Social networking online and personality of self-worth: A meta-analysis ☆

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ABSTRACT

Social networking sites (SNSs) offer new avenues for interpersonal communication and self-presentation. We report a meta-analysis of 80 studies yielding 143 effect sizes on the effect of self-esteem, narcissism, and loneliness on SNS use. Total SNS use was higher among people low in self-esteem, high in narcissism, and high in loneliness. Further analyses revealed high narcissism to be linked to all SNS activities (status updates, posting photographs, interacting/commenting on others, and total friends). High self-esteem (not low) was linked to having more online friends but no other activities. Links were stronger in studies with lower proportions of females and participants from non-Western, non-individualistic countries. We speculate that effects are somewhat diluted among females and Western samples by multiple reasons for SNS use, and further that low self-esteem participants constitute the so-called "lurkers" (i.e., people who browse but do not reveal themselves).

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1. Introduction

Communication and social interaction have been keys to human life throughout evolutionary history, and they remain vitally central aspects of human motivation (Baumeister & Leary, 1995; Dunbar, 1996, 2010; Suddendorf, 2013; Tomasello, 2014). For most of history, communicative interactions were limited to face-to-face contacts, generally consisting of one person communicating with one or two others. Gradually, however, innovations in communication have opened new possibilities. Writing enabled people to communicate across great distances, and printing enabled authors to communicate a single message to many readers. Other advances such as telephones and television have improved the efficiency, speed, and reach of communication. In recent years, the scope, ease, and efficiency of interpersonal communication have improved due to another technological advance in communicative media: social networking sites (SNS). The present manuscript

reports a meta-analysis of several personality factors that predict use of SNS.

Many researchers have speculated that communication via SNS may appeal particularly strongly to certain personality types, especially self-esteem and narcissism (Fox & Rooney, 2015; Kalpidou, Costin, & Morris, 2011). Some studies have however failed to find significant evidence of such links (Hong, Huang, Lin, & Chiu, 2014; McKinney, Kelly, & Duran, 2012). The current meta-analysis was intended to clarify whether such links are significant across the literature, and if so, what the direction of the relationship is. Moreover, the simple measure of total SNS use may not be the best or most informative variable, and so we sought evidence about how these traits might predict specific forms or aspects of SNS participation. To clarify the motivational underpinnings of the links to narcissism and self-esteem, we also sought evidence about how loneliness might be linked to SNS use.

1.1. Social networking site as communicative medium

The rapid rise of SNS suggests that they have some appeal beyond traditional means of communication, and these must be appreciated in order to understand patterns of usage. First, any person can use SNS to communicate information about self efficiently to a potentially large number of other persons. Dunbar (1996) noted that primates form social bonds by grooming each other, but grooming is highly inefficient, insofar as each grooming

episode takes substantial time and can only be done to one interaction partner at a time. In contrast, human speech enables information to be communicated to several hearers at once, thereby improving reach and efficiency. By a similar advance, SNS enable one person to post information online, where it can be read by a great many other people.

Posting information for delayed consumption by others offers additional advantages over direct, immediate interaction, especially for the purposes of presenting information about oneself to others (cf. Baumeister, 1982; Schlenker, 1980)—which forms the bulk of SNS activity, as opposed to using SNS to communicate other sorts of information. A person can consider in leisurely solitude exactly what he or she wishes to present, can select and edit the optimal disclosures to make the desired impression, and can communicate them without any of the traditional handicaps of self-presentation. Unlike live interaction, SNS posting avoids such problems as forgetting to say something or not finding the right conversational opportunity, being nervous while talking, or being subjected to questions that dispute one's intended message or take the conversation in a different direction and preclude one's ability to express the desired image of self.

Just as SNS improve the efficient ability to broadcast information about oneself, they also enable people to acquire information about others rapidly, efficiently, and indeed rather surreptitiously. In contrast to having to seek out and converse with someone in order to learn that person's news, one can quickly visit the person's personal page and garner whatever information one wants.

The ability to share information despite spatial and temporal separation thus greatly increases the ability of people to connect with each other. Lonely or socially isolated people can connect with others by these means—but whether loneliness can actually be counteracted without in-person contact remains up for debate. In one of the few longitudinal investigations on this, Kross et al. (2013) found that lonely people were more likely than others to use SNS, but SNS usage also increased loneliness rather than reducing it.

