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Self-construal and Facebook activities: Exploring differences in social interaction orientation



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ABSTRACT

Two studies explore the relationship between interdependent and independent self-construal and activities on Facebook. Study 1 proposes a model that depicts the process by which interdependent self-construal relates to different interaction orientations, responsiveness, and self-disclosure, which further explain different patterns of Facebook activities. A survey study offers support for the proposed model. Study 2 extends Study 1 by arguing that people with an interdependent self-construal differ in their social goals, whether passive (i.e., to belong) or active (i.e., to be popular). An extended model depicts the roles of these two social goals in explaining different social orientations, which are associated with varied patterns of Facebook activities. A second survey confirms the extended model.

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1. Introduction

The way people define themselves, or their self-construal, affects how they interact with others (Cross & Madson, 1997; Markus & Kitayama, 1991). The diverse features of social networking sites (SNSs) allow people to interact by presenting themselves, disclosing information, responding to others' posts or photos, and chatting. Yet little research has explored whether and how people's self-construal affects how they interact with others on SNSs, such as Facebook (FB)—where 1 billion users have generated more than 1.13 trillion likes, established 140.3 billion friend connections, and uploaded 219 billion photos (Stern, 2012). This article seeks to fill the void by examining this relationship and its possible underlying mechanisms.

Prior research reveals why people use FB or SNSs (Park, Kee, & Valenzuela, 2009) and considers the influence of individual characteristics on attitudes toward FB or FB adoption (Gangadharbatla, 2008; Stefanone, Lackaff, & Rosen, 2011; Wilson, Fornasier, & White, 2010), but insufficient evidence addresses why individual differences might lead to different activities. A few studies that consider self-construal mainly focus on how people with different self-construals present their profile information on SNSs (e.g., DeAndrea, Shaw, & Levine, 2010), rather than how and why they engage in different interaction patterns, which is the focus of this investigation.

The relationship between self-construals and interaction orientation can provide a good foundation for understanding people's uses of and activities on SNSs, such as FB, which facilitates a great variety of interactions. In this sense, FB represents an effective domain for testing the relationship between self-construals and activities on SNSs. People differ in the degree to which they view themselves as connected to others (Markus & Kitayama, 1991); such distinct self-views serve important functions for their social interaction orientation, in which context responsiveness and self-disclosure are two fundamental elements (Reis & Patrick, 1996; Reis & Shaver, 1988). Accordingly, Study 1 proposes and tests an integrated model that depicts the possible processes by which different self-construals, interdependent and independent, relate to these two interaction orientations, which in turn explain FB activities that are in line with these orientations (i.e., revealing thoughts or feelings and responding to others' posts or photos).

Social interactions are motivated by social goals (Baumeister & Leary, 1995). Two common social goals are to be well-liked or popular and to belong (Baumeister & Leary, 1995; Jarvinen & Nicholls, 1996). Unlike being popular, belonging is a fundamental, pervasive social goal (Baumeister & Leary, 1995). Study 2 further discerns that people with high interdependent self-construals, who consider social interaction crucial to their self-construal, may have either a passive social goal, such as to belong, or an active social goal, such as to be popular. Different social goals explain social interaction orientations. Specifically, a passive social goal should be associated with an orientation toward responsiveness, not self-disclosure. This orientation toward responsiveness then

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relates to more passive FB activities, such as responding to others' posts and comments. In contrast, an active social goal should be associated with orientations toward both responsiveness and self-disclosure, encouraging FB activities that pertain to both responding and revealing one's own thoughts and feelings.

This article attempts to fill two gaps in extant literature. First, unlike prior research that focuses the relationship between individual differences and FB uses, this study probes psychological processes by demonstrating the possible roles of social goals and interaction orientations in the process. Second, in contrast with extant research that examines FB use frequency, this study categorizes FB activities according to their social functions and presents a theoretical framework, situated within social interaction literature, to explain the relationship between self-construals and different patterns of FB activities.

2. Theory

2.1. Social network sites research

Explaining why people use FB or SNSs remains an important topic for academic research. People might use FB to keep in touch with friends or classmates (Chen & Marcus, 2012) or to communicate with peers (Barker, 2009); they use the FB Groups module to fulfill their socializing needs (Park et al., 2009). When exploring what motivates people to use SNS or FB, prior research notes the substantial influence of individual characteristics too. For example, extraverted and narcissistic people spend more time on FB (Mehdizadeh, 2010; Wilson et al., 2010). Studies of the influence of self-views or self-esteem on SNS usage reveal that users who find self-worth in family support and religion spend less time on SNS (Stefanone et al., 2011), whereas those with higher self-esteem and life satisfaction use FB to a greater degree (Ellison, Steinfield, & Lampe, 2007). Overall, individual characteristics emerge as important predictors for FB behaviors; what is missing is an underlying mechanism to explain the relationships between individual differences and patterns of FB behaviors. This article therefore focuses on an individual difference, self-construal, and explores how it affects FB behaviors and the underlying psychological processes.

2.2. Self-construal

People develop a general understanding of themselves and vary in their beliefs about their relationships with others (Cross & Madson, 1997; Markus & Kitayama, 1991). For example, they might have an independent or interdependent view of the self (Fiske, Kitayama, Markus, & Nisbett, 1998; Markus & Kitayama, 1991). Those with an independent self-construal (I-SC) conceive of themselves as self-contained entities, with specific internal attributes, traits, values, preference, and abilities. They are motivated to be independent and autonomous, and they work to remain true to their internal attributes and stick by their principles. They make their own choices based on their own preferences and internal orientations, regardless of how situations vary or how others see them. This view suggests that the self is detached from the context and separate from others or the social context.

In contrast, people with an interdependent self-construal (R-SC) see themselves as bonded to close others; their behaviors tend to be guided by their perceptions about the thoughts, feelings, and actions of others in the relationship. This view emphasizes that "the person is inherently and fundamentally connected to others, stressing empathy, reciprocity, belongingness, kinship, hierarchy, loyalty, respect, politeness, and social obligations" (Fiske et al., 1998, p. 922). People with an R-SC are thus mutually interdependent with

others, which motivates them to value social relationships, participate in social interactions, and conform with social norms. In other words, they define themselves by their social relationships.

