived Facebook support, which in turn predicts a decrease in depressed symptoms at the next assessment.

In sum, the available evidence suggests that the positive impact of active usage of social network sites on subjective well-being is due to an increase in social capital. However, future longitudinal and experimental research is needed to confirm the temporal location of each of the constructs in the proposed mediation model and the causal nature of the proposed relationships.

The Negative Consequences of Passive Usage of Social Network Sites: Social Comparison and Envy

Social comparisons and envy impact subjective well-being. Aside from a fundamental need for relatedness, people also have a drive to evaluate their opinions and abilities (Festinger, 1954). This drive encompasses a desire to reduce uncertainty (Gibbons & Buunk, 1999) and establish one's standing (Brown, Ferris, Heller, & Keeping, 2007). In many circumstances objective bases for self-evaluation are not present: For example, is running 100 m in 14 seconds fast? In such cases self-evaluation depends upon how one compares oneself with other people, a process called "social comparison" (Festinger, 1954). Formally, social comparisons are defined as "comparative judgments of social stimuli

on particular content dimensions" (Kruglanski & Mayseless, 1990, p. 196). A distinction is made between upward and downward comparisons (Buunk & Gibbons, 1997; Wills, 1981). In upward comparisons one perceives the other as better on a particular dimension whereas the opposite holds for downward comparisons.

In the case of upward comparisons envy is frequently experienced. Envy is defined as "an unpleasant and often painful blend of feelings characterized by inferiority, hostility, and resentment caused by a comparison with a person or group of persons who possess something we desire" (Smith & Kim, 2007, p. 49). Envy is not only an unpleasant experience in itself: a wide range of studies indicate that envy has negative consequences for subjective well-being (Cohen-Charash, 2009; Smith, Parrott, Diener, Hoyle, & Kim, 1999; Vecchio, 2000)

Passive usage of social network sites elicits social comparison and feelings of envy. To make social comparisons, information about others is needed. On social network sites, only a mouse click stands between the user and an enormous amount of information about others. Thus, social comparison can be carried out on an unprecedented scale. Moreover, compared to offline settings, most social network sites have a number of features that make the occurrence of upwards social comparisons and the feeling of envy especially likely. First, social network sites typically allow for asynchronous communication such that there is ample time to post a witty comment or a nice picture. This further allows people to portray themselves in overly flattering ways (Barash, Ducheneaut, Isaacs, & Bellotti, 2010; Kross et al., 2013; Mehdizadeh, 2010; Newman, Lauterbach, Munson, Resnick, & Morris, 2011) and may elicit upward social comparisons in the receiver of this information. Second, several social network sites provide functionalities to easily connect with and become informed of *similar* others who post information that is *relevant* for the perceiver—features that tend to increase the probability of experiencing envy (Hill & Buss, 2006; Salovey & Rodin, 1991).

Researchers have examined whether usage of social network sites indeed stimulates upward social comparison and envy. Initial studies found evidence for this relationship (Chou & Edge, 2012; Jang, Park, & Song, 2016; Lee, 2014; Muise, Christofides, & Desmarais, 2009; Steers & Wickham, 2014). However, similar to research on the effect of social network sites on subjective well-being and social capital, it has become clear that only particular ways of using social network sites will lead to upward social comparisons and envy.

Cross-sectional designs. In several cross-sectional studies a positive relationship was found between passive usage of Facebook and envy, but no significant

relationship was observed for active Facebook usage (Krasnova et al., 2015, 2013; Tandoc et al., 2015). It is notable that in a recent study, participants reported experiencing positive emotions more often than envy upon reading positive Facebook posts (Lin & Utz, 2015). However, this comparison between positive emotion and envy is not informative because people do not readily admit feeling envy. Using indirect assessments of envy frequency, Krasnova et al. (2013, 2015) concluded that envy is a common consequence of following information about others on Facebook, and even more common than the experience of positive emotions.

Longitudinal designs. Only one study that we are aware of has examined the longitudinal relationship between social network usage and envy. Specifically, in an experience sampling study on Facebook usage in young adults Verduyn et al. (2015) found that passive Facebook usage increases feelings of envy over time.

Experimental designs. Several experiments indicate that passively browsing Facebook has negative consequences for people who naturally tend to engage in social comparisons. This provides indirect evidence that passive usage of social network sites is a fertile ground for envy to occur. For example, compared to visiting a control website, female participants with a strong tendency to compare their attractiveness to others were less satisfied with their physical appearance upon browsing Facebook for 10 minutes (Fardouly et al., 2015). Similarly, compared to looking at one's own Facebook profile or visiting a control website, participants who tend to engage in social comparisons had poorer self-perceptions after looking at a friend's Facebook profile (Vogel, Rose, Okdie, Eckles, & Franz, 2015).

