



Individual differences in social networking site users: The interplay between antecedents and consequential effect on level of activity



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ABSTRACT

Based on the notion that individual users would utilize Social Networking Sites (SNSs) in characteristic ways, we tested a structural model hypothesizing that personality traits, communicative and social variables, attitudes, and motives would affect level of SNS activity. Participants ($n = 674$) completed measures of personality, communication apprehension, self-esteem, need for affiliation, attitudes, motives of SNS use, and level of SNS activity. Results offered support for the hypothesized model of SNS motivations and activity, illustrating that SNSs were primarily used to maintain relational connections with others. In addition, support was found for the contention that SNSs offer beneficial social tools for all individuals; however, this effect was highest for individuals already proficient in face-to-face social and communicative behaviors.

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1. Introduction

Social Networking Sites (SNSs) are online communities that support social interaction by allowing individual users to maintain a network of connections and actively communicate and correspond with them (Ellison, Steinfield, & Lampe, 2007). While instant messaging and email are typically used for dyadic and one-to-one interactions (Hunt, Atkin, & Krishnan, 2012), SNSs facilitate interaction on a one-to-many basis. The growth of social media has been meteoric, with Facebook – the most popular website in the world – claiming over a billion registered users worldwide in a span of less than a decade (Smith, Segal, & Cowley, 2012). This swift emergence calls for an examination of the communication processes that exist and operate through these channels and the motives behind their use.

Researchers have employed both qualitative and quantitative approaches when examining online social networking, while also looking at specific websites such as Facebook and MySpace (Banczyk, Krämer, & Senokozlieva, 2008; Foregger, 2009). In terms of SNS adoption and use, researchers have looked at individual variables such as reticence, self-esteem, extraversion and need for affiliation (Banczyk et al., 2008; Correa, Hinsley, & de Zúñiga, 2010; Gangadharbatla, 2009; Haferkamp & Krämer, 2009).

Nevertheless, no over-arching view of SNS communicative behavior exists. Moreover, despite enabling social and communicative features on SNSs, there are conflicting findings on whom SNSs really benefit; Ellison et al. (2007) found that SNSs helped users overcome face-to-face (FtF) social barriers, thus supporting a “poor-get-rich” hypothesis. Others however, have found that SNSs merely benefit those who are already skilled in FtF social interaction, thus supporting the “rich-get-rich” hypothesis (Banczyk et al., 2008; Kraut et al., 2002). Valkenburg, Peter, and Schouten (2006) for instance found that SNS use “stimulated the number of relationships formed on the site, the frequency with which adolescents received feedback on their profiles, and the tone (i.e., positive vs. negative) of this feedback” (p. 584).¹ These dual-effects conceptions beg the question – what motives and intentions drive an SNS user? In response to a gap in the computer-mediated communication (CMC) literature – and a call for researchers to investigate the characteristics of a typical SNS user (Raacke & Bonds-Raacke, 2008) – the current study proposes a comprehensive analysis of (1) the personality and communicative traits of SNS users, (2) their attitudes and motivations for SNS use, and (3) the interplay between these antecedent blocks of variables on SNS activity.

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¹ The authors further noted that positive feedback on the profiles enhanced adolescents’ social self-esteem and well-being, whereas negative feedback decreased their self-esteem and well-being.

1.1. Dissecting the SNS user

One of the most active areas in SNS research involves the examination of motivations behind SNS use. Researchers have examined personality (Bonds-Raacke & Raacke, 2010; Langstedt, 2013; Quan-Haase & Young, 2010), self-esteem (Steinfeld, Ellison, & Lampe, 2008), narcissism (Bergman, Fearnington, Davenport, & Bergman, 2011; Buffardi & Campbell, 2008) and need for affiliation (Haferkamp & Krämer, 2009). However, there remains a dearth of research on the influence of these variables on user motivations and SNS activity. Thus, in an effort to explicate SNS activity, we begin with an examination of personality traits as antecedents.

1.2. Personality traits as antecedents

A key focus in media adoption research, the study of personality traits is commonly measured in psychology as a broad structure encompassed by dimensions or the “Big-Five” – extraversion, neuroticism, openness to experience, agreeableness and conscientiousness (Galauner, Pettay, Beatty, Rudd, & Atkin, 2011; Goldberg, 1993; Langstedt & Atkin, 2014; McCrae & Costa, 1999). The study of personality traits has been extended to examine various forms of CMC, including SNSs. Extraversion has consistently emerged as a driving force in relationship formation and maintenance on SNSs (Back et al., 2010); it has also been found to be significantly related to the size of one’s network and to level of activity and self-presentation on SNSs (Acar, 2008; Krämer & Winter, 2008). Openness, which has been linked to experimenting with new forms of communication (Butt & Phillips, 2008) has been shown to be a significant predictor of SNS use (Banczyk et al., 2008; Ross et al., 2009). Based on the literature, which suggests that extraversion and openness are strong and consistent predictors of SNS use, the decision was made to incorporate only these two personality dimensions in the current study.