The two types of self-construal help explain cultural differences (Markus & Kitayama, 1991), but considerable variations also arise within the same cultures (Cross & Gore, 2004; Cross & Madson, 1997). Debate continues about whether I-SC and R-SC are reciprocal, as two poles of the same construct (Triandis et al., 1986), or independent constructs (Hackman, Ellis, Johnson, & Staley, 1997; Singelis, 1994). Some research shows no significant relationship between them (Singelis, 1994), whereas other studies demonstrate positive (Bresnahan et al., 2005) or negative (Gudykunst et al., 1996) relationships. Noting this contradiction, the current study examines I-SC and R-SC both as two separate constructs and as one bipolar construct.

2.3. Self-construal and social network sites research

Some studies test the relationship between self-construal and SNS behaviors. For example, in exploring self-construal as a cultural difference factor, DeAndrea et al. (2010) examine the amount of self-expression in the "about me" section on FB but find none of their predicted differences among ethnically identified self-construal groups. It appears that individual variations in self-construals are as important as cultural variations. According to Chen and Mitchell (2010), both R-SC and I-SC correlate positively with trust on SNS, though Lee, Kim, and Kim (2012) indicate that consumers whose R-SC, rather than I-SC, has been primed are more likely to post on and feel affiliated with FB brand communities. Kim, Kim, and Nam (2012) distinguish social motives (e.g., maintaining relationships) from non-social motives (e.g., seeking entertainment) for using FB and find that people with R-SC, but not I-SC, prioritize social motives. This review suggests that self-construal constitutes an important individual variable that affects FB behaviors. However, no studies have tested how or why self-construal might lead to different patterns of social interaction on FB. This study seeks to fill that gap.

2.4. Self-construal and social relationships

Self-construal affects the degree to which people value social relationships (Cross, Bacon, & Morris, 2000; Markus & Kitayama, 1991). The notion that people with an R-SC are motivated to maintain a sense of connectedness, whereas people with an I-SC seek a sense of autonomy, suggests that the former are more eager to maintain relationships. Prior research also affirms that people with an R-SC tend to incorporate close relationships into their self-concepts, whereas those with an I-SC do not (Cross et al., 2000).

Cross et al. (2000) further argue that people in general have motives for self-promotion, but their divergent self-construal determines what constitutes this promotion. People with an R-SC may derive self-enhancement and self-esteem from maintaining close relationships with others, such that they are motivated to devote more efforts to maintaining their relationships. Cross and Madson (1997) reason that relationship failures or conflicts should dampen self-esteem among people with high R-SC; maintaining social relationships instead should constitute an important route to improving well-being and gaining self-enhancement. In contrast, according to Cross and Gore's (2004; see also Cross & Madson, 1997) theorization, people who prioritize independence (i.e., high I-SC) may worry that emphasizing relationships will constrain their autonomy or threaten their freedom, whereas being self-sufficient and detached offers them more self-esteem and self-enhancement. In general, this literature review suggests that people with an R-SC have strong motives to develop relationships

with friends and derive self-enhancement in the process. As a result, they should spend more time on FB, an SNS that offers an effective platform for social interaction.

H1. People with higher R-SC spend more time on FB than do those with higher I-SC.

2.5. Relationship building

Being responsive to others' thoughts and needs and engaging in self-disclosure are two key components of relationship building (Reis & Patrick, 1996; Reis & Shaver, 1988). Because people with an R-SC have greater needs to maintain relationships with others, they should possess an orientation toward *responsiveness* and *self-disclosure*, which can facilitate social relationships. These two orientations also should affect interactions with others on FB, especially through the varied FB features and modules that enable different types of activities.

2.5.1. Responsiveness orientation

Relationships require responsiveness, that is, attending to and reacting supportively and warmly to others (Reis & Shaver, 1988). Being responsive plays an important role in relationship development, because it fosters mutual understanding and caring (Reis & Patrick, 1996). After attending to others' responses and remembering them, people might act on this information and seek to reinforce their relationships with important others (Cross & Morris, 2003).

In self-construal literature, several theories suggest that an R-SC is positively associated with responsiveness. Cross et al. (2000) argue that for people with high R-SC, representations of others are closely linked to representations of themselves, so they might attend to information about others to a greater degree than do people with high I-SC. Cross, Morris, and Gore (2002) also reason that people with high R-SC develop self-representations that contain relational attributes, such as caring or being supportive of others. Because people with high R-SC attend to others' feelings and thoughts, they may be more likely to account for the needs and wishes of others when making decisions (Cross et al., 2000); this responsiveness in turn should serve as a foundation for their social interaction (Cross & Madson, 1997). Prior research provides indirect evidence of this relationship between an R-SC and responsiveness, in that partners of people with higher R-SC perceive them as more responsive to their needs and concerns (Cross et al., 2000).

Even though people with higher I-SC are less responsive to the social context, they can be responsive when they use others as sources to affirm their inner selves or uniqueness (Fiske, 1990; Markus & Kitayama, 1991). This argument implies that when people are responsive, it is not simply because they want to enhance their social relationships. Because an R-SC should give people more motives for maintaining social relationships than an I-SC, people with higher R-SC should demonstrate greater responsiveness orientations in maintaining their social relationships, as depicted in Fig. 1. Formally,

H2a. People with higher R-SC are associated with a greater orientation toward responsiveness in social interactions.

A different responsiveness orientation also should guide FB activities. This site offers varied features that support interactions, such as "the wall, pokes, status, events, photos, video, messages, chat, groups and like" (Nadkarni & Hofmann, 2012, p. 243). If people are responsive to others' needs and emotions, they may browse others' status updates and posts or view their uploaded photos, then show their support by commenting on posts or photos or clicking to indicate they "like" them. People spend more time

viewing content on FB than actually posting content (Pempek, Yermolayeva, & Calvert, 2009), which suggests they frequently attend to others. This effort should be particularly likely among users with high R-SC, who are more oriented to responsiveness in relationships. The potential mediating role of responsive interaction orientation in the relationship between self-construal and FB activities is predicted as follows:

H2b. A responsive interaction orientation mediates the relationship between an R-SC and the level of response to others' activities on FB.

2.5.2. Orientation toward self-disclosure

Positive relationship building also involves self-disclosure, or "the act of revealing personal information about oneself to another" (Collins & Miller, 1994, p. 457). Self-disclosure includes both descriptive (e.g., alma mater) and evaluative (e.g., feelings, thoughts) information. Both descriptive and evaluative self-disclosure contribute to relationship building and maintenance (Morton, 1978). Self-disclosure is critical to relationship development, because revealing thoughts and feelings to others fosters mutual understanding and caring (Reis & Patrick, 1996); it also signals trust to relationship partners, which enhances partners' feelings of being understood (Cross & Gore, 2004). Extensive, intimate self-disclosure is associated with more profound relationships (Collins & Miller, 1994).