Moreover, the anonymity of online browsing enables people to obtain information about other people without revealing themselves. This could appeal to people who are interested in other people's lives but may be held back by shyness or social anxiety from initiating live interactions with others (Schlenker & Leary, 1982). SNS solve this problem to some extent for them, and indeed the term "Facebook stalking" has emerged recently to refer to people who visit social media sites to find out about other people without revealing anything about themselves, including their identity (Facebook is currently the most popular and widely used SNS).

Facebook also offers people the ability to communicate with others. The simplest form is to indicate that one likes something, by clicking a "Like" onscreen button. Up until now there has been no corresponding "Dislike" button. Though Facebook released emotive icons to facilitate convenient communication among its users early this year, most of them are positive. This asymmetry may increase the appeal of that site, insofar as positive evaluation is facilitated. Insecure people eager for praise, including people with low self-esteem and narcissists, may find the ease of obtaining "Like" responses especially appealing.

Whereas the anonymity may appeal to people who have anxiety about live interaction, the ability to broadcast personal information to supposedly large audiences may appeal to certain categories of people. Obviously, people who wish to be known to many others will be most attracted to this feature.

1.2. Relevant behaviors on social media

Before articulating our hypotheses, it is useful to appreciate what are the main quantifiable aspects of SNS usage. These were the variables that have been measured in research studies and hence form the main factors in our meta-analysis. That is, they are what we sought to predict based on self-esteem, narcissism, and loneliness.

The first is simply the aggregate total amount of activity on SNS. This represents the person's overall use of SNS. It could be measured with total time spent on such sites, or frequency of visiting them, or intensity of activity.

Second, *status updates* refer to verbal disclosures about oneself. Essentially one posts information to make it available to others to see. This goes strongly to the self-presentational component of SNS use.

Third, *interactions* refer to responses specifically to other people's disclosures or comments. The person thus replies to or comments on something another person has communicated via the SNS. Interactions engage the individual with a specific other person. The simplest interaction is to click the "Like" response. Interactions leave visible traces, unlike merely browsing or viewing someone's page.

Fourth, SNSs enable people to post photos, which may be of themselves or of personally meaningful or interesting scenes. The number of photos on an individual's site can therefore be counted.

Fifth, and last, Facebook enables users to form ostensible or virtual social bonds by mutually declaring each other to be "Friends." Although a large proportion of SNS friends come from offline, many of them are only slight acquaintances, in some cases having met once or even not at all. Thus, these are hardly close friendships by traditional standards. Nonetheless, people may get a boost from feeling that they have large numbers of friends and can even begin to feel famous on that basis. Each person's tally of such friends is kept by the SNS, thereby enabling researchers to explore the size of these friendship networks.

1.3. Narcissism

The simplest and least conflicted hypotheses concerned narcissism. Narcissism is defined as a pervasive pattern of grandiose self-view, need for admiration, and an excessive preoccupation with oneself (Campbell, Rudich, & Sedikides, 2002). It is closely tied to feelings of or quest for superiority over others, and to preoccupation with others' appraisals (Raskin, Novacek, & Hogan, 1991). Individuals relatively high in narcissism (which we henceforth refer to as "narcissists," which is meant to denote relative position on a continuum rather than a discrete personality type) are generally egocentric, have a sense of grandiosity, feel dominant over others, consider themselves entitled to special and preferential treatment, and perceive themselves as more intelligent and more physically attractive than other people (Fox & Rooney, 2015). Currently, the most widely used measure of narcissism is the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979).

A central feature of narcissism is the wish to be admired by others (Morf & Rhodewalt, 2001). Narcissists' interest in being liked is average, thus neither particularly high nor low, but they have a strong desire for admiration. Such admiration validates the highly positive views of self that they seek. Thus, narcissism is less the fact of thinking well of oneself (which would make it simply a variation of high self-esteem) than the motivation to think well of oneself. To be sure, narcissism is positively correlated with both high self-esteem and instability of self-esteem (Campbell et al., 2002; Rhodewalt, Madrian, & Cheney, 1998).

In any case, we predicted that narcissism would be positively correlated with all facets of SNS use. SNSs offer great opportunities that may appeal to narcissists as ways of garnering the admiration they seek (Bergman, Fearrington, Davenport, & Bergman, 2011; Buffardi & Campbell, 2008). They can easily and efficiently share information about themselves with many other people, and they