Conversely, Ross et al. (2009) maintain that researchers should not limit themselves to studying personality traits derived from the Big-Five schema (Costa & McCrae, 1992). Pearse (2013) argues, for instance, that social media are a stage for narcissism and preliminary research (Bergman et al., 2011; Valkenburg et al., 2006) has uncovered a link between the two. Narcissism is characterized by an inflated self-concept, a sense of uniqueness and entitlement, and positive self-view of traits like intelligence and extraversion (Brown & Zeigler-Hill, 2004; Emmons, 1987; John & Robins, 1994). In order to maintain their inflated sense of self, narcissists rely on multiple strategies including domineering and exhibitionist behaviors (Buss & Chiodo, 1991; Twenge & Campbell, 2003). Since SNSs allow users to promote themselves in an ideal fashion through pre-selected information, they are an idyllic setting for narcissists to engage in exhibitionist and self-promoting behavior (e.g., Bergman et al., 2011).

1.3. Contradictory findings on self-esteem

Self-esteem has been at the center of conflicting findings regarding its effect on SNS behavior (Krämer & Winter, 2008; Valkenburg et al., 2006). Valkenburg et al. (2006) found that SNS use had beneficial effects on users’ self-esteem and life satisfaction. Concurrently, Banczyk et al. (2008) showed that SNS users with high self-esteem were more likely to engage in positive self-presentation behaviors. Conversely, Krämer and Winter (2008) did not find any relationship between self-esteem and self-presentation behavior on SNSs. The inconsistency in findings regarding the effect of self-esteem thus deserves additional attention.

1.4. Communication and social influences

Communication apprehension (CA) refers to a trait-level and more recently state-like anxiety about communicating with other people (McCroskey & Beatty, 1984). CA is a variable of interest because researchers believe that mediated forms of communication allow people—particularly those with CA – a stress-free way to interact with others (Lemieux, 2007). Although there is some precedent in the SNS literature regarding computer-mediated CA (Hunt et al., 2012), research has yet to explore the impact of FtF CA on SNS use; thus we can only speculate on the effect of apprehension to communicate on consequential SNS behavior.

The primary purpose of most communication is to seek affiliation with others (e.g., Haferkamp and Krämer, 2009). The need to belong or affiliate with others in a social group is a defining characteristic of being human (Hill, 1987). This need for affiliation (NA) – to find friends and social support – has been used to explain motivations to join virtual communities (Ridings & Gefen, 2004). In fact, social affiliation is the most important motivating factor in using SNSs (Haferkamp & Krämer, 2009). Despite some evidence underscoring the importance of affiliative behavior on SNS use, there still remains a dearth of literature on this topic.

1.5. Examining the influence of attitudes

Technology-oriented and social scientific theories on media choice tend to look at the attributes of the medium or the encompassing social framework to explain people’s reasons for choosing certain media (Campbell & Russo, 2003; Irmer & Bordia, 2003), while ignoring the value of attitudes on possible media choice. With respect to SNSs, Gangadharbatla (2009) illustrated that attitudes significantly predict people’s willingness and intention to join SNSs, which in turn positively predict actual usage. Since positive attitudes towards a new communication technology are a key motivator in adoption (Carey, 1995; Lin & Atkin, 2014; Straub & Karahanna, 1998), it stands to reason that attitudes towards SNSs will influence motives for use and subsequent SNS behavior.

1.6. Towards a structural model of SNS motivations and activity

Based on the of the theoretical dynamics outlined in past work, we propose a model that seeks to explain the effect of antecedent variables such as personality and communication traits, need for affiliation, self-esteem, attitudes and motives in order to predict level of activity on SNSs. The structural model can be viewed as a series of five blocks – personality traits, social and communication influencers, attitudinal variables, motives, and finally SNS activity. The model predicts that level of activity will be directly influenced by female gender – initially a predictor of SNS use (Hunt et al., 2012; Sheldon, 2008; Sheldon, 2009) – although this gender gap has leveled over time and leaves its valence in question (Lin & Atkin, 2014).² SNS use is also posited to be influenced by extraversion, NA, attitudes towards SNSs, and motives for using SNSs. Due to a lack of consistent data, research questions are proffered about the relationship between female gender and personality traits. The second block of variables includes social and communicative motives – NA, CA and self-esteem. Based on the evidence mentioned above, extraversion will have a direct negative effect on CA, which in turn will mediate the effect of extraversion on self-esteem. Narcissism will positively influence NA; which in turn will be positively affected by gender. There is limited knowledge about the impact of

² Although masculinized gender gaps in Internet adoption have leveled over time, with women making even greater use of media like the telephone (Rogers, 1983), inconclusive findings in recent work auger against a clear predictive valence for gender (Langstedt, 2013).

openness on social and communicative variables—particularly in the online context – hence a research question is posited as to the magnitude and direction of that relationship.