Prior self-construal literature hints at a positive relationship between an R-SC and self-disclosure. For people with high R-SC, developing and maintaining social relationships is central to their sense of self. If they prefer to develop and maintain close relationships with others, they likely engage in extensive self-disclosure (Altman & Taylor, 1973; Reis & Shaver, 1988). People with higher R-SC also rate themselves higher on their tendency toward self-disclosure in relationships, and the partners of people with higher R-SC recognize that they engage in greater levels of self-disclosure (Cross et al., 2000).

In contrast, Cross and Gore (2004) argue that people with high I-SC find intimacy a threat to their autonomy and thus avoid self-disclosure. Cross and Madson (1997) also speculate that people with high I-SC should not be willing to make themselves vulnerable by revealing their thoughts and feelings, especially if the self-disclosure is evaluative rather than just descriptive. If avoiding disclosure helps them keep their sense of autonomy intact, then

H3a. People with higher R-SC are associated with a greater orientation toward self-disclosure in social interactions.

Some FB activities inherently pertain to self-disclosure, such as when a user updates his or her status by expressing thoughts or feelings or revealing current activities. Triandis (1989) reasons that, compared with people with high R-SC, whose behaviors are guided by public and relational aspects, the behaviors of those with high I-SC may be guided by private, inner aspects. Therefore, it may be less important for people with an I-SC, compared with those with an R-SC, to reveal their inner thoughts or feelings to others on the FB public domain. That is, beyond people's greater tendency to disclose personal information on FB than in the real world (Christofides, Muise, & Desmarais, 2009; Walrave, Vanwesenbeeck, & Heirman, 2012), the orientation toward revealing thoughts and feelings on FB should be particularly prominent for users with higher R-SC, who are more oriented toward self-disclosure. To distinguish self-disclosure behaviors from people with a self-disclosure interaction orientation, this study represents self-disclosure behaviors on FB as self-revealing activities.

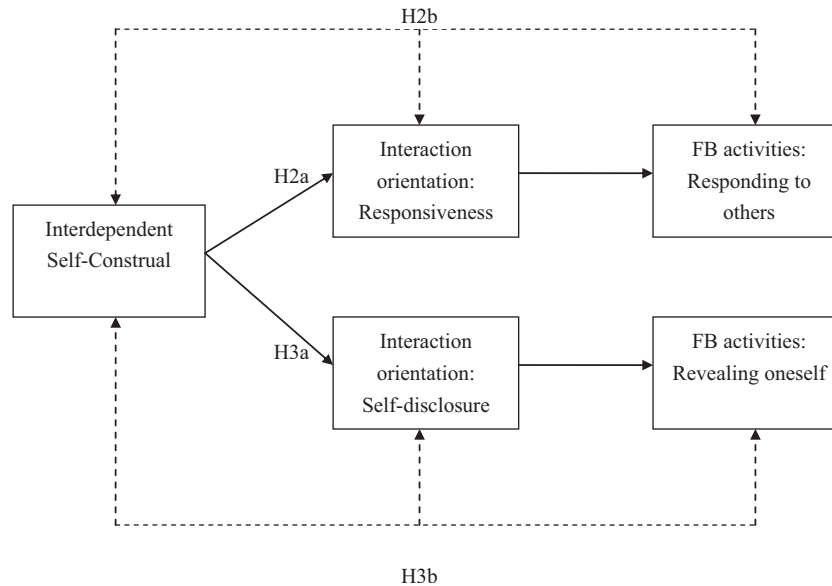


Fig. 1. Proposed model for Study 1. Note: Broken lines indicate mediating effects.

H3b. The self-disclosure interaction orientation mediates the relationship between an R-SC and the level of self-revealing activities on FB.

3. Study 1

3.1. Participants and procedures

College students at three universities—National Chengchi University (NCCU), National Chiao Tung University (NCTU), and Shih Hsin University (SHU)—received solicitations via e-mail, containing a request to participate in an online survey in return for the chance to win a gift drawing. The registration process varied across universities. First, NCCU maintains e-mail databases for all registered students, available to researchers who intend to solicit volunteers to participate in online surveys. Through this service, each registered student received an e-Newsletter that provided the link to the survey and specified the purpose of the study, how long it would take to complete, and the possible rewards for completing the survey. Second, NCTU offers e-campus news that reach all registered students; researchers may include participation solicitations in the news. Thus, the same information appeared in this channel as was contained in the e-Newsletter for NCCU. Third, SHU has no news channel, so requests to the secretary of each department and graduate program asked them to send the e-Newsletter to students in their departments and programs. Follow-up contacts with these secretaries confirmed that they sent the e-Newsletter.

Participants clicked on a link provided in the e-mail or e-Newsletter, which linked them to an online survey powered by SurveyMonkey®. The anonymous survey did not require them to provide any identification information. The survey remained accessible for four weeks (December 19, 2011–January 13, 2012). During this period, students in the schools' e-mail databases received three reminder e-mails. The survey contained various questions about Internet use and took less than 10 min to complete. In total, 932 respondents completed the survey, distributed as follows: NCCU (722), NCTU (170), and SHU (40). Those with the same IP address could answer the survey only once, to reduce repeated

respondents. The average age of the respondents was 22.66 years ($SD = 4.02$, ranging from 19 to 55 years), and 45.2% of them were men. They first indicated whether they had used FB during the past month, and only those who did ($N = 900$, 96.6%) answered the remaining questions.

3.2. Measurements

All the questions except for time spent online and on FB and FB activity frequency were rated on five-point Likert scales.

3.2.1. Self-construal

The participants rated Singelis's (1994) self-construal scale,¹ with two subscales: I-SC (Cronbach's $\alpha = .81$) and R-SC (Cronbach's $\alpha = .84$). The responses to the items in the R-SC scale were averaged with the reversed responses to the items in the I-SC scale to represent self-construal (RI-SC); higher numbers indicated a greater orientation toward an R-SC. Because the two scores were not negatively correlated, Pearson's $r = .22$, $p < .01$, and the Cronbach's α for the whole scale was only .56, the analyses used the combined scores, as well as individual scores.

