IMPROVING QUALITY OF LIFE VIA BLOGS AND DEVELOPMENT OF A VIRTUAL SOCIAL IDENTITY

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ABSTRACT

This study explores the link between blog use and global quality of life satisfaction as subjective well-being. This study posits that blogging enhances social interactions between online users, which will develop their own virtual social identity. It is also proposed that the development of a virtual social identity will motivate people to expand their online social networks which will in turn result in their global life satisfaction. A survey was conducted involving 173 subjects. We found that social interaction through the features of the blog increases all three different aspects of virtual social identity, including cognitive, affective, and evaluative social identity. The enjoyment of the blog was another significant predictor of these three aspects of virtual social identity. It was found that all the three aspects of virtual social identity motivated bloggers to expand their online social networks vigorously. Finally, both cognitive social identity and intention to expand the social network turned out to be significant factors that affect users' global life satisfaction.

Keywords: Blog, Social networks, Virtual social identity, Satisfaction with life, Internet paradox

INTRODUCTION

A blog is a personal web site, open to the public, in which the owner expresses his or her feelings or opinions [1]. Since the early 2000s, the blog has offered a new opportunity for Internet users to publish on the web. According to the Pew/Internet survey (http://www.pewinternet.org), by the end of 2004, 8 million U.S. adults had created blogs, 32 million Americans were blog readers, and the number is still increasing.

There are many blogs used only for personal records or diaries, but now many Internet users are rushing into the blog world in order to communicate and interact with other bloggers. They are forming "loose" informal communities with other bloggers and this has become a new culture between bloggers. Members of the informal community might list one another's blogs in a "blogroll" (a sidebar within a particular blog listing the other blogs the blogger frequents) and might read, link to, and respond to the contents in another community member's blog [2]. Blogging today is thus a powerful tool for establishing and maintaining online social networks, and it reduces the social distance between bloggers [3].

The relationship between online social interaction and subjective well-being or overall life quality is unclear. Several studies have found that Internet use and online social interaction improve subjective well-being [e.g. 4, 5, etc.], but others suggest that such online media

and online social interaction increase social isolation and thereby decrease subjective well-being in the real world [e.g. 6, 7, etc.]. This is referred to be as "Internet Paradox". The question addressed in this study is to explore the impact of blog use on subjective well-being.

This study posits that blogging enhances social interactions among bloggers and assists in the creation of new type of social identity; the virtual identity. A final question addressed by this study is whether blogging assists in the further expression of social capital because of the blogging process. The rest of the paper is organized as follows. Hypotheses are developed in the next section, and then a research model is presented. Finally, we present several concluding remarks.

HYPOTHESES DEVELOPMENT

Blog as a Toll for Social Interaction

The current study posits that people who have appropriate opportunities for social interaction through the blog will develop a virtual social identity. In addition, the enjoyment they feel in using the blog will also lead to the development of a visual social identity. Figure 1 represents a conceptual model of the rationale used in the current study.
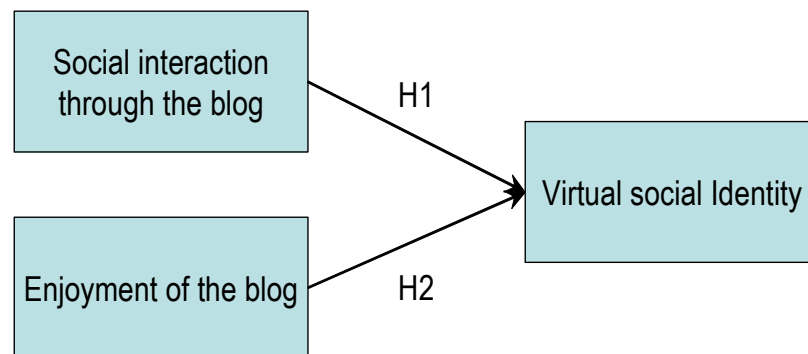

Figure 1: A Conceptual Model of Developing Virtual Social Identity through the Blog

The contents of many blogs are personal, self-expressive, and associative, but blogs can also encourage users to share their knowledge, opinions and feelings, because they constitute to social interaction. Several functions and features of blogs, such as permalinks, comments, trackbacks and blogrolls, enhance interactions between bloggers so that they can readily form social networks [3, 8].