Based on previous linkages drawn between self-esteem and social affiliation on online interactions (Haferkamp & Krämer, 2009; Ridings & Gefen, 2004; Shaw & Gant, 2002; Valkenburg et al. (2006)), we posit that NA and self-esteem will positively influence attitudes. Attitudes have been shown to affect behavioral intentions towards adopting a new technology and eventual adoption. Thus, motives to use SNSs can be proffered as a consequent block of variables following attitudes. Since the exact relationship between these two sets of variables remains unclear, a research question is posited; i.e., “how do SNS-related attitudes relate to SNS use motives?” The final block of variables refers to SNS behavior – specifically level of activity – which is hypothesized to be directly influenced by gender, extraversion, NA, attitudes and motives (see Fig. 1).

2. Methods

2.1. Participants and procedures

College students, identified as a key cohort of technology-savvy users who make extensive use of SNSs (Lenhart & Madden, 2007) were recruited for this study. The study was hosted online using an internet-based survey software. Instructors in the participating courses announced the study in their classes and offered students extra credit for voluntary study participation. Students who wished to participate were instructed to review the informed consent form posted online to indicate their consent before participating in the online survey. As these general education courses typically enroll students from across all majors, study participants came from a wide range of academic disciplines across the university. As per the custom in such in-class administrations, the participation rate approached nearly 100%. Prior to study administration, approval of the participant recruitment and research procedures was reviewed by and obtained from the university institutional review board.

The present sample – consisting of 674 undergraduate students at a large public university – was thus both convenient and purposive, given the propensity of SNS use among college students (Lenhart & Madden, 2007). The criteria for inclusion was that participants had to be 18 years or older and had to have membership in at least one social networking website. The total sample was composed of 300 males (44.5%) and 374 females (55.5%) with a mean age of 19.64 years ($SD = 1.33$). With respect to ethnicity, an overwhelming majority (81.2%) identified themselves as Caucasian/White followed by Asians (6.8%), African-Americans (4.5%), and Hispanic/Latinos (4.7%). Individuals in this sample spent an average of 11.7 h per week on social networking websites.

2.2. Measures

In addition to the measure discussed below, participants completed demographic measures related to their gender, age, ethnicity and class standing. Questions were also asked relating to time spent on SNSs per week and number of contacts in one's online social network.

Extraversion and openness. Since there is some consensus in the literature on the significant effects of extraversion and openness on SNS use (Banczyk et al., 2008; Krämer & Winter, 2008; Ross et al., 2009), these were the two personality dimensions utilized in the current study. Extraversion was measured using 9 items and openness was measured using 5 items, adapted from the NEO Five-Factor Inventory (Costa & McCrae, 1992) and the Big-Five Inventory

(John, Naumann, & Soto, 2008) and measured on a seven-point Likert scale (ranging from 1 Strongly Disagree to 7 Strongly Agree). A Confirmatory Factor Analysis (CFA) was run on the scale to confirm a two-factor structure. The results suggested that one of the extraversion items and one of the openness items had significant correlations with several other items; they were removed to obtain a better-fitting and more parsimonious model. Reliabilities of the resulting *extraversion* (8 items; $\alpha = .95$) and *openness* (4 items; $\alpha = .90$) scales were high.

Narcissism. Participants' overt narcissistic tendencies were measured with 12 items adapted from the 40-item Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988). Although the NPI was originally constructed to represent narcissism as a broad one-dimensional construct, subsequent studies have found underlying sub-constructs in the scale such as entitlement, authority, vanity and self-absorption (Emmons, 1987). Hence, an exploratory factor analysis (EFA) was conducted in order to expound a multi-faceted narcissism measure. Using principal-components analysis with an oblique rotation, a two-component solution was obtained that accounted for 56.28% of the total variance. One of the items had low factor loadings on both components and was hence removed from the scale. On the basis of item content and previous explications of the factor structure of narcissism (Emmons, 1987; Raskin & Terry, 1988), the two components were labeled *arrogance* (7 items; $\alpha = .84$) and *vanity* (4 items; $\alpha = .82$).

Self-esteem. Self-esteem was measured on a seven-point Likert scale with 8 items adapted from Rosenberg's (1965) Self-esteem scale. Results of a CFA on the revised self-esteem scale showed that two items had low factor loadings, which were hence removed. The resulting 6-item self-esteem scale was shown to be well-validated, with a reliability measure of $\alpha = .85$, which is consistent with previous research (Fleming & Courtney, 1984).