¹ The I-SC items were: "I'd rather say 'No' directly than risk being misunderstood," "Speaking up during a class is not a problem for me," "Having a lively imagination is important to me," "I am comfortable with being singled out for praise or rewards," "I am the same person at home that I am at school," "Being able to take care of myself is a primary concern for me," "I act the same way no matter who I am with," "I feel comfortable using someone's first name soon after I meet them, even when they are much older than I am," "I prefer to be direct and forthright when dealing with people I've just met," "I enjoy being unique and different from others in many respects," "My personal identity, independent of others, is very important to me," and "I value being in good health above everything." The R-SC items were: "I have respect for the authority figures with whom I interact," "It is important for me to maintain harmony within my group," "My happiness depends on the happiness of those around me," "I would offer my seat in a bus to my professor," "I respect people who are modest about themselves," "I will sacrifice my self-interest for the benefit of the group I am in," "I often have the feelings that my relationships with others are more important than my own accomplishments," "I should take into consideration my parents' advice when making education/career plans," "It is important to me to respect decisions made by the group," "I will stay in a group if they need me, even when I'm not happy with the group," "I my brother or sister fails, I feel responsible," and "even when I strongly disagree with group members, I avoid an argument."

3.2.2. Time spent online and on FB

The questionnaire included items to tap the time spent on the Internet and FB on both weekdays and weekends (“How many days a week do you use internet/FB during the weekdays/weekends?”), as well as time spent specifically on the internet/FB (“On a typical weekday/weekend when you use internet/FB, how much time do you spend on it?”). The average minutes per day were calculated from these responses. Time spent online may determine time spent on FB, so it is important to include it as a covariate in the analyses.

3.2.3. Social orientation

Respondents rated their interaction orientations, including their self-disclosure and social responsiveness. Adopting a prior approach (Miller, Berg, & Archer, 1994), this step began by identifying four typical things that people might commonly share with friends. The *self-disclosure* measure then asked about the degree to which the participants told their friends (1) how they are doing, (2) what they are interested in, (3) their feelings, and (4) what they are up to (Cronbach's alpha = .95). The *social responsiveness* measure instead pertained to the degree to which participants were concerned about (1) how their friends are doing, (2) what their friends are interested in, (3) their friends' feelings, and (4) what their friends are up to (Cronbach's alpha = .96).

3.2.4. FB activities

The items to measure FB activities were developed for the purpose of this study. Participants rated how frequently (5 = “always,” 1 = “never”) they engaged in several activities on FB. The factor analysis generated two factors with eigenvalues greater than 1, namely, *revealing the self* (eigenvalue = 1.57, 17.46% variance explained) and *responding to others* (eigenvalue = 4.77, 52.95% variance explained). *Responding to others* included seven items: “I browse others' posts,” “I comment on others' posts,” “I 'like' others' posts,” “I browse information on others' walls,” “I comment on and 'like' information on others' walls,” “I browse others' photos,” and “I comment on and 'like' others' photos” (Cronbach's alpha = .91). *Revealing the self* included two items: “I update what's on my mind on Facebook” and “I share what is happening in my life” (Cronbach's alpha = .80).

3.2.5. Validity of the measurement model

In addition to the reliability assessment, a confirmatory factor analysis tested for the adequacy of the measurement model, according to overall fit, convergent validity, and discriminant validity criteria. It revealed a confirmatory fit index (CFI = .97) that exceeded the recommended .95 threshold (Bollen, 2014), as well as a root mean square error of approximation (RMSEA = .05) below the recommended .08 threshold (Hair, Anderson, Tatham, & Black, 1995). The average extracted variances (AVE) for all constructs ranged between .54 and .86, above the suggested value of .5, which indicated good convergent validity. The square root of every AVE (>.73) also was greater than any correlation between any pair of latent constructs, which provided support of discriminant validity (Zait & Betrea, 2011).

3.3. Results

All the analyses were conducted using IBM® SPSS® Statistics 20; the test of mediation relied on Preacher and Hayes's (2004) bootstrapping methodology and the SPSS macro they developed. In addition, this study adopted Hoaglin and Iglewicz's (1987) outlier labeling rule procedures to identify the outliers for the key variables, time spent online, time spent on FB, R-SC, and I-SC. In total, 39 outliers were identified and excluded, so the final sample size was 876. The findings also did not change, regardless of whether the outliers were included.

3.3.1. Preliminary analyses

The average time people spent on the Internet was 460.93 min (SD = 210.84); the average minutes they spent on FB were 192.76 (SD = 142.00). The regression analyses showed that I-SC ($\beta = .05$, $p = .16$) and R-SC ($\beta = -.03$, $p = .42$), as predictors, did not significantly account for variation in time spent online. When RI-SC was the single predictor, its influence was not significant either ($\beta = -.05$, $p = .16$). Thus, differences in FB activities or time spent on FB between people with high R-SC versus those with high I-SC likely cannot be explained by different amounts of time spent online.

3.3.2. Hypothesis testing

Tests for each hypothesis treated (1) I-SC and R-SC as independent concepts, such that they represented two predictors, and (2) I-SC and R-SC as a bipolar concept, with RI-SC as the predictor (i.e., responses to the items on the R-SC scale averaged with the reversed responses to the items in the I-SC scale). As expected, the first regression analysis ($R^2 = .17$, $p < .01$), using time spent online ($\beta = .39$, $p < .01$) as a covariate, revealed that an R-SC related positively to time spent on FB ($\beta = .14$, $p < .01$) but an I-SC did not account for time spent on FB ($\beta = -.06$, $p = .08$). The second regression ($R^2 = .16$, $p < .01$) showed that the RI-SC positively related to time spent on FB ($\beta = .12$, $p < .01$). The results of these two regressions supported H1 (see Table 1).

In the test of H2a, regression analyses ($R^2 = .18$, $p < .01$) indicated that those with higher R-SC ($\beta = .39$, $p < .01$) and I-SC ($\beta = .09$, $p < .01$) were more oriented toward being responsive in their interactions with others. Another regression ($R^2 = .04$, $p < .01$) indicated that RI-SC ($\beta = .19$, $p < .01$) as a whole was positively associated with a responsiveness orientation.

The test of H2b pertaining to *responsive FB activities* used two bootstrapping analyses, one involving R-SC as the independent variable and the other involving RI-SC as the independent variable. The first simple mediation test of the indirect effects of an R-SC on responsive FB activities, through changes in the mediator (*social responsiveness*) (see Model 1 in Table 2), used Preacher and Hayes's (2004) bootstrapping methodology, with 5000 bootstrap resamples, to describe the confidence intervals (CI) of the indirect effects. Because the dependent variable involved FB activities, time spent on FB was also included as a covariate, and self-disclosure provided the other mediator. The bootstrap results confirmed the mediation process; the 95% CI surrounding the indirect effect did not contain zero [.20, .31], in support of H2b. Self-disclosure also emerged as a significant mediator, and the 95% CI surrounding the indirect effect did not contain zero [.05, .11].