In other experiments, the nature of the content that participants were exposed to on social network sites was manipulated. Participants either passively browsed Facebook pages of high (e.g., users who are attractive or have a successful career) or low comparison standards. Overall, participants reported lower levels of subjective well-being and higher levels of envy upon exposure to attractive or successful profiles (Appel, Crusius, & Gerlach, 2015; Haferkamp & Krämer, 2011; Vogel, Rose, Roberts, & Eckles, 2014). Finally, Verduyn et al. examined whether passive Facebook usage resulted in higher levels of social comparisons compared to active Facebook usage. Contrary to their hypothesis, the groups did not differ in the degree to which they perceived their own life as worse compared to that of others (Verduyn et al., 2015). However, Verduyn et al. speculated that the reason for the null effect in this study may have been a result of how they asked participants to rate their envy (for complete discussion see Verduyn et al., 2015), and follow-up data that they provided in a second longitudinal study was consistent with their argument.

Direct evidence for the proposed mediation model. A number of recent studies provide direct evidence for the role that upward social comparisons and envy play in mediating the links between passive usage of social network sites and declines in subjective well-being. Specifically, several cross-sectional studies have found that envy mediates the relationship between passive usage of social network sites and subjective well-being (Krasnova et al., 2015, 2013; Tandoc et al., 2015). Experimental and longitudinal work testing the full mediation pathway is scare. An exception, however, is a recent longitudinal study, which demonstrated that the negative effect of passive Facebook usage on subjective well-being is mediated by envy (Verduyn et al., 2015). In particular, using an experience sampling design, passive Facebook usage predicted increases in envy, which, in turn, predicted decreases in affective subjective well-being at the next assessment.

Finally, it is notable that beyond having an impact on subjective well-being, envy also triggers a number of potentially ineffective coping styles. One such style is engaging in self-enhancement strategies (i.e., stressing one's strengths) to diminish the sense of inferiority triggered by envy (Brown & Gallagher, 1992; Salovey & Rodin, 1988). Even though this may be a suitable strategy to deal with envy, this behavior may ironically elicit envy in others resulting in a "self-enhancement envy spiral" (Krasnova et al., 2015). For example, being exposed to beautiful holiday pictures may lead one to upload similar pictures, which, in turn, causes others to experience envy and initiate similar self-enhancing behavior.

From Data to Policy: Some Suggestions

The popularity of social media has influenced policy at different levels. At the governmental level, guidelines have been formulated to limit recreational screen time to two hours per day for children, even though these guidelines are not specific to use of social network sites (Tremblay et al., 2011). Moreover, recommendations have been offered to the general population on how to protect their privacy when using social network sites (Federal Trade Commission, 2016; Information Commissioner's Office, 2016) and to social network site providers on how to enhance the safety of young people and children using their services (UK Council for Child Internet Safety, 2016). However, guidelines aimed at using social network sites to specifically foster subjective well-being at a societal level are, on the whole, lacking.

At the organizational level many companies have implemented social media policies (e.g., adidas, 2011; Los Angeles Times, 2009). These policies typically include employee guidelines on how to interact on social network sites without damaging the interests of their employer. These policies usually instruct employees to (a) not use social network sites excessively while working, (b) be respectful when communicating on social network sites, (c) not discuss confidential information,

and (d) clearly mention when expressed views are one's own rather than their employer's. However, such guidelines are primarily formulated with the interests of the company in mind rather than the subjective well-being of the broader population.

At the level of households, many parents have installed rules for their children regarding usage of social network sites. For example, 55% of parents limit the amount of time that their children can go online, 60% of parents check their children's social media profile and 78% of parents talk occasionally or even frequently about what constitutes appropriate online behavior (Anderson, 2016). The high levels of parental oversight that these percentages capture suggest that parents would likely welcome evidence-based recommendations for usage of social network sites that they could transfer to their children.

Below, we formulate empirically-based recommendations for policy makers on how to (a) educate the general population about the most productive ways of using social network sites to improve subjective well-being, (b) support researchers to deepen our understanding of adaptive usage of social network sites, and (c) stimulate social network site providers to adjust their platforms in order to nudge users to ways of using their sites that enhance subjective well-being. Note that the recommendations that follow are aimed primarily at policy makers at the governmental level, but we expect that their implementation could eventually impact lower levels as well (e.g., educating the population on proper usage of social networks can be expected to lead to changes in parental rules regarding social media usage). The material below is organized around the potential targets of the policy recommendations.

General population. Policy makers should educate the public on how to use social networks to enhance subjective well-being. For this purpose, one could inform the larger public (e.g., through informational campaigns) or specific subgroups (e.g., through courses on social media literacy as part of school curricula) on what constitutes adaptive social network usage. Until recently this was an impossible task for policy makers simply because of a lack of empirical evidence indicating how people can use social network sites in ways that specifically enhance subjective well-being. Indeed, in a 2008 article on policy recommendations regarding usage of social network sites, the authors concluded by stating: "In writing this article, we have struggled to find sufficient empirical research on which to ground our claims" (Livingstone & Brake, 2010, p. 9).