According to symbolic interaction theory, "interaction" is broadly defined to include any symbolic trans-

mission [9]. Through adequate interaction enhancement between members, those who are highly socialized tend to trust other members in their community, and become committed to their community [10]. In the context of blog space, Bloggers form informal communities with other bloggers. In other words, many newcomers undergo the processes of socialization in order to become a member of these communities. Eventually, the socialized bloggers will become committed to their blog community and a virtual social identity will emerge. Social identity can be developed in the virtual world as well as the real world (Bergami and Bagozzi [11] and Dholakia et al. [12]).

According to Ryder [13], "socialization" is defined as a process by which individuals become part of a group or community. It involves processes that progressively confine their behavioral potentialities within an acceptable range and prepare them for the types of roles they will be expected to play. Beckers et al. [14] stress that interaction, including sharing and comprehending symbolic transmission between members, is an important part of the socialization.

In this regard, blogs are communication tools for social interaction. Through the individual's interaction and use of gestures with others through various web features of blogs, exchanges occur which establish common attitudes, organize behaviors and construct meaning. If those symbols and gestures are transferred to the individual through blogs, and are then significant to the individual, the individual and the community have a shared meaning that effects communication within a community and finally, the individual can be transformed from outsider to insider status within a community. That is, interaction is a process of socialization and leads people to develop virtual social identity in blog space.

Churchill et al. [15] suggest that certain web features of blogs can facilitate a successful interaction be-tween users on the Internet. Such web features of blogs enhance bloggers to communicate with one another, and then they are likely to have a high level of perceived interaction. Those who undergo a high level of perceived social interaction are more likely to have strong virtual social identity in their virtual communities (H1).

Dholakia et al. [12] pointed out that fun and relaxation through playing or otherwise interaction with others are important factors to develop social identity in online communities, providing empirical evidence of its causal relationships. In this regard, bloggers who feel fun and relaxation through blogging might have strong virtual social identity in their social networks. Thus, blogging brings pleasure and fun to bloggers [16] and will finally help them to develop virtual social identity (H2).

Finally, as shown in Figure 1, hypotheses are proposed as follows:

H1: People who experience high perceived social interaction through blogs are more likely to develop a strong virtual social identity.

H2: People who experience high enjoyment of blogs are more likely to develop a strong virtual social identity.

Virtual Social Identity

As discussed earlier, social interaction through the blog and the ensuing enjoyment was proposed to affect blogger's virtual social identity on the Internet. The current study investigates whether the development of a virtual social identity influences individual intention to expand their online social network as social capital, as well as the impact of on individual subjective well-being. Figure 2 demonstrates the proposed relationships and the hypotheses.
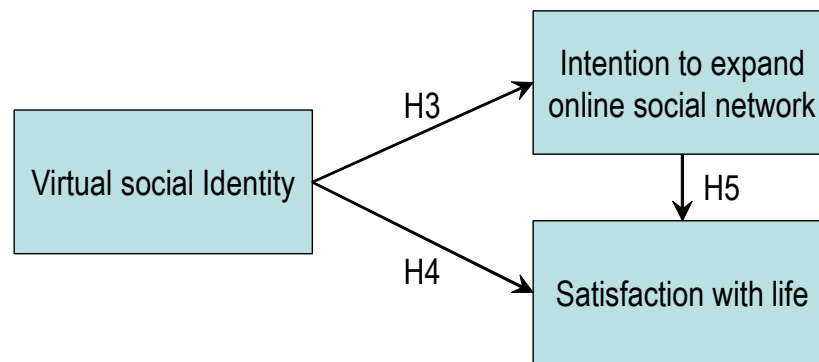

Figure 2: A Conceptual Model of Impact of Virtual Social Identity on Social Life

Social identity is defined as the individual's knowledge that he/she belongs to a certain social group, with some emotional and value significance of him/herself to the group membership [17]. Tajfel [18] agrees that social identity is a part of an individual's self-concept which derives from his/her knowledge of his/her membership in a social group (or groups) together with the value and emotional significance attached to that membership.

Ellemers et al. [19] and Bergami and Bagozzi [11] point out that there are three aspects of social identity including cognitive social identity, affective social identity, and evaluative social identity. Table 1 presents the definitions of the three aspects of social identity.