The second mediation test analyzed RI-SC as the independent variable (see Model 2 in Table 2). The bootstrap results confirmed the mediation process; the 95% CI surrounding the indirect effect did not contain zero [.13, .28], in support of H2b. The relationship between self-disclosure and the dependent variable (responsive FB behaviors) was less strong than that between social responsiveness and the dependent variable, but self-disclosure also emerged as a significant mediator, because the 95% CI surrounding the indirect effect did not contain zero [.06, .15].

In the test of H3a, regression analyses ($R^2 = .11$, $p < .01$) showed that those with higher R-SC ($\beta = .34$, $p < .01$) were more oriented toward disclosure in their interactions with others, whereas those with higher I-SC ($\beta = -.07$, $p = .03$) were less oriented toward disclosure (see Table 1). Another regression ($R^2 = .07$, $p < .01$) indicated that RI-SC ($\beta = .26$, $p < .01$) as a whole was positively associated with a self-disclosure orientation.

The test of H3b, involving *self-revealing FB activities*, used two bootstrapping analyses, one with R-SC as the independent variable and the other with RI-SC as the independent variable. The first simple mediation test of the indirect effects of R-SC on self-revealing

Table 1

The results for H2a, H3a, H4a and H5a, Studies 1 and 2.

Predictors	Time spent on FB (H1)		Self-responsiveness orientation (H2a)		Self-disclosure orientation (H3a)					
	β	β	β	β	β	β				
Study 1										
Time online	.39**									
R-SC	.14**		.39**		.34**					
I-SC	−.09		.09**		−.07*					
RI-SC		.12**		.19**		.26**				
Total R ²	.17**	.16**	.18**	.04**	.11**	.07**				
Predictors	Time spent on FB (H1)		Self-responsiveness orientation (H2a)		Self-disclosure orientation (H3a)		To belong (H4a)		To be popular (H5a)	
	β	β	β	β	β	β	β	β	β	β
Study 2										
Time online	.42**									
R-SC	.12**		.36**		.28**		.36**		.24**	
I-SC	−.10**		.08**		−.07*		−.02		−.19**	
RI-SC		.13**		.20**		.22**		.25**		.26**
Total R ²	.20**	.20**	.15**	.04**	.07**	.05**	.13**	.06**	.07**	.07**

* $p < .05$.** $p < .01$.

FB activities, through changes in the mediator (self-disclosure), used Preacher and Hayes's (2004) bootstrapping methodology, with 5000 bootstrap resamples (see Model 3 in Table 2). Because the dependent variable involved FB activities, time spent on FB was also included as a covariate; the analyses featured social responsiveness as the other mediator. The bootstrap results confirmed the mediation process; the 95% CI surrounding the indirect effect did not contain zero [.18, .30], again in support of H3b. Even though the relationship between social responsiveness and self-revealing FB activities was less strong, it also emerged as a significant mediator. The 95% CI surrounding the indirect effect did not contain zero [.06, .17].

The second mediation test analyzed RI-SC as the independent variable (see Model 4 in Table 2). The bootstrap results confirmed the mediation process. The 95% CI surrounding the indirect effect did not contain zero [.23, .42], in support of H3b. Even though the relationship between social responsiveness and the dependent variable (self-revealing FB behaviors) was less strong than that between self-disclosure and the dependent variable, social responsiveness also emerged as a significant mediator, and the 95% CI surrounding the indirect effect did not contain zero [.06, .15].

3.4. Discussion

Study 1 has shown that even though people with different self-construals do not spend different amounts of time online, those with higher R-SC spend significantly more time on FB. As a platform for social interaction, FB is useful for people interested in maintaining social relationships. Study 1 focused on two aspects of social relationship building, self-disclosure and responsiveness, and examined FB activities corresponding to these two relationship-building orientations. The findings support the proposed model (Fig. 1), in that people with higher R-SC were more oriented toward responsiveness and self-disclosure in their relationship-building efforts, motivating them to respond to others on FB and engage in self-revealing activities to greater degrees.

Among those who spend time on FB, some are more active: They post thoughts and reveal feelings, which initiate further interactions. Others are more passive, spending more time reading others' posts and clicking "like." Even though people with higher R-SC spend more time on FB, they still may differ in their social

goals, which would have implications for their FB behaviors. Some may passively seek to belong, whereas others actively work to be popular and well-liked by others. Extending Study 1, Study 2 tested how these two social goals alter orientations toward social interactions, which further determine FB activities.

4. Social goals

4.1. To belong

The need to belong, defined as motives to "form and maintain interpersonal bonds" (Baumeister & Leary, 1995, p. 497), is a fundamental human motivation, such that it can operate across contexts, alter psychological orientations, and trigger goal-oriented behaviors, because failing in such goals can reduce well-being or self-esteem (Baumeister & Leary, 1995). Despite the fundamental nature of the need to belong, people's self-construals likely define how strongly they hold such a goal. Because people with higher R-SC are more relationship oriented, they likely hold a stronger social goal to belong (see Fig. 2).

H4a. People with higher R-SC are more likely to have social goals to belong.

This motivation can be fulfilled through frequent, positive interactions with others (Baumeister & Leary, 1995). Frequent contacts or interactions should imply responsiveness and attentiveness to others in the relationship, such that a stronger social goal to belong should be associated with a greater orientation toward social responsiveness. The need to belong, as a relatively passive social goal, also might encourage a responsiveness social orientation but not a self-disclosure orientation, in line with Utz, Tanis, and Vermeulen's (2012) findings of no significant relationship between the need to belong and self-disclosure.

As an always-active platform for frequent contacts that encourages positive feedback (i.e., "like" but no "dislike" buttons), FB should help people fulfill such social goals. Gangadharbatla (2008) shows that the need to belong is associated with more favorable attitudes toward FB; Utz and Beukeboom (2011) find that it relates positively to routine uses of SNS. Yet it is not clear whether the need to belong affects different patterns of FB activities. This study reasons that the passive social goal to belong

Table 2
Results for H2b, H3b, H4b and H5b, Studies 1 and 2.