Communication apprehension. CA was measured with a modified version of the Personal Report of Communication Apprehension (PRCA-24; McCroskey & Beatty, 1984) which is a 24-item Likert-type scale that measures an individual's trait anxiety about communicating in face-to-face situations. It assesses an individual's CA across four contexts – public, small group, meeting, and dyadic interactions. For the current study, the PRCA-24 was modified by removing the meeting context (as it was deemed an unsuitable measure for a college sample) and utilizing three items from the other three contexts. A CFA revealed that three items had low factor loadings on the CA factor and these were hence removed from subsequent analyses. All items of the resulting 6-item CA scale ($\alpha = .89$) were combined into a single composite measure of CA.

Need for affiliation. NA was measured using items adapted from three previously-established scales – the Affiliation Motivation Scale (Baker, 1979), the Personality Research Form (PRF; Jackson, 1989), and the Interpersonal Orientation Scale (IOS; Hill, 1987), resulting in an 11-item Need for Affiliation scale. The items were measured on a seven-point Likert scale where low responses referred to a low affiliative tendency and high responses referred to a high affiliative tendency. A CFA was used to confirm a single-factor structure of the NA scale. One reverse-coded item had poor factor loadings and was removed from further analyses; the reliability of the resulting 10-item NA scale was .81.

Measure of attitudes towards SNSs. Attitudes towards SNSs was measured using the measure of attitudes towards SNSs (MATS; Krishnan & Hunt, 2012) which is a condensed version of the Measure of Online Communication Attitude scale (MOCA; Ledbetter, 2009) and measures attitudes towards communication through online social networking. It consists of four dimensions – confidence in SNSs, ease of use, social connection and self-disclosure – and is scored on a seven-point Likert scale. For the current study, the self-disclosure dimension was omitted and a CFA was run to confirm the hierarchical structure of the MATS scale with the

second-order factor *attitudes towards SNSs*, causing the three first-order factors *confidence in SNSs* (4 items; $\alpha = .85$), *ease of use* (3 items; $\alpha = .83$), and *social connection* (4 items; $\alpha = .84$).

Motives to use SNSs. Motives were measured using the Uses and Gratifications of SNS Scale (UGS; Krishnan & Hunt, 2012) and scored on a seven-point Likert scale. A CFA confirmed four dimensions, all of which had high reliabilities – *infotainment* (7 items; $\alpha = .90$), *social tool* (6 items; $\alpha = .90$), *passing time* (4 items; $\alpha = .91$), and *conformity* (4 items; $\alpha = .82$).

SNS activity. Level of activity on SNSs was measured with a self-constructed measure for determining the frequency of activity on specific SNS pastimes (e.g., “Uploading photos, videos and links”). The SNS activity scale consisted of 7 items and was scored on a five-point scale; responses ranged from 1 (Never) to 5 (Frequently) regarding the frequency of an SNS activity. Reliability analysis showed good internal consistency for the SNS activity scale ($\alpha = .79$).

3. Results

3.1. Test of the hypothesized model of SNS activity

The hypothesized model was tested using the structural equation modeling software AMOS. As predicted, results showed support for the direct effects of extraversion ($\beta = .14$, $p < .001$) and female gender ($\beta = .26$, $p < .001$) on SNS activity. In addition, SNS activity was directly affected by motives to use SNSs as a social tool ($\beta = .29$, $p < .001$) and to conform to others ($\beta = .07$, $p < .05$). With respect to personality traits, female gender had a significant and moderate positive impact on extraversion ($\beta = .14$, $p < .001$) and a small yet significant effect on vanity ($\beta = -.08$, $p < .05$). However, the relationship between female gender, and arrogance ($\beta = -.02$, $p = .55$) and openness ($\beta = .01$, $p = .76$) was almost negligible.

Support was found for the effect of NA and self-esteem on attitudes; NA had large positive effects on both ease of use ($\beta = .32$, $p < .001$) and social connection ($\beta = .31$, $p < .001$). Similarly, self-esteem had positive effects on ease of use ($\beta = .19$, $p < .001$) and

confidence in SNSs ($\beta = .26$, $p < .001$), thus implying that individuals with higher self-esteem tend to view SNSs more favorably in terms of ease of use and confidence in using SNSs. The narcissism sub-dimensions of arrogance ($\beta = .14$, $p < .001$) and vanity ($\beta = .34$, $p < .001$) both had significant effects on NA. As predicted, extraversion had a direct negative effect on CA ($\beta = -.42$, $p < .001$) which in turn had a negative effect on self-esteem ($\beta = -.34$, $p < .001$). The hypothesized mediating relationship of communication apprehension on the effect of extraversion on self-esteem was also found ($\beta = .19$, $p < .001$). As suggested by Baron and Kenny (1986), a four-step procedure was followed in AMOS to test for mediation followed by the Sobel test, which revealed that communication apprehension was a significant mediating variable between extraversion and self-esteem (Sobel test, $z = 7.23$, $p < .001$).