As we show in this article, the literature on this issue has since increased dramatically, providing the potential for evidence-based guidelines on what constitutes adaptive usage of social network sites. Below, we describe three key messages that should be stressed in any educational campaign on adaptive usage of social network sites:

(1) Excessive passive usage of social network sites should be avoided, as this type of usage is found to be negatively related to subjective well-being. The fact that social network sites are used passively, rather than actively, most of the time only underscores the importance of communicating this finding to the population (Constine, 2012; Pempek et al., 2009; Verduyn et al., 2015) in a way that is accessible and understandable.
(2) Positive news is more often shared on social network sites than negative news (Kross et al., 2013; Verduyn et al., 2015) and people tend to portray themselves in overly flattering ways (Mehdizadeh, 2010; Newman et al., 2011). Informing people about this may lower the impact of being exposed to information about others when passively browsing social network sites as damaging social comparisons are less likely to take place.
(3) Active usage of social network sites has no negative consequences for subjective well-being and likely has positive consequences. To stimulate active usage of social network sites, one could stress that these sites provide a unique opportunity to connect to others, increase one's social capital and feelings of social connection. However, in order for these positive consequences to occur, social network sites have to be used actively rather than passively.

Researchers. During the last decade social network sites partially moved the interactions people have with one another from offline (i.e., "face-to-face") to online contexts. This shift is likely to continue creating novel challenges for researchers to address. New social network sites enter the market at a fast pace and existing social network sites are continuously changing. As such, researchers need to continuously test the validity of their theories on social network sites; this includes researchers examining the consequences of usage of social network sites for subjective well-being. Thus, policy makers should consider expanding the scope of funding available to conduct this type of research. Such funding should be aimed at extending our current knowledge on the topic and avoiding the pitfalls of the past. Below, we suggest three elements for funding agencies to take into account:

(1) Most studies on the relationship between social network sites and subjective well-being make use of cross-sectional designs. As we have attempted to clarify in this review, these studies sometimes create more confusion than clarity, further amplified by the media coverage that they have received. Currently, there is a need for more longitudinal and experimental research as these stronger research designs position researchers to more confidently draw inferences about cause and effect, as well as short- and long-term consequences.

(2) Research on the relation between social network sites and subjective well-being has mainly relied on samples consisting of adolescents and young adults. Although young people represent a significant user base of social network sites, older adults are increasingly attracted to social network sites as well (Perrin, 2015). Moreover, a recent study (Hayes, van Stolk-cooke, & Muench, 2015), demonstrated that older adults use Facebook less actively than young adults. As such, more research using older participant samples should be supported.
(3) Most studies on social network sites focus on Facebook. Arguably, this is due to Facebook still being the most often used social network site. However, many other social network sites boast a high number of users. As each social network site constitutes a partially unique context for interaction, research should be supported that focuses on identifying the contextual features that impact subjective well-being (which are possibly shared by several social network sites) rather than merely replicating findings across different social network sites (Mcfarland & Ployhart, 2015).

Providers of social network sites. Providers of social network sites would only gain from having their technologies contribute to the subjective well-being of their users. Based on the current review, we offer two recommendations for policy makers on how to reach out to providers of social network site:

(1) Encourage providers of social network sites to collaborate with researchers to identify the features of their social network sites that enhance rather than undermine subjective well-being. One way to do so is to convince providers to share anonymized data such that researchers can rely on objective assessments of social network usage. Currently, most researchers have to rely on self-report or time-consuming coding procedures (e.g., copying and manually coding Facebook wall data) to attain objective measures (Deters & Mehl, 2013; Park et al., 2016).
(2) Encourage providers of social network sites to consider ways of integrating insights from basic research to enhance the benefits that their products provide to their users in terms of subjective well-being. For this purpose, providers could, for example, use these insights to develop interfaces that nudge users towards adaptive usage patterns.

Concluding Thoughts

Does usage of social network sites increase or decrease subjective well-being? Based on the literature available at this time, the answer is: It depends on how one uses them. Social network sites have the potential to increase our subjective

well-being by allowing us to increase our social capital and feeling of connectedness due to active usage of these sites. However, they can also be a significant cause of distress, especially when they elicit social comparisons and envy due to passive usage of these sites.

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References

adidas. (2011). Social Media Guidelines for adidas Group employees. Retrieved October 10, 2016 from blog.adidas-group.com/wp-content/uploads/2011/06/adidas-Group-Social-Media-Guidelines.pdf.

Anderson, M. (2016). *Parents, teens and digital monitoring*. Retrieved October 12, 2016, from http://www.pewinternet.org/2016/01/07/parents-teens-and-digital-monitoring/.

Andreassen, C. S., & Pallesen, S. (2014). Social network site addiction—An overview. *Current Pharmaceutical Design*, *20*(25), 4053–4061.

Apaolaza, V., Hartmann, P., Medina, E., Barrutia, J. M., & Echebarria, C. (2013). The relationship between socializing on the Spanish online networking site Tuenti and teenagers' subjective wellbeing: The roles of self-esteem and loneliness. *Computers in Human Behavior*, *29*(4), 1282–1289. doi:10.1016/j.chb.2013.01.002

Appel, H., Crusius, J., & Gerlach, A. L. (2015). Social Comparison, envy, and depression on Facebook: A study looking at the effects of high comparison standards on depressed individuals. *Journal of Social and Clinical Psychology*, *34*(4), 277–289.