	Independent Variable (IV)	Mediator (M)	Dependent Variable (DV)	Effect of IV on M (a)	Effect of M on DV (b)	Direct effects (c')	Indirect effect (a × b)	Total effects (c)
<i>Study 1</i>								
1.	H2b R-SC	Responsiveness	Responsive FB beh.	.44	.58	.07	.25 ^a	.39
		Self-disclosure		.46	.16	–	.08 ^a	–
2.	H2b RI-SC	Responsiveness	Responsive FB beh.	.33	.60	.04	.20 ^a	.34
		Self-disclosure		.61	.17	–	.10 ^a	–
3.	H3b R-SC	Self-disclosure	Self-revealing FB beh.	.46	.51	.13	.23 ^a	.47
		Responsiveness		.44	.25	–	.11 ^a	–
4.	H3b RI-SC	Self-disclosure	Self-revealing FB beh.	.61	.52	.03	.31 ^a	.44
		Responsiveness		.33	.29	–	.10 ^a	–
<i>Study 2</i>								
5.	R-SC	To belong	Responsiveness	.44	.20	.36	.09 ^a	.47
		To be popular		.25	.11	–	.03 ^a	–
6.	R-SC	To belong	Self-disclosure	.44	–.04	.36	–.02	.46
		To be popular		.25	.44	–	.11 ^a	–
7.	H4b To belong	Responsiveness	Responsive FB beh.	.18	.21	.16	.04 ^a	.20
8.	H5b To be popular	Responsiveness	Responsive FB beh.	.21	.31	.09	.07 ^a	.26
		Self-disclosure		.44	.22	–	.10 ^a	–
9.	H5c To be popular	Self-disclosure	Self-revealing FB beh.	.44	.56	–.01	.25 ^a	.25
		Responsiveness		.21	.06	–	.01	–

^a Significant estimate point.

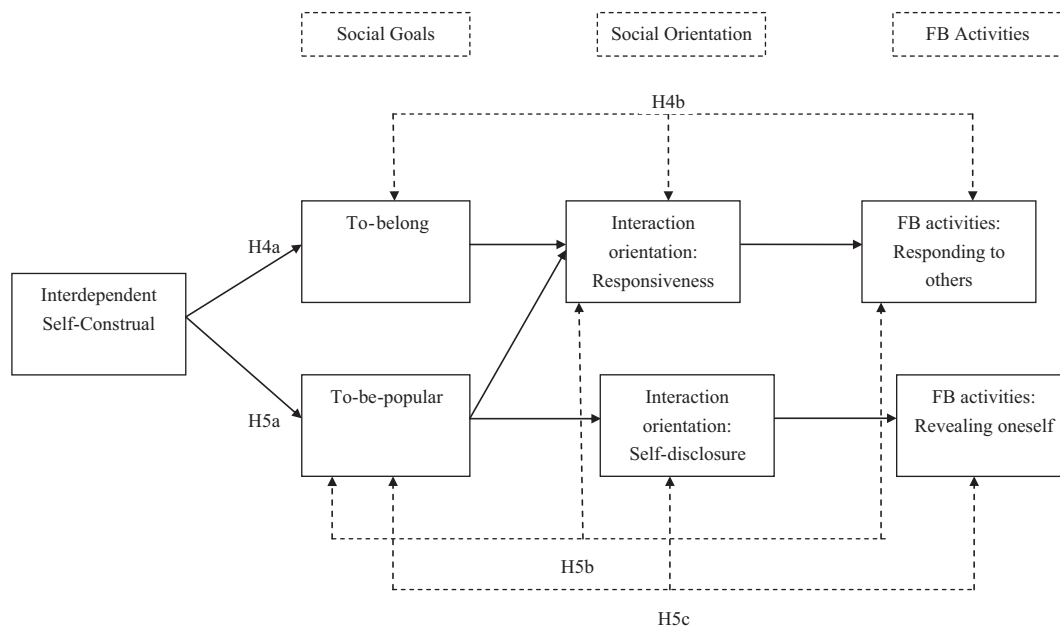


Fig. 2. Proposed model for Study 2. Note: Broken lines indicate mediating effects.

should be positively associated with social responsiveness, which further explains responsiveness-oriented FB activities but not disclosure-oriented FB activities.

H4b. The responsive interaction orientation mediates the relationship between social goals to belong and the level of response to others' activities on FB.

4.2. To be popular

The social goal of being popular or well-liked is a more active social goal than the goal to belong. High R-SC persons, who derive positive emotional feedback from social interactions, should be more likely to hold such an active social goal than high I-SC persons, so

H5a. People with higher R-SC are more likely to have social goals to be popular.

To reach the aggressive goal of being socially popular, both fundamental elements of social orientation may be required. A meta-analysis reveals that people who engage in more disclosure tend to be liked better than people who engage in less disclosure (Collins & Miller, 1994). Through their personal experiences, people may have developed naïve theories about the relationship between disclosure and liking, such that a social goal to be popular or well-liked may activate orientations toward both responsiveness and self-disclosure. Christofides et al. (2009) consistently show that the need for popularity is associated with greater self-disclosure. When people are more oriented toward both responsiveness and self-disclosure, they should engage more actively in both responses to others and self-revealing FB activities.

H5b. The responsiveness interaction orientation mediates the relationship between social goals to be popular and the level of response to others' activities on FB.

H5c. The self-disclosure interaction orientation mediates the relationship between social goals to be popular and the level of self-revealing activities on FB.

5. Study 2

5.1. Participants and procedures

In January 2013, students at four universities, NCCU, NCTU, SHU, and National Chung Cheng University (CCU), received solicitations via e-mail, containing a request to participate in an online survey in return for the chance to win a gift drawing. The procedures were the same as in Study 1. In total, 872 respondents completed the survey, distributed as follows: NCCU (452), NCTU (140), SHU (199), and CCU (81). The average age of the respondents was 22.56 years ($SD = 4.02$, ranging from 18 to 55 years), and 40.7% of them were men. They first indicated whether they had used FB during the past week, and only those who did ($N = 863$, 98.97%) answered the remaining questions.

5.2. Measurements

All the questions except for time spent online and FB activity frequency were rated on five-point Likert scales.

5.2.1. Self-construal

The participants rated Singelis's (1994) self-construal scale, with two subscales: I-SC (Cronbach's $\alpha = .73$) and R-SC (Cronbach's $\alpha = .77$). The responses to the items in the R-SC scale were averaged, and the reversed responses to the items in the I-SC scale represented the self-construal (RI-SC), such that higher numbers indicated a greater orientation toward an R-SC. Because the two scores were not negatively correlated, Pearson's $r = .30$, $p < .01$, and the Cronbach's α for the whole scale was only .46, the analyses used both the combined scores and the individual scores for each self-construal.

5.2.2. Time spent online and on FB

Respondents rated the same items as in Study 1 to tap their time spent online and on FB.

