Full length article

The concurrent and longitudinal relationships between adolescents' use of social network sites and their social self-esteem

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ABSTRACT

The first aim of this study was to investigate the concurrent and longitudinal relationships between adolescents' use of social network sites (SNSs) and their social self-esteem. The second aim was to investigate whether the valence of the feedback that adolescents receive on SNSs can explain these relationships. We conducted a three-wave panel study among 852 pre- and early adolescents (10—15 years old). In line with earlier research, we found significant concurrent correlations between adolescents' SNS use and their social self-esteem in all three data waves. The longitudinal results only partly confirmed these concurrent findings: Adolescents' initial SNS use did not significantly influence their social self-esteem in subsequent years. In contrast, their initial social self-esteem consistently influenced their SNS use in subsequent years. The valence of online feedback from close friends and acquaintances explained the concurrent relationship between SNS use and social self-esteem, but not the longitudinal relationship. Results are discussed in terms of their methodological and theoretical implications.

1. Introduction

Adolescence is a transitional phase characterized by significant psychosocial changes. An important developmental task that adolescents need to accomplish is to develop a coherent sense of self (i.e., a view of who they are and who they want to become) and a relatively stable feeling of overall self-worth, that is, self-esteem. Self-esteem is one of the main predictors of psychological well-being (Baumeister, Campbell, Krueger, & Vohs, 2003; Harter, 2012a), and acquiring an adequate level of self-esteem is crucial to adolescent development. Adolescents' self-esteem is widely acknowledged to be a multidimensional and hierarchical concept that consists of several different components, including scholastic, social, athletic, and physical self-esteem (Harter, 2012a; Marsh & Craven, 2006). Together, these self-esteem components are significant predictors of global self-esteem (Harter, Whitesell, & Junkin,

1998), and individually, they more strongly predict related developmental outcomes than other self-esteem components do. For example, scholastic self-esteem is a significant predictor of academic outcomes, whereas social or physical self-esteem are weaker predictors of such outcomes (Marsh & Craven, 2006).

In this study, we aim to investigate the relationships between adolescents' use of social network sites (SNSs) and their social self-esteem, defined as the extent to which they feel accepted and liked by their friends and peers and feel successful in forming and maintaining friendships. Social self-esteem is largely shaped through interactions with close friends and peers, and as a result, such interactions play a central role in the development of adolescents' social and global self-esteem (Harter, 2012a). Today, a significant part of adolescents' interactions with close friends and peers occur via social network sites (SNSs), such as Facebook, Snapchat, and Instagram (Valkenburg & Piotrowski, 2017). Given that social self-esteem is one of the strongest predictors of global self-esteem (Harter, 2012b), we believe that if there is one component of adolescents' global self-esteem that might be related to their peer interactions on SNSs, it is their social self-esteem.

Several earlier studies have investigated the relationship between adolescents' social media use and self-esteem. Some studies

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have focused on the relationship between social media use and *global* self-esteem (Apaolaza, Hartmann, Medina, Barrutia, & Echebarria, 2013; Blomfield Neira & Barber, 2014; Gross, 2009; Jackson et al., 2010), whereas others have investigated social self-esteem (Blomfield Neira & Barber, 2014; Jackson et al., 2010; Valkenburg, Peter, & Schouten, 2006). These studies have focused on different types of social media use, including the time spent on SNSs (Apaolaza et al., 2013; Blomfield Neira & Barber, 2014; Valkenburg et al., 2006), time spent with instant messaging (Gross, 2009; Jackson et al., 2010), and homepage or weblog creation (Schmitt, Dayanim, & Matthias, 2008).

Of the seven studies among adolescents that investigated the relationship between social media use and self-esteem, five reported a positive relationship with global self-esteem (Apaolaza et al., 2013; Gross, 2009; Schmitt et al., 2008) or social self-esteem (Blomfield Neira & Barber, 2014; Valkenburg et al., 2006). In addition, one study found a non-significant (positive) relationship with both global and social self-esteem (Jackson et al., 2010), and another found a negative relationship with global self-esteem (O'Dea & Campbell, 2011). However, when social media use becomes intense or addictive, these preponderating positive results are reversed into negative relationships with both global and social self-esteem (Blomfield Neira & Barber, 2014; Fioravanti, Dèttore, & Casale, 2012; van den Eijnden, Lemmens, & Valkenburg, 2016; van der Aa et al., 2009).