Barash, V., Ducheneaut, N., Isaacs, E., & Bellotti, V. (2010). Faceplant: Impression (Mis) management in Facebook Status Updates. In M. Hearst, W. Cohen, & S. Gosling (Eds.), *Proceedings of the Fourth International AAAI Conference on Weblogs and Social Media* (pp. 207–210). Washington, DC: AAAI.

Bartolini, S., Bilancini, E., Bruni, L., & Porta, P. L. (2016). *Policies for happiness*. Oxford, UK: Oxford University Press.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497–529. doi:10.1037/0033-2909.117.3.497

Bessière, K., Kiesler, S., Kraut, R., & Boneva, B. S. (2008). Effects of internet use and social resources on changes in depression. *Information, Communication & Society*, *11*(1), 47–70. doi:10.1080/13691180701858851

Boehm, J. K., Peterson, C., & Kubzansky, L. (2011). A prospective study of positive psychological well-being and coronary heart disease. *Health Psychology*, *30*(3), 259–267. doi:10.1037/a0023124

Bourdieu, P. (1985). The forms of social capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). New York, NY: Greenwood.

Brown, D. J., Ferris, D. L., Heller, D., & Keeping, L. M. (2007). Antecedents and consequences of the frequency of upward and downward social comparisons at work. *Organizational Behavior and Human Decision Processes*, *102*, 59–75. doi: 10.1016/j.obhdp.2006.10.003

Brown, J. D., & Gallagher, M. (1992). Coming to terms with failure: Private self-enhancement public self-effacement. *Journal of Experimental Social Psychology*, *28*, 3–22.

Brusilovskiy, E., Townley, G., Snethen, G., & Salzer, M. S. (2016). Social media use, community participation and psychological well-being among individuals with serious mental illnesses. *Computers in Human Behavior*, *65*, 232–240. doi:10.1016/j.chb.2016.08.036

Bureau of Labor Statistics. (2014). American time use survey summary. Retrieved October 12, 2016 from http://www.bls.gov/news.release/atus.nr0.htm.

Burke, M., & Kraut, R. (2014). Growing closer on Facebook: Changes in tie strength through social network site use. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 4187–4196). doi:10.1145/2556288.2557094.

Burke, M., Kraut, R., & Marlow, C. (2011). Social capital on Facebook: Differentiating uses and users. *Proceedings of the 29th International Conference on Human Factors in Computing Systems (CHI'11)*, 571–580. doi:10.1145/1978942.1979023

Burke, M., Marlow, C., & Lento, T. (2010). Social network activity and social well-being. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 1909–1912. doi:10.1145/1753326.1753613

Buunk, B. P., & Gibbons, F. X. (Eds.). (1997). *Health, coping, and well-being: Perspectives from social comparison theory*. Mahwah, NJ, US: Erlbaum.

Chou, H. G., & Edge, N. (2012). "'They are happier and having better lives than I am'": The impact of using Facebook on perceptions of others' lives. *Cyberpsychology, Behavior and Social Networking*, *15*(2), 117–121. doi:10.1089/cyber.2011.0324

Cohen-Charash, Y. (2009). Episodic envy. *Journal of Applied Social Psychology*, *39*(9), 2128–2173.

Constine, J. (2012). 27% of Facebook browsing on news feed, just 10% on apps. Retrieved October 12, 2016 from http://www.adweek.com/socialtimes/most-facebook-browsing-on-news-feed/266098?red=if.

Deters, F. G., & Mehl, M. R. (2013). Does posting Facebook status updates increase or decrease loneliness? An online social networking experiment. *Social Psychological and Personality Science*, *4*(5), 579–586. doi:10.1177/1948550612469233

Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, *95*(3), 542–575.

Diener, E. (2000). Subjective well-being. *American Psychologist*, *55*(1), 34–43. doi: 10.1037//0003-066X.55.1.34

Diener, E. (2009). Happiness. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 147–160). New York, NY: Guilford.

Diener, E., & Chan, M. Y. (2011). Happy people live longer: Subjective well-being. *Applied Psychology: Health and Well-Being*, *3*(1), 1–43. doi:10.1111/j.1758-0854.2010.01045.x

Diener, E. D., Nickerson, C., Lucas, R. E., & Sandvik, E. D. (2002). Dispositional affect and job outcomes. *Social Indicators Research*, *40*, 229–259.

Diener, E., Sapyta, J. J., & Suh, E. (1998). Subjective well-being is essential to well-being. *Psychological Inquiry*, *9*(1), 33–37.

Diener, E., & Seligman, M. E. P. (2002). Very happy people. *Psychological Science*, *13*(1), 81–84.

Donath, J. (2008). Signals in social supernets. *Journal of Computer-Mediated Communication*, *13*, 231–251. doi:10.1111/j.1083-6101.2007.00394.x

Donath, J., & Boyd, D. (2004). Public displays of connection. *BT Technology Journal*, *22*(4), 71–82.