A research question had been proffered as to the relationship between attitudinal variables and motives to use SNSs. Results showed that attitudes had a direct significant effect on motives to use SNSs. Specifically, confidence in SNSs ($\beta = .10$, $p < .001$), social connection ($\beta = .21$, $p < .001$), and ease of use ($\beta = .51$, $p < .001$) had positive effects on infotainment motives to use SNSs. Ease of use also had a positive effect on the passing time motive ($\beta = .51$, $p < .001$); social connection had a significant effect on both the social tool ($\beta = .20$, $p < .001$) and conformity motives ($\beta = .30$, $p < .001$).

Despite support for several of the hypothesized paths, this initial model did not have a good fit with the data ($\chi^2(89) = 1820.63$, $p < .001$, $RMSEA = .17$, $CMIN/DF = 20.46$, $NFI = .4$, $CFI = .47$). In order to increase model parsimony and fit, the hypothesized model was revised by (a) trimming the statistically non-significant paths and (b) adding paths as suggested by modification indices and theoretical reasoning (see Fig. 2).

3.2. Re-specified model

Adding paths. Modification indices suggested adding paths that were statistically significant and contributed to the overall fit of the model. However, careful deliberations were done to ensure

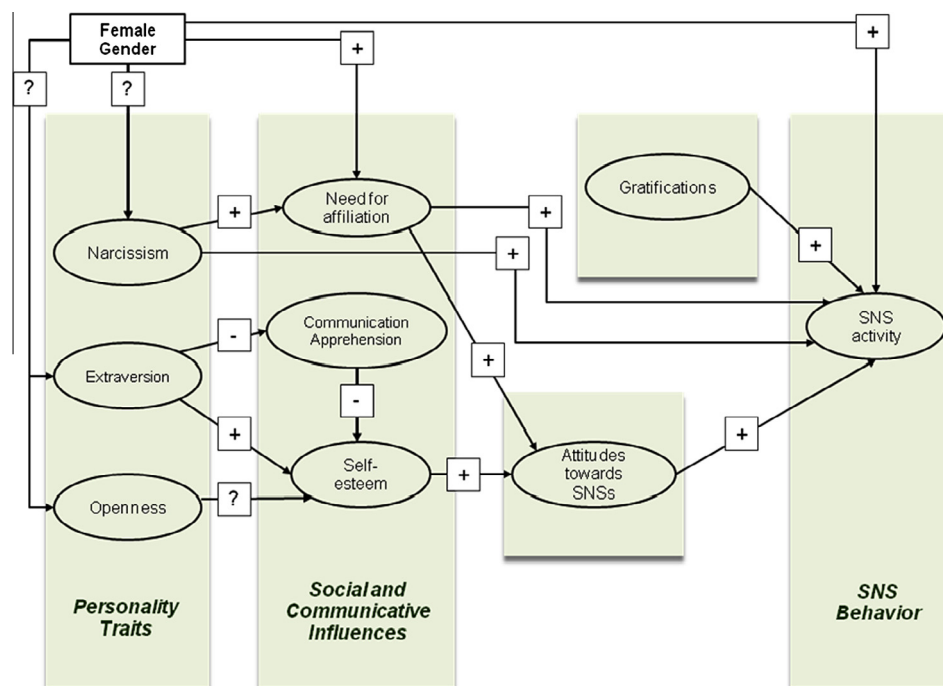


Fig. 1. Hypothesized model of SNS motivations and activity.