5.2.3. Social goals

Participants rated Leary, Kelly, Cottrell, and Schreindorfer's (2005) scale of the motivation to belong (e.g., "I want other people to accept me," Cronbach's $\alpha = .83$) and Santor, Messervey, and Kusumakar's (2000) scale of the motivation to be popular (e.g., "It is important that people think that I am popular," Cronbach's $\alpha = .83$).

5.2.4. Social orientation

Using the same scale as in Study 1, respondents rated their interaction orientations, including self-disclosure (Cronbach's $\alpha = .93$) and social responsiveness (Cronbach's $\alpha = .96$).

5.2.5. FB activities

Participants rated how frequently (5 = "always," 1 = "never") they engaged in different FB activities. The factor analysis generated two factors with eigenvalues greater than 1: *revealing the self* (eigenvalue = 4.51, 34.72% variance explained) and *responding to others* (eigenvalue = 4.02, 30.94% variance explained). Thus, two

distinct types of activities emerged. *Responding to others* included the same items as in Study 1 (Cronbach's $\alpha = .87$), and *revealing the self* included six items: "I post my thoughts on Facebook," "I share my feelings on Facebook," "I post my activities on Facebook," "I update what is going on in my life on Facebook," "I share what I like on Facebook," and "I share my photos on Facebook" (Cronbach's $\alpha = .93$).

5.2.6. Validity of the measurement model

Another confirmatory factor analysis provided a test of the adequacy of this measurement model. The CFI was .96, greater than the recommended threshold (Bollen, 2014), and the RMSEA was .05, below this recommended threshold (Hair et al., 1995). The AVEs of all constructs, ranging between .50 and .87, suggested good convergent validity, and the square root of every AVE value for each latent construct was at least .71 and greater than any correlation between any pair of latent constructs, which indicated good discriminant validity (Zait & Betrea, 2011).

5.3. Results

The same outlier labeling rule procedures applied as in Study 1. In total, 28 outliers were identified and excluded, though the findings remained the same, regardless of whether the outliers were excluded. The analyses featured only responses by those who had used FB in the past month ($N = 835$).

5.3.1. Preliminary analyses

The average time people spent on the Internet was 391.26 min ($SD = 158.08$); the average minutes they spent on FB were 220.61 ($SD = 122.01$). Similar to study 1, I-SC ($\beta = .03$, $p = .36$) and R-SC ($\beta = .01$, $p = .89$) did not significantly account for variation in time spent online. When RI-SC was the single predictor, its influence was not significant either ($\beta = -.01$, $p = .69$). This ruled out the possibility that different amounts of time spent on FB between people with high R-SC and those with high I-SC stemmed from different amounts of time spent online.

5.3.2. Hypothesis testing

As expected, a regression analysis ($R^2 = .20$, $p < .01$) using time spent online ($\beta = .42$, $p < .01$) as a covariate indicated that an R-SC related positively to time spent on FB ($\beta = .12$, $p < .01$), but an I-SC related negatively to time spent on FB ($\beta = -.10$, $p < .01$). The second regression ($R^2 = .20$, $p < .01$) showed that the RI-SC positively related to time spent on FB ($\beta = .13$, $p < .01$), in support of H1 (see Table 1).

For the test of H4a, a regression analysis ($R^2 = .13$, $p < .01$) revealed that an R-SC ($\beta = .36$, $p < .01$) was significantly associated with stronger social goals to belong, but an I-SC was not ($\beta = -.02$, $p = .63$) (see Table 1). Another regression analysis ($R^2 = .06$, $p < .01$) indicated that the RI-SC ($\beta = .25$, $p < .01$) was positively associated with a stronger social goal to belong.

In the test of H5a, a regression analysis ($R^2 = .07$, $p < .01$) showed that people with high R-SC ($\beta = .24$, $p < .01$) were more oriented toward the social goal to be popular, but an I-SC ($\beta = -.19$, $p < .01$) was negatively associated with it. The second regression analysis ($R^2 = .07$, $p < .01$) indicated that the RI-SC ($\beta = .26$, $p < .01$) was positively associated with the goal to be popular.

Replicating the findings for H2a, as summarized in Table 1, a regression analysis ($R^2 = .15$, $p < .01$) showed that those with higher R-SC ($\beta = .36$, $p < .01$) and I-SC ($\beta = .08$, $p < .01$) were more oriented toward responsiveness in their interaction with others. Another regression analysis ($R^2 = .04$, $p < .01$) indicated that the RI-SC ($\beta = .20$, $p < .01$) was positively associated with a responsiveness orientation.

With regard to H3a, a regression analysis ($R^2 = .07$, $p < .01$) demonstrated that people with high R-SC ($\beta = .28$, $p < .01$) were more oriented toward self-disclosure in their interactions with others, but those with high I-SC ($\beta = -.07$, $p = .05$) were less oriented toward self-disclosure. Another regression analysis ($R^2 = .05$, $p < .01$) indicated that the RI-SC ($\beta = .22$, $p < .01$) was positively associated with orientation toward self-disclosure.

A simple mediation test of an assumed relationship in the model—namely, the relationship between R-SC and social responsiveness, through changes in the mediator (*to belong*)—used Preacher and Hayes's (2004) bootstrapping methodology, with 5000 bootstrap resamples, to describe the CI of the indirect effects. The analyses also included the goal *to be popular* as the other mediator (see Model 5 in Table 2). The bootstrap results confirmed the mediating role of the goal to belong in the process; the 95% CI surrounding the indirect effect did not contain zero [.05, .13]. Even though the relationship between the goal to be popular and social responsiveness was weaker than that between the goal to belong and social responsiveness, it still emerged as a significant mediator, such that the 95% CI surrounding the indirect effect did not contain zero [.01, .05].

Another mediation analysis tested another assumed relationship in the model, the relationship between R-SC and self-disclosure, through changes in the mediator (*to be popular*), with the goal *to belong* as another mediator (see Model 6 in Table 2). The bootstrap results confirmed the mediating role of the social goal to be popular; the 95% CI surrounding the indirect effect did not contain zero [.07, .17]. However, the goal to belong did not emerge as a significant mediator [−.07, .04] in the process.

With regard to H4b, a mediation analysis tested the relationship between need to belong goals and responding to others, through changes to the mediator (responsiveness) (see Model 7 in Table 2). Because the dependent variable involved FB-related behaviors, time spent on FB was analyzed as a covariate in the analyses. Prior analyses showed that the goal to belong did not mediate the relationship between an R-SC and self-disclosure, so the analyses did not include self-disclosure as another mediator. The bootstrap results confirmed the mediation process; the 95% CI surrounding the indirect effect did not contain zero [.01, .07], consistent with H4b.