Ellison, N. B., & Boyd, D. (2013). Sociality through social network sites. In W. H. Dutton (Ed.), *The Oxford handbook of Internet studies* (pp. 151–172). Oxford, UK: Oxford University Press.

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, *12*, 1143–1168. doi:10.1111/j.1083-6101.2007.00367.x

Ellison, N. B., & Vitak, J. (2015). Social network site affordances and their relationship to social capital processes. In S. Sundar (Ed.), *The Handbook of the Psychology of Communication Technology* (pp. 205–227). Hoboken, NJ: Wiley-Blackwell.

Facebook. (2016a). Facebook mission. Retrieved October 12, 2016 from https://www.facebook.com/facebook/info/.

Facebook. (2016b). Facebook Newsroom Website. Retrieved May 7, 2016 from http://newsroom.fb.com/company-info/.

Farahani, H. A., Kazemi, Z., Aghamohamadi, S., Bakhtiarvand, F., & Ansari, M. (2011). Examining mental health indices in students using Facebook in Iran. *Procedia—Social and Behavioral Sciences*, *28*, 811–814. doi:10.1016/j.sbspro.2011.11.148

Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015). Social comparisons on social media: The impact of Facebook on young women's body image concerns and mood. *Body Image*, *13*, 38–45. doi:10.1016/j.bodyim.2014.12.002

Federal Trade Commission. (2016). How to keep your personal information secure. Retrieved October 6, 2016 from https://www.consumer.ftc.gov/articles/0272-how-keep-your-personal-information-secure.

Ferlander, S. (2007). The importance of different forms of social capital for health. *Acta Sociologica*, *50*(June), 115–128. doi:10.1177/0001699307077654

Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, *7*, 117–140. doi:10.1177/001872675400700202

Frison, E., & Eggermont, S. (2015a). Exploring the relationships between different types of Facebook use, perceived online social support, and adolescents' depressed mood. *Social Science Computer Review*, *45*, 1–19. doi:10.1177/0894439314567449

Frison, E., & Eggermont, S. (2015b). Toward an integrated and differential approach to the relationships between loneliness, different types of Facebook use , and adolescents' depressed mood. *Communication Research*, 1–28. doi:10.1177/0093650215617506

Gibbons, F. X., & Buunk, B. P. (1999). Individual differences in social comparison: Development of a scale of social comparison orientation. *Journal of Personality and Social Psychology*, *76*(1), 129–142.

Haferkamp, N., & Krämer, N. C. (2011). Social Comparison 2.0: Examining the effects of online profiles on social-networking sites. *Cyberpsychology, Behavior and Social Networking*, *14*(5), 309–314. doi:10.1089/cyber.2010.0120

Hayes, M., van Stolk-cooke, K., & Muench, F. (2015). Understanding Facebook use and the psychological affects of use across generations. *Computers in Human Behavior*, *49*, 507–511. doi:10.1016/j.chb.2015.03.040

Haythornthwaite, C. (2005). Social networks and Internet connectivity effects. *Information, Communication & Society*, *8*(2), 125–147. doi:10.1080/13691180500146185

Helliwell, J. F., & Putnam, R. D. (2004). The social context of well-being. *Philosophical Transactions of the Royal Society*, *359*, 1435–1446. doi:10.1098/rstb.2004.1522

Hill, S. E., & Buss, D. M. (2006). Envy and positional bias in the evolutionary psychology of management. *Managerial and Decision Economics*, *27*(2/3), 131–143. doi:10.1002/mde.l288

Information Commissioner's Office. (2016). Online safety. Retrieved October 6, 2016 from https://ico.org.uk/for-the-public/online/social-networking/.

Instagram. (2016). Instagram usage. Retrieved May 7, 2016 from https://www.instagram.com/press/

Jang, K., Park, N., & Song, H. (2016). Social comparison on Facebook: Its antecedents and psychological outcomes. *Computers in Human Behavior*, *62*, 147–154. doi:10.1016/j.chb.2016.03.082

Joinson, A. N. (2008). "Looking at", "looking up" or "keeping up with" people? Motives and uses of Facebook. In D. Gilmore (Ed.), *Proceedings of the 26th International Conference on Human Factors in Computing Systems* (pp. 1027–1036). New York, NY: ACM Press.

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, *53*, 59–68. doi:10.1016/j.bushor.2009.09.003

Kim, J., & Lee, J. R. (2011). The Facebook paths to happiness: Effects of the number of Facebook friends and self-presentation. *Cyberpsychology, Behavior and Social Networking*, *14*(6), 359–364. doi:10.1089/cyber.2010.0374

Kim, J. Y., Chung, N., & Ahn, K. M. (2013). Why people use social networking services in Korea: The mediating role of self-disclosure on subjective well-being. *Information Development*, *3*, 1–12. doi:10.1177/0266666913489894

King, L. A., & Napa, C. K. (1998). What makes a life good? *Journal of Personality and Social Psychology*, *75*(1), 156–165.