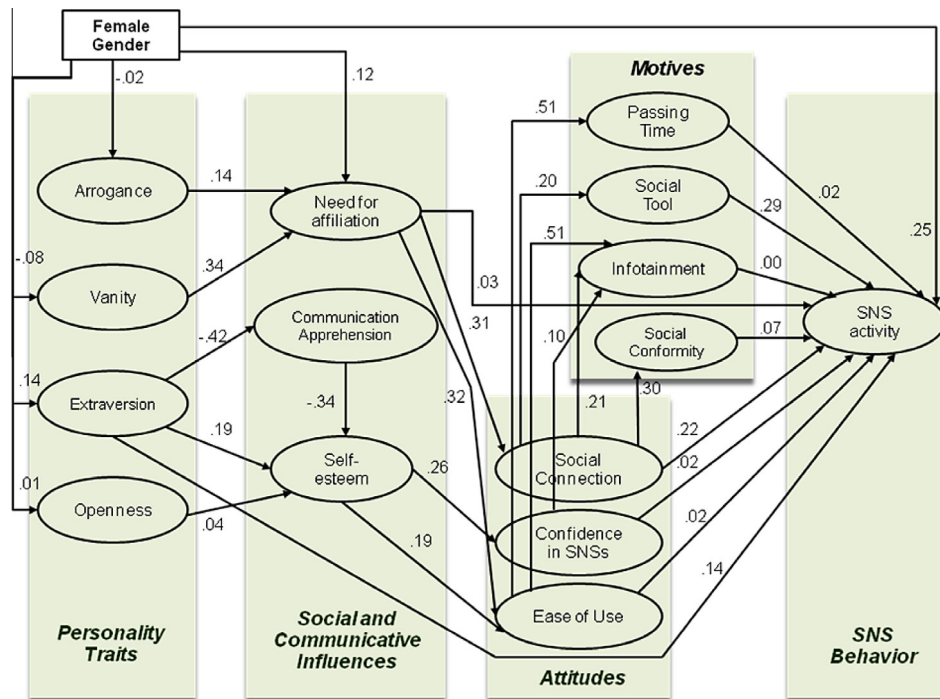


Fig. 2. Test of the proposed model: $\chi^2 (89) = 1820.63$, $p < .001$, RMSEA = .17, CMIN/DF = 20.46, NFI = .4, CFI = .47.

that each addition made theoretical and conceptual sense to the overall process model. The first path to be considered was the one between extraversion and narcissism. Modification indices suggested a high positive impact of extraversion on vanity ($\beta = .25$, $p < .001$) (see Fig. 3). This is an interesting link to be considered, as McCrae and Costa's (1999) conceptualization of the Big-Five personality measure does not include narcissism. The sub-dimension of narcissism – vanity – can be viewed as a secondary personality trait that in turn is explained by a primary

personality trait, in this case, extraversion. The literature does indicate parallels between extraversion and narcissism – extraversion is associated with talkative, gregarious and assertive behavior (Srivastava, 2010) and narcissism with extraversion and intelligence (Campbell, Rudich, & Sedikides, 2002; Gabriel, Critelli, & Ee, 1994). Thus, it makes conceptual sense to add this path, indicating a positive impact of extraversion on narcissism.

Links were also suggested from extraversion to NA ($\beta = .21$, $p < .001$) and infotainment motives ($\beta = .22$, $p < .001$). Extraversion

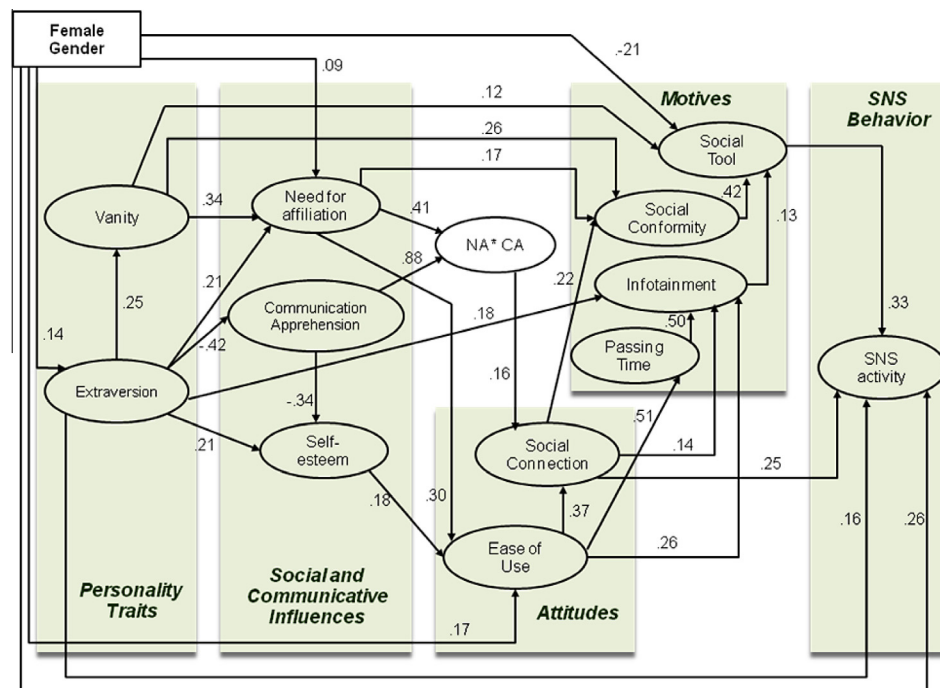


Fig. 3. Final re-specified model: $\chi^2 (60) = 274.44$, $p < .001$, RMSEA = .07, CMIN/DF = 4.57, NFI = .94, CFI = .96.

has been previously linked to seeking out social interaction and affiliation (Russel, Booth, Reed, & Laughlin, 1997); therefore a path from extraversion to need for affiliation can be theoretically justified. This argument can similarly be used to rationalize the link from extraversion to infotainment motives for using SNSs. Since extraverts like to meet and socialize with others, it makes sense that they would find information-seeking motives of SNSs particularly pertinent. As per modification indices, paths were also suggested from vanity to motives of social conformity ($\beta = .26$, $p < .001$) and social tool ($\beta = .12$, $p < .001$). Since narcissism has been shown to be related to intense social activity both in offline and online environments (Buffardi & Campbell, 2008; Campbell et al., 2002), it is not surprising that vanity exhibits a positive relationship with motives of using SNSs as a social tool. Narcissists seek social affiliation so as to be liked and perceived favorably by others (Boyd, 2007); since social conformity is related to receiving social validation and SNSs allow for immediate gratification from a multitude of contacts, it can be expected that narcissists are more likely to use SNSs for reasons of social conformity.