Table 1: Three Aspects of Social Identity

Aspects of Social Identity	Definition
Cognitive Social Identity	"The perceived overlap between one's own self-concept and the identity of the group/community" [11]
Affective Social Identity	"Identification with, involvement in, and emotional attachment to the group/community" [20]
Evaluative Social Identity	"Evaluations of self-worth deriving from one's membership in the group/community" [11]

Cognitive social identity relates to an individualized cognitive awareness and membership in a social group or community. It refers to the assimilation of the self to the in-group prototype and, thus, depersonalizes self-conception. This transformation of self is a major process underlying group phenomena, because it brings self-conception and behavior in line with the contextually relevant in-group prototype [17]. In other words, cognitive social identity transforms the self-concept from a structure based on individuality to one based on group prototypicality, in which the prototype is a fuzzy set of features describing ideal attributes of in-group membership in a particular social context [21].

While awareness of one's membership in a group/community (cognitive social identity) seems to capture the idea of a cognitive component of one's social identity in a group/community, affective social identity is associated with one's emotional component [11]. In this sense, affective social identity implies a sense of emotional involvement with the group/community, and it is useful in explaining a member's willingness to maintain committed relationships within groups/communities [12]. Therefore, affective social identity is the main determinant of in-group favoritism [19]. Shaver et al. [22] point out that two fundamental positive emotional categories, joy and love towards the organization, are bases of affective social identity, distinguishing it from cognitive social identity.

According to Bagozzi and Dholakia [23], evaluative social identity has been defined as "the positive or negative value connotation attached to a group member, and arises from evaluations of self-worth derived from membership." Evaluative social identity has been found to promote actions that produce in-group welfare.

Ellemers et al. [19] and Bergami and Bagozzi [11] validated the construct and the sub-dimensions used to measure the distinct aspects of social identity. Their theory related to the three social identities has been applied to investigate customer behaviors on the Internet. This work is relevant to this research and we have adopted Bergami and Bagozzi [11] and Dholakia et al. [12]'s view of social identity in terms of a blogger's virtual social identity on the Internet.

Bagozzi and Dholakia [23] and Ashforth and Mael [9] pointed out that people who have strong social identity tends to desire to, at least, maintain their positions in the group, showing strong loyalty and commitment to the group. They are more likely to expand their social networks because they want to maintain the structure of their groups and their own positions in the group as well (H3).

Many previous studies indicated that strong social identity increases satisfaction [e.g. 9], and social identity is known to provide satisfaction associated with self-worth, deriving from one's membership in the group or community [11]. In other words, social identity is strongly connected to satisfaction in the context of "group." Furthermore, this study posits that a blogger's highly developed virtual social identity will provide more satisfaction in their life as an index of subjective well-being. Thus, this study proposes that virtual social identity through blogging will also influence blogger's global life satisfaction (H4).

Social networks are considered as social capital of individual, and the results of social network frequently become embodied in diverse satisfactions under certain circumstances (e.g. job satisfaction in workplace) [24]. Thus, the current study also proposes that stronger intention to expand online social network will yield higher global life satisfaction (H5).

Finally, as represented in Figure 2, the following hypotheses are proposed:

H3: People who have strong virtual social identity are more likely to have strong intention to expand their online social network

H4: People who have strong virtual social identity are more likely to be satisfied with their own lives

H5: People who have strong intention to expand their online social network are more likely to be satisfied with their own lives.