Koroleva, K., Krasnova, H., & Günther, O. (2010). "STOP SPAMMING ME!" - Exploring Information Overload on Facebook. In *Americas Conference on Information Systems* (pp. 1–9).

Koroleva, K., Krasnova, H., Veltri, N., & Günther, O. (2011). It's all about networking! Empirical investigation of social capital formation on social network sites. In D. Galletta, T.-P. Liang, C. Beath, M. Myers, & K.-K. Wei (Eds.), *Thirty Second International Conference on Information Systems* (pp. 1–20). Shanghai: ICIS.

Krasnova, H., Wenninger, H., Widjaja, T., & Buxmann, P. (2013). Envy on Facebook: A hidden threat to users' life satisfaction? T. Eymann & G. Schwabe (Eds.), *11th International Conference on Wirtschaftsinformatik* (pp. 1–16). Leipzig: Wirtschaftsinformatik.

Krasnova, H., Widjaja, T., Buxmann, P., Wenninger, H., & Benbasat, I. (2015). Research note—Why following friends can hurt you: An networking sites among college-age users. *Information Systems Research*, *26*(3), 585–605. doi:10.1287/isre.2015.0588

Kross, E., Verduyn, P., Demiralp, E., Park, J., Lee, D. S., Lin, N., Shablack, H., Jonides, J., & Ybarra, O. (2013). Facebook use predicts declines in subjective well-being in young adults. *PLoS ONE*, *8*(8), 1–6. doi:10.1371/journal.pone.0069841

Kruglanski, A. W., & Mayseless, O. (1990). Classic and current social comparison research: Expanding the perspective. *Psychological Bulletin*, *108*(2), 195–208.

Kwan, G. C. E., & Skoric, M. M. (2013). Facebook bullying: An extension of battles in school. *Computers in Human Behavior*, *29*(1), 16–25. http://dx.doi.org/10.1016/j.chb.2012.07.014.

Labrague, L. J. (2014). Facebook use and adolescents' emotional states of depression, anxiety, and stress. *Health Science Journal*, *8*(1), 80–89.

Layard, R. (2006). Happiness and public policy: A challenge to the profession. *The Economic Journal*, *116*(1998), 24–33.

Lee, G., Lee, J., & Kwon, S. (2011). Use of social-networking sites and subjective well-being: A study in South Korea. *Cyberpsychology, Behavior and Social Networking*, *14*(3), 151–155. doi:10.1089/cyber.2009.0382

Lee, S. Y. (2014). How do people compare themselves with others on social network sites?: The case of Facebook. *Computers in Human Behavior*, *32*, 253–260. doi:10.1016/j.chb.2013.12.009

Lin, L. Y., Sidani, J. E., Shensa, A., Radovic, A., Miller, E., Colditz, J. B., Hoffman, B. L. Giles, L. M., & Primack, B. A. (2016). Association between social media use and depression among U.S. young adults. *Depression and Anxiety*, *33*, 323–331. doi:10.1002/da.22466.

Lin, R., & Utz, S. (2015). The emotional responses of browsing Facebook: Happiness, envy, and the role of tie strength. *Computers in Human Behavior*, *52*, 29–38. doi:10.1016/j.chb.2015.04.064

LinkedIn. (2016). LinkedIn usage. Retrieved May 7, 2016 from https://investors.linkedin.com/events-and-news/corporate-press-releases/.

Livingstone, S., & Brake, D. R. (2010). On the rapid rise of social networking sites: New findings and policy implications. *Children and Society*, *24*(1), 75–83. doi:10.1111/j.1099-0860.2009.00243.x

Los Angeles Times. (2009). Times updates social media guidelines [Blog Post]. Retrieved October 10, 2016 from http://latimesblogs.latimes.com/readers/2009/11/updated-social-media-guidelines.html.

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, *131*(6), 803–855. doi:10.1037/0033-2909.131.6.803

Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. *Review of General Psychology*, *9*(2), 111–131. doi:10.1037/1089-2680.9.2.111

Matook, S., Cummings, J., & Bala, H. (2015). Are you feeling lonely? The impact of relationship characteristics and online social network features on loneliness. *Journal of Management Information Systems*, *31*(4), 278–310. doi:10.1080/07421222.2014.1001282

Mcfarland, L. A., & Ployhart, R. E. (2015). Social media: A contextual framework to guide research and practice. *Journal of Applied Psychology*, *100*(6), 1653–1677.

Mehdizadeh, S. (2010). Self-presentation 2.0: Narcissism and self-esteem on Facebook. *Cyberpsychology, Behavior and Social Networking*, *13*(4), 357–364. doi:10.1089/cyber.2009.0257

Muise, A., Christofides, E., & Desmarais, S. (2009). More information than you ever wanted: Does Facebook bring out the green-eyed monster of jealousy? *Cyberpsychology & Behavior: The Impact of the Internet, Multimedia and Virtual Reality on Behavior and Society*, *12*(4), 441–444. doi:10.1089/cpb.2008.0263

Myers, D. G. (2000). The funds, friends, and faith of happy people. *American Psychologist*, *55*(1), 56–67. doi:10.1037//0003-066X.55

Myers, D. G., & Diener, E. (1995). Who is happy? *Psychological Science*, *6*(1), 10–17.