Modification indices indicated that NA would be significantly related to the social conformity motive ($\beta = .17$, $p < .001$). This makes conceptual sense, since individuals who seek social affiliation are more likely to abide by social conformity rules. With respect to attitudinal variables, a path from ease of use to social connection ($\beta = .37$, $p < .001$) was suggested. This implies that although attitudes of social connection and ease of use by themselves are predictors of motives to use SNSs, the strongest prediction is through a mediating relationship of ease of use on the effect of social connection on motives. Modification indices suggested adding the following paths regarding motives to use SNSs – between passing time and infotainment ($\beta = .50$, $p < .001$), infotainment motive and social tool motive ($\beta = .13$, $p < .001$), and social conformity motive and social tool motive ($\beta = .42$, $p < .001$). The relative strength of these effects implies that the passing time, infotainment and conformity motives have indirect effects on level of SNS activity through the social tool motive.

The final addition was theoretically derived – an interaction term between CA and NA. People with a high need for affiliation tend to place more importance on impression management and on social interaction (Baumeister & Leary, 1995); thus, they tend to have favorable attitudes towards SNSs (Gangadharbatla, 2009). People with high CA tend to have an anxiety about engaging in FtF communication. Due to the opposing nature of these two variables, it is possible that CA interacts with need for affiliation to affect attitudes towards SNSs. Based on this line of reasoning, an interaction term was created between NA and CA. Prior to inputting the new moderating variable into the model, the correlation matrix was examined and showed a significant relationship between the social connection attitude and the interaction variable. The inclusion of this moderator thus resulted in large significant paths leading to the interaction term from CA ($\beta = .88$, $p < .001$) and NA ($\beta = .41$, $p < .001$), and a significant path leading from the term to social connection ($\beta = .16$, $p < .01$).

Deleting paths. The first variable selected for deletion was openness since it had almost negligible paths with gender ($\beta = .01$, $p = .76$) and self-esteem ($\beta = .04$, $p = .25$). The variable arrogance was also deleted; although the path between arrogance and NA was significant ($\beta = .08$, $p < .05$), as hypothesized, it had an almost negligible path from gender at $\beta = -.02$. Without a legitimate connection between arrogance and the endogenous variable of gender, arrogance did not serve a feasible function in the model. Moreover, a key feature of a well-fitting model is parsimony; since vanity showed significant effects on consequent variables, it made empirical sense to retain vanity as a sole measure of narcissism in the model. A similar argument for parsimony can be offered for deleting the attitudinal variable – confidence in SNSs. The other two

attitudinal variables – ease of use and social connection – seemed to have better predictive power. Moreover, ease of use has been used more frequently in the technology adoption literature, as affecting motives for adoption (Gangadharbatla, 2009; Venkatesh, Morris, Davis, & Davis, 2003).

The final set of deletions was selected solely on the basis of statistical non-significance – the path from ease of use to SNS activity ($\beta = .02$, $p = .62$), and those between SNS activity, and passing time ($\beta = .02$), infotainment ($\beta = .00$) and social conformity ($\beta = .07$). The final path selected for deletion was the one between NA and SNS activity ($\beta = .05$, $p = .18$). After adding the recommended paths and deleting the statistically non-significant paths, the model was re-run. The re-specified model showed support for the initial hypothesized paths and had good fit with the data ($\chi^2(60) = 274.44$, $p < .001$, $RMSEA = .07$, $CMIN/DF = 4.57$, $NFI = .94$, $CFI = .96$). A good fitting model should ideally be non-significant; however, in models with large samples – as in this case – non-significance cannot be reached due to the effect of sample size (Kline, 2005).

4. Discussion

As hypothesized in this study, support was found for a multidimensional model of SNS motivations and activity. Firstly, extraversion predicted level of activity on SNSs; this finding is not only consistent with previous studies (Acar, 2008; Back et al., 2010), but it also lends support to the “rich-get-rich” hypothesis (Banczyk et al., 2008; Kraut et al., 2002; Mou, Atkin, Fu, Lin, & Lau, 2013; Mou, Fu, & Atkin, 2011). SNSs seem to be an ideal medium for people who are already skilled in FtF interaction; the multimodal format of SNSs helps extraverted and socially adept individuals successfully extend their social behavior online. Extraversion was also related to self-esteem; since extraverted people are socially proficient, they consequently have better self-esteem and self-worth. The lack of any consequential relationship involving openness may be due to its conceptual definition. The personality trait of openness is associated with creativity, curiosity, and experimenting with new forms of communication (Butt & Phillips, 2008; Galauner et al., 2011). Since SNSs have become mainstream and are no longer considered novel or innovative, it is not surprising that openness was not a significant predictor of SNS activity.