RESEARCH MODEL

This study establishes a research model based on two conceptual models and five hypotheses proposed above. Those conceptual models and hypotheses are integrated into a structural equation model as shown in Figure 3. As suggested by Bergami and Bagozzi [11], virtual social identity is classified as three different aspects of virtual social identity, including Cognitive Social Identity, Affective Social Identity, and Evaluative Social Identity. Accordingly, each hypothesis, except for H5, is separated into three different sub-hypotheses in order to examine each path coefficient.
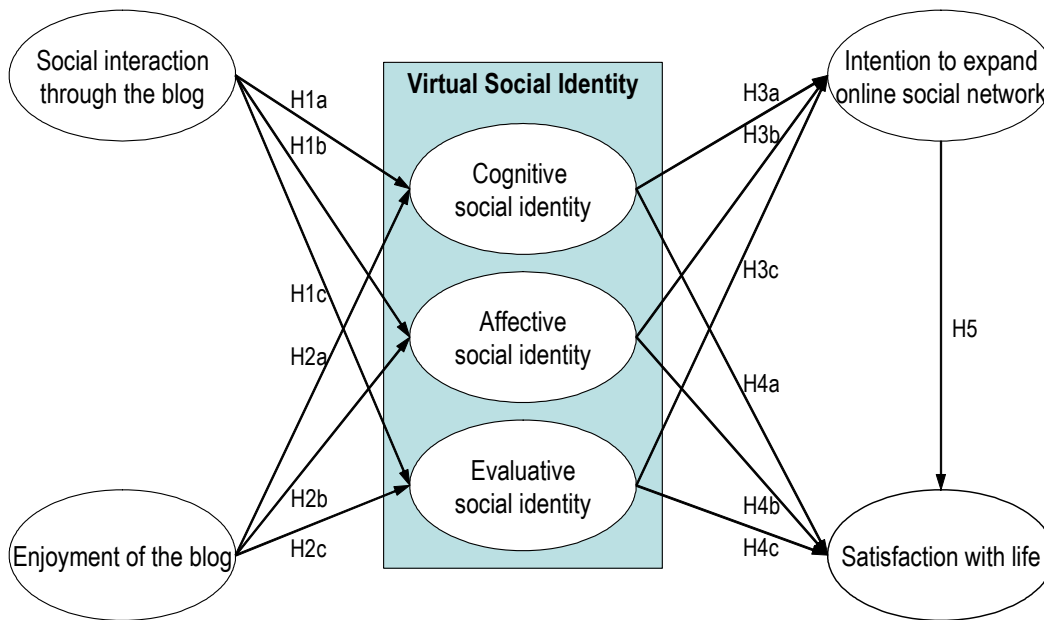

Figure 3: Research Model and Hypothesized Relationship

Instrument Development

This study uses cross sectional design via a survey questionnaire composed of measures based on a literature review. Survey research is the most efficient approach for this study, in that individual psychological and their social issues will be mainly dealt with.

This study operationalizes latent variables from Figure 3 on the basis of the literature review. All measures were taken directly or adapted from previous studies.

Measures for the three aspects of social identities were mainly adapted from Allen and Meyer [20] and Bergami and Bagozzi [11]. Each question on virtual social identity limits the scope of social relationship to in-boundary of each BSP because blogs located in two different BSP boundaries cannot form over-boundary communities easily; that is, services provided by different BSPs are mutually exclusive.

As an index of subjective well-being, the "Satisfaction With Life Scale (SWLS)" was adopted for this

study. An advantage of using the SWLS is addressed in that this scale asks the person for their overall evaluation of their life, rather than summing across their satisfaction with specific domains, to obtain a measure of global life satisfaction [25]. Thus, the SWLS is a very useful and efficient tool in investigating the relationship between individual judgments of life satisfaction and unidentified effects on it. Detailed measure items for this study are provided in Appendix A.

Data Collection

Data was collected using both a paper-based survey and a web-based survey system. Approximately 3,000 flyers/e-mails asking for participation and survey questionnaires were distributed. A total of 204 responses were collected (response rate 6.8%) and a total of 172 were usable among them.

All participants were residents of the U.S., and all of them had managed their own personal blogs for at least 3 weeks or longer. The average was 13.25 months. 56.7% of subjects were male and 42.4% were female. The age of respondents ranged from 18 to 53 years old, and the average age was 24.91 years old. Most of them (67.5%) answered that they used or managed their own blog 2 through 10 hours per week, and the average was 4.87 hours per week. In addition, on average, they spent 4.95 hours per week visiting and reading other's blogs.

They were also asked to provide the name of the BSP (Blogging Service Provider) they use. Thirty four subjects used Xanga and 33 of them used Blogspot. These two leading BSP were followed by Myspace (14), Livejournal (14), Cyworld (14), MSNspace (12), etc. in the sample.

Methods

Data analysis was performed using the Partial Least Squares (PLS) method, as well as several other sta-

tistical methods for the assessment of measurement model and structural model. PLS has the advantage that it is quite robust with regard to several inadequacies (e.g. skewness or multicollinearity of the indicators, misspecification of the structural model) and that the latent variable scores always conform to the true values [26].

We used the measurement model to test the composite reliability and AVE (Average Variance Extracted) and investigated the convergent validity, cross-loading matrix and the correlation matrix with square root of AVE.

The composite reliability and AVE of each latent variable used in this study are provided in Appendix A. All composite reliability is higher than .80 and AVE is higher than .60. These results support that the measurement model has strong convergent validity. Then, cross-loadings of each item are explored and compared across all latent variables. As shown in Appendix B, the current study produces a cross-loading matrix, which is a procedure of confirmatory factor analysis for the measurement model. The correlation of the construct score (η) with the measurement items needs to show an appropriate pattern of loadings, one in which the measurement items load highly on their theoretically assigned factors (constructs) and do not load highly on other factors [27]. The construct score (η) was calculated by multiplying each standardized indicator with its respective weight provided from PLS.