Newman, M. W., Lauterbach, D., Munson, S. A., Resnick, P., & Morris, M. E. (2011). "It's not that I don't have problems , I'm just not putting them on Facebook": Challenges and opportunities in using online social networks for health. In *ACM 2011 conference on Computer supported cooperative work*.

Pantic, I., Damjanovic, A., Todorovic, J., Topalovic, D., Bojovic-Jovi, D., Ristic, S., & Pantic, S. (2012). Association between online social networking and depression in high school students: Behavioral physiology viewpoint. *Psychiatria Danubina*, *24*(1), 90–93.

Park, J., Lee, D. S., Shablack, H., Verduyn, P., Deldin, P., Ybarra, O., Jonides, J., & Kross, E. (2016). When perceptions defy reality: The relationships between depression and actual and perceived Facebook social support. *Journal of Affective Disorders*, *200*, 37–44. http://doi.org/10.1016/j.jad.2016.01.048

Pempek, T. A., Yermolayeva, Y. A., & Calvert, S. L. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*, *30*(3), 227–238. doi:10.1016/j.appdev.2008.12.010

Perrin, A. (2015). *Social Networking Usage*: 2005–2015. Retrieved October 12, 2016, from http://www.pewinternet.org/2015/10/08/social-networking-usage-2005-2015/.

Pittman, M., & Reich, B. (2016). Social media and loneliness: Why an Instagram picture may be worth more than a thousand Twitter words. *Computers in Human Behavior*, *62*, 155–167. doi:10.1016/j.chb.2016.03.084

Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon & Schuster.

Rae, J. R., & Lonborg, S. D. (2015). Do motivations for using Facebook moderate the association between Facebook use and psychological. *Frontiers in Psychology*, *6*, 1–9. doi:10.3389/fpsyg.2015.00771

Reis, H. T., & Gable, S. L. (2003). Toward a positive psychology of relationships. In C. L. Keyes & J. Haidt (Eds.), *Flourishing: The positive person and the good life* (pp. 129–159). Washington, DC: American Psychological Association.

Ryan, T., & Xenos, S. (2011). Who uses Facebook? An investigation into the relationship between the Big Five, shyness, narcissism, loneliness, and Facebook usage. *Computers in Human Behavior*, *27*(5), 1658–1664. doi:10.1016/j.chb.2011.02.004

Sagioglou, C., & Greitemeyer, T. (2014). Facebook's emotional consequences: Why Facebook causes a decrease in mood and why people still use it. *Computers in Human Behavior*, *35*, 359–363. doi:10.1016/j.chb.2014.03.003

Salovey, P., & Rodin, J. (1988). Coping with envy and jealousy. *Journal of Social and Clinical Psychology*, *7*(1), 15–33.

Salovey, P., & Rodin, J. (1991). Provoking jealousy and envy: Domain relevance and self-esteem threat. *Journal of Social and Clinical Psychology*, *10*(4), 395–413.

Sampasa-kanyinga, H., & Lewis, R. F. (2015). Frequent Use of social networking sites is associated with poor psychological functioning among children and adolescents. *Cyberpsychology, Behavior and Social Networking*, *18*(7), 380–385. doi:10.1089/cyber.2015.0055

Shaw, A. M., Timpano, K. R., Tran, T. B., & Joormann, J. (2015). Correlates of Facebook usage patterns: The relationship between passive Facebook use, social anxiety symptoms, and brooding. *Computers in Human Behavior*, *48*, 575–580. doi:10.1016/j.chb.2015.02.003

Simoncic, T. E., Kuhlman, K. R., Vargas, I., Houchins, S., & Lopez-duran, N. L. (2014). Computers in human behavior Facebook use and depressive symptomatology: Investigating the role of neuroticism and extraversion in youth. *Computers in Human Behavior*, *40*, 1–5. doi:10.1016/j.chb.2014.07.039

Smith, A. (2011). *Why Americans use social media friends*. Retrieved October 12, 2016, from http://www.pewinternet.org/2011/11/15/why-americans-use-social-media/.

Smith, R. H., & Kim, S. H. (2007). Comprehending envy. *Psychological Bulletin*, *133*(1), 46–64. doi:10.1037/0033-2909.133.1.46

Smith, R. H., Parrott, W. G., Diener, E. F., Hoyle, R. H., & Kim, S. H. (1999). Dispositional envy. *Personality and Social Psychology Bulletin*, *25*(8), 1007–1020.

Spencer, S. J., Zanna, M. P., & Fong, G. T. (2005). Establishing a causal chain: Why experiments are often more effective than mediational analyses in examining psychological processes. *Journal of Personality and Social Psychology*, *89*(6), 845–851. doi:10.1037/0022-3514.89.6.845

Steers, M. N., & Wickham, R. E. (2014). Seeing everyone else's highlights reels: How Facebook usage is linked to depressive symptoms. *Journal of Social and Clinical Psychology*, *33*(8), 701–731.