Although a relationship between the extraversion and infotainment motives was not initially hypothesized, a significant relationship was found in the re-specified model. SNSs provide users a convenient way to not only keep in touch with offline contacts, but to also form new online contacts through search functions (e.g., Ellison et al., 2007). Thus, extraverts maximize this social potential of SNSs and use them as an effective medium to make more friends and contacts, consequently becoming highly active SNS users. As expected, self-esteem was found to influence attitudes of ease of use regarding SNSs; Gangadharbatla (2009) found a similar relationship between self-esteem and intentions to use SNSs. This finding is of considerable significance, since it implies that people who have high self-esteem are the ones who also have favorable attitudes regarding ease of use of online social websites.

As hypothesized, results did show support for the existence of a mediating relationship of extraversion on self-esteem through CA. This implies that extraverted individuals are less likely to be apprehensive about communicating with others, and consequently have better self-esteem. However, CA did not seem to positively impact attitudes or motives. The only positive impact for people with CA seemed to be through an interaction effect with NA. Specifically, SNSs were viewed favorably by people with CA only if they happened to seek social affiliation as well. The relationship between

vanity and NA was also validated; individuals who tend to be vain also tend to seek approval from others, as a way to receive social sanction (Boyd, 2007), and hence use SNSs as a way to be socially active.

Attitudes towards SNSs were found to be predictive of motives to use SNSs; specifically perceptions towards ease of use directly affected motives to use SNSs for infotainment and for passing time. These findings tie in with attitudinal research showing that ease of use towards a particular technology positively predicts intention to use that technology (Venkatesh et al., 2003). Perceptions of SNSs as facilitators of social connection predicted infotainment and social tool purposes; this in turn mediated the effects of attitudes on the social tool motive. The results seem to indicate that the motive of using SNS as a social tool overrides the direct effect of any other motive, i.e., the social tool motive mediates the effect of the infotainment and social conformity motives on level of SNS activity. This is consistent with uses and gratifications findings suggesting that the primary function of SNSs is to establish and maintain relational contacts (Birnbaum, 2009; Bonds-Raacke & Raacke, 2010; Langstedt, 2013; Quan-Haase & Young, 2010; Sheldon, 2008). The only direct effect of attitudes on SNS activity was through social connection. This implies that the perception of SNSs as a medium of social and relational maintenance is a key motivator of SNS activity.

The present results also illustrate that SNSs are primarily used to maintain relational connections with others. As Hoffman (2008) points out, SNSs are an effective tool for socializing. They are also used to keep in touch with pre-existing offline contacts. As per our findings, the best predictor of being active on SNSs was a combination of positive attitudes towards SNSs, along with tangible motives for using them. In addition, the findings provide support for the contention that SNSs are more useful for users already competent in FtF social and communicative behaviors. The implications flowing from the interpersonal and mass communication synergies uncovered here are significant, given that SNSs are primary contributors to user involvement in domains ranging from advertising (e.g., Lin & Atkin, 2014) to social capital (e.g., Ellison et al., 2007; Kim, Atkin, & Lin, 2014), and political involvement (de Zuniga, Jung, & Valenzuela (2012). One need look no further than the “Arab Spring” of 2011 to uncover the impact of these emerging mobile and telematic platforms as forces for social change (e.g., Mou et al., 2013).

5. Conclusion

The internet can be viewed as a mass medium, an interpersonal medium and now, with the presence of ONSs, a social medium. Open CMC environments such as SNSs have profound effects on online social and communicative behavior. In order to fill a gap in the literature, the present study proposed and tested a structural model of personality traits, communicative and social variables, attitudes and motives and their effect on the level of activity on these websites. Despite certain limitations (e.g., using a non-probability sampling technique), this study has contributed to the burgeoning literature on SNS research.

The findings from this study show that a multitude of factors – including personality traits social affiliation, positive attitudes and motives – affect the manner in which and the extent to which people use SNSs. The results are also pertinent in the debate among scholars about the social benefits of SNSs. Some argue that social networking websites are merely useful to those individuals who are adept at FtF interaction – the *rich-get-rich* hypothesis (Banczyk et al., 2008; Gangadharbatla, 2009; Kraut et al., 2002) whereas others argue that SNSs are more useful for people with low social aptitude – the *poor-get-rich* hypothesis (Ellison et al.,

2007). While this study did show support for the *rich-get-rich* hypothesis – by indicating the benefits of social media are highest for individuals already proficient in face-to-face social and communicative behaviors – it also espouses a more indulging “*everyone-gets-rich*” view in that SNSs offer beneficial social tools for all individuals.

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