Finally, cross-loadings of each item are explored and compared across all latent variables as shown in Appendix B, which indicates that both strong convergent validity and discriminant validity exist in the measurement model. All PLS factor loadings on this construct are quite high, greater than 0.70, and all cross-loadings are lower than .70

In addition, Table 2 examines the ratio of the square root of the AVE of each latent variable over the correlations of this variable with respect to all the other variables.

Table 2: Correlations of the Latent Variables and the Square Root of the AVE

Latent Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Social Interaction through the Blog	(.849)							
(2) Enjoyment of the Blog	.599	(.958)						
(3) Cognitive Social Identity	.435	.360	(.861)					
(4) Affective Social Identity	.564	.526	.511	(.877)				
(5) Evaluative Social Identity	.490	.422	.458	.703	(.939)			
(6) Intention to Expand Online Social Network	.609	.641	.407	.458	.457	(.931)		
(7) Attitude toward the Tax Policy (marker variable)	.047	.083	-.072	.068	-.003	.028	(.763)	
(8) Satisfaction with Life	.179	.210	.335	.247	.230	.288	-.020	(.809)

*Note: The number in parenthesis is the square root of AVE

In Table 2, diagonal elements in parenthesis are correlations of each construct with its measure, which is the square root of AVE. Off-diagonal elements are correlations between constructs. As shown in Table 2, each construct is more highly correlated with its measures than with any other constructs. This indicates that strong discriminant validity exists among the constructs.

A marker variable, "Attitude towards the Tax Policy" was placed between the dependent variable and the independent variables to examine the common method variance artifact. The current study uses data from self-reports of participants via survey, which is prone to common method variance. Common method variance is defined as the artifactual covariance between two variables attributable to the measurement method used, rather than to a relationship between the underlying constructs of interest [28]. Common method variance usually occurs when measures of two or more latent variables regarding personality, behavior, psychological state, or respondents' perception of an external environment are collected from the respondents [29, 30].

Following Lindell and Whitney's [31] approach, this study used a marker variable during statistical analysis to investigate the effect of method variance on the correlation between constructs. Two important guidelines in setting the method variance marker variable include: 1) it must be a multi-item scaled variable (construct) and 2) it should be theoretically unrelated to at least one of the other constructs; that is, the correlation between the mark variable and the other variable must be around zero or statistically independent.

The marker variable, "Attitude towards the Tax Policy," was composed of four measure items: "Better social welfare can be achieved through the government's high-tax policy," "Generally, I support high-tax policy rather than low-tax policy," "I am willing to pay higher taxes for social welfare," and "It is necessary to collect higher taxes in order to financially help poor people." After data collection, we found that there were around zero correlations between the marker and other variable, which means that the data collected was not contaminated by common method variance (see Table 2).

RESULTS

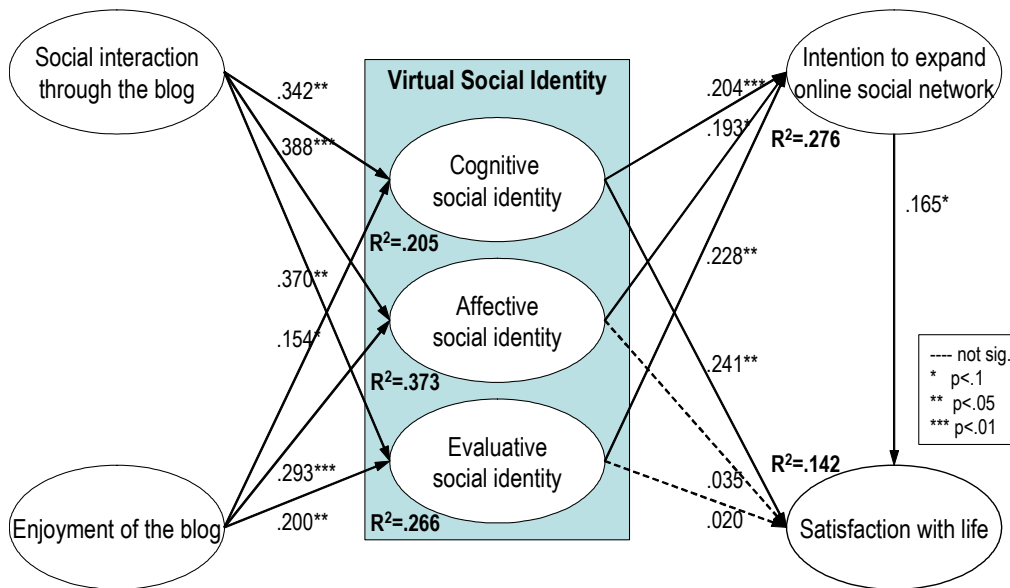Finally, Figure 4 illustrates the results of model testing.