Steinfield, C., Ellison, N. B., & Lampe, C. (2008). Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. *Journal of Applied Developmental Psychology*, *29*, 434–445. doi:10.1016/j.appdev.2008.07.002

Steptoe, A., & Wardle, J. (2011). Positive affect measured using ecological momentary assessment and survival in older men and women. *Proceedings of the National Academy of Sciences of the United States of America*, *108*(45), 18244–18248. doi:doi/10.1073/pnas.1110892108

Stewart, J. B. (2016). Facebook Has 50 Minutes of Your Time Each Day. It Wants More. Retrieved from http://www.nytimes.com/2016/05/06/business/facebook-bends-the-rules-of-audience-engagement-to-its-advantage.html. Retrieved October 12, 2016.

Tandoc, E. C., Ferrucci, P., & Duffy, M. (2015). Facebook use, envy, and depression among college students: Is Facebooking depressing? *Computers in Human Behavior*, *43*, 139–146. doi:10.1016/j.chb.2014.10.053

Tay, L., Kuykendall, L., & Diener, E. (2015). Satisfaction and happiness—The bright side of quality of life. In W. Glatzer, L. Camfield, V. Moller, & M. Rojar (Eds.), *Global handbook of quality of life* (pp. 839–853). Netherlands: Springer. doi: 10.1007/978-94-017-9178-6

Tobin, S. J., Vanman, E. J., Verreynne, M., & Saeri, A. K. (2014). Threats to belonging on Facebook: Lurking and ostracism. *Social Influence*, *10*, 1–11. doi:10.1080/15534510.2014.893924

Tremblay, M. S., Leblanc, A. G., Janssen, I., Kho, M. E., Hicks, A., Murumets, K., Colley, R. C., & Duggan, M. (2011). Canadian sedentary behaviour guidelines for children and youth. *Applied Physiology, Nutrition, and Metabolism*, *36*(1), 59–64. doi:10.1139/H11-012

Tromholt, M., Marie, L., Andsbjerg, K., & Wiking, M. (2015). *The Facebook experiment: Does social media affect the quality of our lives*.

Twitter. (2016). Twitter. Retrieved May 7, 2016 from https://about.twitter.com/company.

UK Council for Child Internet Safety. (2016). Good practice guidance for the providers of social networking and other user-interactive services. Retrieved October 10, 1BC from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/487973/ukccis_guide-final__3_.pdf.

Valenzuela, S., Park, N., & Kee, K. F. (2009). Is There social capital in a social network site?: Facebook use and college student's life satisfaction, trust, and participation. *Journal of Computer-Mediated Communication*, *14*, 875–901. doi:10.1111/j.1083-6101.2009.01474.x

Valkenburg, P. M., Peter, J., & Schouten, A. P. (2006). Friend networking sites and their relationship to adolescents' well-being and social self-esteem. *Cyberpsychology & Behavior*, *9*(5), 584–590.

Vecchio, R. P. (2000). Negative emotion in the workplace: Employee jealousy and envy. *International Journal of Stress Management*, *7*(3), 161–179.

Verduyn, P., Lee, D. S., Park, J., Shablack, H., Orvell, A., Bayer, J., Ybarra, O. Jonides, J., & Kross, E. (2015). Passive Facebook usage undermines affective well-being: Experimental and longitudinal evidence. *Journal of Experimental Psychology: General*, *144*(2), 480–488.

Vogel, E. A., Rose, J. P., Okdie, B. M., Eckles, K., & Franz, B. (2015). Who compares and despairs? The effect of social comparison orientation on social media use and its outcomes. *Personality and Individual Differences*, *86*, 249–256.

Vogel, E. A., Rose, J. P., Roberts, L. R., & Eckles, K. (2014). Social comparison, social media, and self-esteem. *Psychology of Popular Media Culture*, *3*(4), 206–222.

Wang, S. S. (2013). "I Share, Therefore I Am": Personality traits, life satisfaction, and Facebook check-ins. *Cyberpsychology, Behavior and Social Networking*, *16*(12), 870–877. doi:10.1089/cyber.2012.0395

Wenninger, H., Krasnova, H., & Buxmann, P. (2014). Activity matters: Investigating the influence of Facebook on life satisfaction of teenage users. In M. Avital, J. M. Leimeister, & U. Schultze (Eds.), *Twenty Second European Conference on Information Systems* (pp. 1–18). Tel Aviv, Israel: ECIS.

Wills, T. A. (1981). Downward comparison principles in social psychology. *Psychological Bulletin*, *90*(2), 245–271.

Ybarra, M. L., & Mitchell, K. J. (2008). How Risky Are Social Networking Sites? A Comparison of Places Online Where Youth Sexual Solicitation and Harassment Occurs. *Pediatrics*, *121*(2), e350–e357. http://doi.org/10.1542/peds.2007-0693.

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