Although the weight of evidence thus points to a positive relationship between adolescents' social media use and their self-esteem, the existing literature has two important gaps. First, it particularly lacks studies based on longitudinal data and, therefore, the direction of the relationship between social media use and social self-esteem remains unclear (Liu & Baumeister, 2016). Although most previous studies have conceptualized global and social self-esteem as the outcome variable, it is just as likely that adolescents' level of social self-esteem is the cause and social media use the result. Second, many studies have tested *whether* there is a relationship between SNS use and social self-esteem, but not *why* (but see, e.g., de Vries & Kühne, 2015; Thomaes et al., 2010; Valkenburg et al., 2006). Therefore, knowledge about possible underlying mechanisms that may explain this relationship is largely lacking. The aim of the current study is to address these two gaps in the literature. First, we will investigate the longitudinal relationship between adolescents' SNS use and their social self-esteem, and compare this relationship with the concurrent findings that have been reported in previous research. Second, we will investigate an important underlying mechanism that may explain the concurrent and longitudinal relationships between SNS use and social self-esteem, namely the extent to which adolescents receive positive feedback on SNSs.

The focus of our study is on pre- and early adolescents (age 10–15). Developmental research agrees that there is no stage of life-span development in which feedback on the self is so likely to affect self-esteem as during this period. Especially early adolescence is characterized by an increased focus on the self. Early adolescents often tend to overestimate the extent to which others are watching and evaluating them, and can be highly preoccupied with how they appear in the eyes of others (Elkind & Bowen, 1979). On SNSs, interpersonal feedback on the self, whether positive or negative, is often more public and visible than in comparable face-to-face settings, which may make pre- and early adolescents more susceptible to such feedback than comparable feedback in face-to-face settings.

1.1. SNS use and (social) self-esteem among adolescents and adults

Research into the relationship between SNS use and self-esteem has been burgeoning since the introduction of Facebook in 2007. In a recent meta-analysis, Liu and Baumeister (2016) retraced 33 independent studies, conducted between 2008 and 2016, on the relationship between SNS use and global self-esteem. Their meta-analysis revealed mixed results for different indicators of SNS use: Time spent on SNSs resulted in a negative correlation ($r = -0.09$, $p < .01$) with global self-esteem, whereas the number of friends of SNS users led to a positive correlation ($r = 0.07$, $p < .001$). The meta-analysis further revealed three non-significant relationships between global self-esteem and the frequency of interactions on SNSs ($r = .11$), the frequency of status updates ($r = -0.02$), and the number of photos uploaded ($r = -0.01$).

Although valuable, the meta-analysis of Liu and Baumeister (2016) does not allow of decisive conclusions about the relationship between SNS use and self-esteem among *adolescents*, firstly because most of the studies among adolescents were not included in their meta-analysis (i.e., Apaolaza, et al., 2013; Blomfield Neira & Barber, 2014; Gross, 2009; Jackson et al., 2010; O'Dea & Campbell, 2011; Schmitt et al., 2008; Valkenburg et al., 2006). And secondly, because there is initial evidence that the positive relationship between social media use and self-esteem may hold for adolescents but not for adults (Gross, 2009). This discrepancy in results may be due to differences in SNS use by adolescents and adults. Most adolescents use social media to communicate with their existing friends (Valkenburg & Peter, 2011), and they typically receive positive (rather than negative) online feedback from these friends (Koutamanis, Vossen, & Valkenburg, 2015; Valkenburg et al., 2006). This preponderating positive online feedback may help them develop a favorable view of their selves, just like *offline* interpersonal feedback from these same friends may do (Valkenburg et al., 2006). Finally, given that adolescents are more susceptible than adults to positive (and negative) feedback, the effect of peer interactions on SNSs on adolescents' self-esteem may be larger than similar effects on adults' self-esteem.

1.2. The causal direction of the relationship between SNS use and social self-esteem

Another reason why the results of Liu and Baumeister's (2016) meta-analysis do not allow of decisive conclusions is that virtually all of their included studies were correlational. To date, most of the studies among adolescents have been based on the hypothesis that SNS use influences social or global self-esteem (e.g., Apaolaza, et al., 2013; Valkenburg et al., 2006), but, in fact, the opposite hypothesis—that their self-esteem affects their SNS use— is equally plausible. People are typically more attracted to media that are consistent with their personality traits (Valkenburg & Peter, 2013). In the case of SNS use, this would imply that adolescents with higher social self-esteem are more likely than their peers with lower self-esteem to interact with friends online (Kraut et al., 2002; Valkenburg & Peter, 2013). To investigate the direction of the SNS use-self-esteem relationship, we will investigate two opposite hypotheses: Adolescents' use of SNSs will stimulate their social self-esteem (Hypothesis 1a), and adolescents' social self-esteem will lead to increases in their SNS use (Hypothesis 1b).

1.3. Online feedback as an underlying mechanism

The second aim of our study is to investigate whether positive feedback on SNSs could explain the preponderantly positive relationships between adolescents' social media use and social self-esteem reported in previous studies. Three earlier studies, two correlational (Greitemeyer, Mügge, & Bollermann, 2014; Valkenburg et al., 2006) and one experimental (Thomaes et al., 2010), have investigated the relationship between feedback on