Figure 4: Data Analysis Results

As shown in Figure 4, H1, H2, and H5 are supported, and H3 and H4 are partially supported in the sample. Each path coefficients from "Social interaction through the blog" to three aspects of social identity is .342, .399, and .370, respectively. Each coefficient from "Enjoyment of the blog" to three aspects of social identity

is .154, .293, and .200, respectively. The R^2 value for each aspect of virtual social identity is medium high (.205, .373, and .266) which means that the variance of virtual social identity in the sample can be well accounted for by these two constructs, "Social interaction through the blog" and "Enjoyment of the blog."

The result of H3 shows that about 28% of the variance of the blogger's intention to expand online social network are accounted for by their virtual social identity on the Internet. This finding implies that a person who has high level of virtual social identity more tends to vigorously expand their online social network as their social capital.

The result of H4 and H5 shows that virtual social identity and the intention accounts for 14% of the variation in "Satisfaction with life" in the sample (R^2=.142). Among three aspects of virtual social identity, only cognitive social identity turned out to have a significant effect on life satisfaction. This result implies that strong feelings of overlap between self-concept and the identity of the community yields strong global satisfaction with life. This finding associated with H4 supports the role of virtual cognitive social identity as an antecedent of overall life satisfaction (path coefficient = .241). However, neither emotional attachment to the community (Affective social identity), nor evaluation of self-worthy in the community (Evaluative social identity) were significant predictors of global life satisfaction. Accordingly, it is concluded that global satisfaction with life in the real world can be achieved partially through social identity developed through appropriate online social interactions with other bloggers on the Internet. In addition, the result of H5 shows that one's strong willingness to expand their online social networks also turned out to influence their global life satisfaction, supporting and extending Flap and Voelker [24]' s view on the link between "social capital" and "satisfaction."

CONCLUSION

The main goal of this study was to investigate the impact of blog use on the subjective well-being of bloggers. We have found that blog is a useful Internet communication medium which provides an explanation for the disappearance of the "Internet Paradox." It can enhance social interactions between bloggers and develops a new type of social identity on the Internet and that blog also facilitates the development of social identity.

It was found that both perceived online social interaction through blog and enjoyment of the blog help users develop virtual social identity online. When three aspects of virtual social identity, including cognitive, af-

fective, and evaluative social identity, were manifested, users were highly motivated to expand their online social networks as social capital, as well as the impact of virtual social identity and intention to expand online social network on individual subjective well-being.

Furthermore, the development social identity increased the global life satisfaction, the index of subjective well-being in this study. Cognitive social identity turned out to be a strong predictor of blogger's global satisfaction with life as well. In summary, effective online social interactions with other bloggers through the web features of blogs increase overall quality of life and subjective well-being in the real world. The findings illustrate that blogs, as a new communication medium, enhance social networks through virtual social identity development and improves quality of life.

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APPENDIX A

Operationalization of Latent Variables

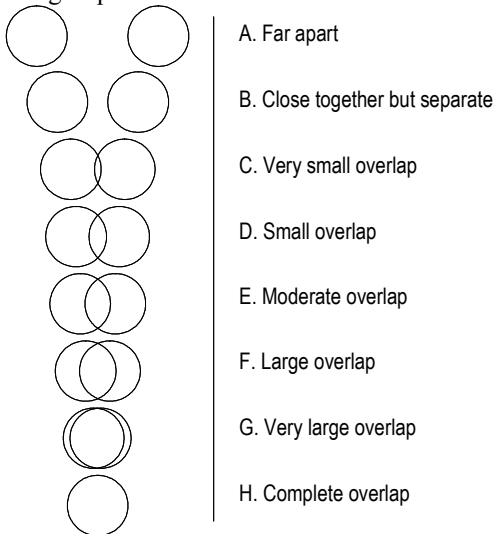**Social Interaction through the Blog [15, 32] C.R.=.888, AVE=.725**