The test of H5b involved a simple mediation analysis, exploring the relationship between the goal to be popular and responding to others' FB activities, through changes in the mediator (responsiveness) (see Model 8 in Table 2). The analyses also included self-disclosure as another mediator, and the bootstrap results confirmed the mediation process. The 95% CI surrounding the indirect effect did not contain zero, whether responsiveness [.04, .09] or self-disclosure [.07, .13] was the mediator, in support of H5b.

A simple mediation analysis tested H5c, which examined the relationship between the social goal *to be popular* and self-revealing FB activities, through changes in the mediator (*self-disclosure*) (see Model 9 in Table 2). The analyses also included responsiveness. The bootstrap results confirmed the mediation process; the 95% CI surrounding the indirect effect did not contain zero [.19, .30]. These findings supported H5c. Responsiveness did not emerge as a significant mediator [−.01, .03] in the process. That is, responsiveness did not play a significant role in the relationship between the goal to be popular and self-revealing FB activities.

5.4. Discussion

As expected, an R-SC was a positive predictor for both social goals. In contrast, an I-SC was not associated with the social goal to belong; instead, it was a negative predictor of the social goal to be popular. The findings thus suggested that among the group of people who care about social relationships, social goals lead to distinct orientations, manifested in different patterns of FB activities.

Those with a passive social goal (to belong) are oriented toward responsiveness, such that they respond more to others' FB behaviors. In contrast, those with a more aggressive social goal (to be popular) focus on both responsiveness and self-disclosure, which are positively associated with their responding and revealing FB activities. Other findings replicated those from Study 1, such that people with higher R-SC spent more time on FB. For social responsiveness, both R-SC and I-SC were positive predictors. For self-disclosure, R-SC was a positive predictor, but I-SC was a negative predictor.

6. General discussion

6.1. Findings and contributions

These findings extend and contribute to extant literature in three important ways. First, drawing on social relation literature, this study has shown that an R-SC is positively associated with an interaction orientation (self-disclosure and responsiveness), which accounts for FB activities. Second, it distinguishes an active social goal (i.e., to be popular or well-liked) from a passive social goal (i.e., to belong); depending on the dominant social goals (to belong vs. to be popular), people with higher R-SC embraced the two types of social interaction orientation (self-disclosure or responsiveness) to a greater degree, which then explained their different FB activities. Third, through two surveys, this study presents and tests a coherent theoretical framework that helps explain the possible relationships among self-construal, social goals, social interaction orientations, and FB activities. These extensions are all well-situated within prior social psychology literature.

Even though neither an R-SC nor an I-SC can predict time spent online, they anticipate time spent on FB. In particular, an R-SC was a positive predictor of time spent on FB, whereas an I-SC was a negative predictor. Its negative influence approached significance in Study 1 but was clearly significant in Study 2. Thus, likely because people with higher R-SC include others in their self-concepts and emphasize social relations, they spend more time interacting with others on SNS such as FB.

Whereas prior research has explored the amount of time spent on FB or FB addiction, this article focuses on a less explored direction, namely, the patterns of interactions on FB. In line with social interaction literature, in which social responsiveness and self-disclosure are two central elements, this study seeks greater insights from categorizing FB behaviors as *self-revealing* or *responding to others*. The findings show that participants with a more passive social goal engage in greater levels of responding to others' FB activities, but participants with a more active social goal engage in both types of FB activities.

It may seem counterintuitive that people who seek uniqueness are not oriented toward disclosure and are less likely to reveal their thoughts and feelings. But these findings should not be taken to suggest that people with high I-SC do not desire friendship. Rather, as Cross and Madson (1997) note, they establish relationships that reflect their personal goals; their relationships with others “serve as mirrors for the individual's comparison of the self with others, as backdrops for the self-enhancing display of abilities or attributes or as a means to demonstrate uniqueness by an assertion of dominance over others” (p. 7). Accordingly, they do not disclose or attend to others' thoughts and feelings as much as people with high R-SC, who perceive themselves in terms of their connections with friends.

6.2. Further research directions

This study draws on social interaction literature and identifies disclosure and responsiveness as two central orientation elements

that likely prompt people with high R-SC to engage in different social interactions on FB. Social interaction literature also suggests that people develop different attachment styles (e.g., secure, avoidant, ambivalent) that should affect their social interactions (Mikulincer & Nachshon, 1991). Attachment styles thus might offer an alternative explanation for why people with high R-SC or high I-SC engage in different degrees or patterns of FB activities. Testing that explanation offers a new direction for research.

To maintain a single focus, this study categorized FB activities into responding and self-revealing behaviors, though activities within each broad category could differ on other characteristics. For example, responses to others might be supportive or critical. Self-revealing activities can be categorized as those that reveal self-descriptive versus evaluative or affective information. Considering these delicate differences could offer more profound insights into why people use FB or SNS. Research should explore the characteristics of the interaction content.

Although this article reveals why people with high R-SC engage in different FB activities and how different social goals may explain their activities, it says less about why those with high I-SC use FB, their unique patterns of activities on FB, or what motivates these different patterns. Hornsey and Jetten (2004) argue that people simultaneously need to belong and want to show their uniqueness, so if hats are in style, most people wear one, to feel as if they belong, but might choose a hat in a striking color or pattern, to show their uniqueness. In a SNS context, independent users may not frequently post their thoughts, but when they do, their posts likely contain unique thoughts. Clarifying this portrait of people with high I-SC thus is an important task for further research.

This study examined FB activities, not the satisfaction of FB users, though self-construal literature rests on the assumption that people with high R-SC derive self-enhancement and happiness from relationships, so if they spend more time on FB interacting with others, they also may enjoy higher self-esteem or express greater life satisfaction. Lee, Lee, and Kwon (2011) provide indirect evidence that shows that the amount of self-disclosure on SNS relates positively to well-being. Self-construal may serve as an important moderator in this relationship, such that the relationship between self-disclosure and well-being may be stronger for those with high R-SC and weaker for those with high I-SC. This possibility awaits further research attention.

6.3. Limitations

No extant literature distinguishes FB activities in terms of responding to others versus revealing oneself. Therefore, this study needed to develop new scales. The reliabilities for these scales were satisfactory across the two studies, and the two types of FB activities seem distinct, yet potential validity problems may remain. Additional research should conduct more solid tests and develop appropriate scales for FB activities.

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