SI1. I share ideas with my friends efficiently through the feature of the blog interface
SI2. I express my feelings or emotions to my friends efficiently through the features of the blog interface
SI3. Overall I think I am satisfied with interaction with my friends though the features of the blog interface

Enjoyment of the Blog [16, 33] C.R.=.957, AVE=.917

EB1. I feel pleasure when I use my blog
EB2. I feel comport when I use my blog

Cognitive Social Identity[11, 19] C.R.=.896, AVE=.742

CS1. I believe I am similar to my friends on the BSP sites
CS2. I perceive an overlap between my self-identity and my friends group on the BSP sites
CS3. Imagine that one of the circles at the left in each row represents your own self-definition or identity and the other circle at the right represents the identity of your friend group on the BSP sites you use. Please indicate which case (A, B, C, D, E, F, G, or H) best describes the levels of overlap between your own and your friend group's identities

A. Far apart

B. Close together but separate

C. Very small overlap

D. Small overlap

E. Moderate overlap

F. Large overlap

G. Very large overlap

H. Complete overlap

Affective Social Identity [20] C.R.=.944, AVE=.770

AS1. I am emotionally attached to the group of my friends on the BSP sites
AS2. I feel feelings of belongingness towards the group of my friends on the BSP sites
AS3. I am happy to spend time with the group of my friends on the BSP sites
AS4. I enjoy discussing the group of my friends on the BSP sites with people outside it
AS5. The group of my friends on the BSP sites has a great deal of personal meaning for me

Evaluative Social Identity [11, 12] C.R.=.957, AVE=.882

ES1. I am a valuable member of the group of my friends on the BSP sites
ES2. I am an important member of the group of my friends on the BSP sites
ES3. I feel that I am respected by my friends of the group on the BSP sites

Intention to Expand Online Social Network [34] C.R.=.929, AVE=.867

IE1. I recommend this BSP to others
IE2. I will say positive things about this BSP to other people

Satisfaction with Life [25] C.R.=.905, AVE=.657

SL1. In most ways my life is close to my ideal.
SL2. The conditions of my life are excellent.
SL3. I am satisfied with my life.
SL4. So far I have gotten the important things I want in life.
SL5. If I could live my life over, I would change almost nothing.

APPENDIX B.

Cross-loading for the Measurement Model

	SI	EB	CS	AS	ES	EL	SL
SI1	0.847	0.447	0.307	0.458	0.388	0.453	0.066
SI2	0.875	0.523	0.383	0.444	0.365	0.462	0.058
SI3	0.826	0.547	0.408	0.523	0.480	0.614	0.274
EB1	0.574	0.956	0.330	0.492	0.395	0.616	0.233
EB2	0.574	0.960	0.358	0.514	0.413	0.613	0.240
CS1	0.380	0.299	0.879	0.493	0.404	0.290	0.034
CS2	0.386	0.380	0.889	0.446	0.359	0.387	0.099
CS3	0.357	0.241	0.813	0.380	0.427	0.368	0.117
AS1	0.443	0.425	0.508	0.876	0.585	0.354	-0.012
AS2	0.559	0.520	0.472	0.916	0.648	0.443	0.102
AS3	0.489	0.431	0.450	0.885	0.656	0.357	0.102
AS4	0.502	0.475	0.421	0.831	0.557	0.442	0.219
AS5	0.467	0.442	0.390	0.875	0.634	0.396	0.082
ES1	0.440	0.382	0.406	0.668	0.954	0.430	0.186
ES2	0.453	0.382	0.422	0.670	0.955	0.403	0.189
ES3	0.484	0.421	0.459	0.641	0.907	0.451	0.131
IE1	0.596	0.611	0.394	0.423	0.447	0.934	0.287
IE2	0.536	0.582	0.363	0.429	0.404	0.928	0.262
SL1	0.233	0.184	0.253	0.259	0.253	0.340	0.842
SL2	0.001	0.138	0.236	0.134	0.090	0.204	0.832
SL3	0.225	0.268	0.337	0.229	0.229	0.295	0.880
SL4	0.117	0.188	0.268	0.204	0.113	0.161	0.776
SL5	0.081	0.013	0.247	0.143	0.218	0.098	0.707