TOWARD A CULTURAL PHENOMENON OF BLOGGING–THE IMPACTS OF INDIVIDUALISM-COLLECTIVISM AND SELF-EFFICACY

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Abstract

Blogging is a form of social communication that facilitates human interaction. The cultural orientations of individualism and collectivism, which relate to basic beliefs about human relationships and interactions, should be determinants of blogging. This study explores the impacts of individualism-collectivism orientation on perceived self-efficacy in blogging, along with blogging and attitudes toward blogging. The results from an online survey of bloggers show that peoples’ cultural orientation of individualism-collectivism affects blogging through the mediation of perceived self-efficacy. Additionally, while self-reliance and the supremacy of individual goals increase blogging, competitiveness, solitary work preference, and the supremacy of individual interests decreases it. These results may suggest that a new cultural value is emerging among bloggers who wish to reap the benefits of the cyberworld.

Keywords: Blogging, individualism-collectivism, self-efficacy.
1 INTRODUCTION

A large number of new applications and services called Web2.0, or social computing, have recently come to dominate the Web. In Web2.0, we value abundant content provided by active users and the technologies that aggregate them. Its applications have been recognized as a new information systems trend that could bring about tremendous disruptive changes in the business world and in society (Liang & Tanniru 2007, O'Reilly 2005, Parameswaran & Whinston 2007). Among these applications, blogs are one of the fastest-growing, have gained wide-spread popularity, and have become a new form of personal communication (Du & Wagner 2006, Rosenbloom 2004). A blog, or weblog, is a chronological listing of online postings containing personal opinions, daily life anecdotes, or stories. Blogging enables disintermediation in the publishing industry; it may be the first time in history that individuals can write to others and publish their works directly, without being controlled by publishing companies (Gillmor 2006). Enabled by easy-to-use technologies and broadband networks, users are currently the most important sources of information on the Internet.

Blogging is primarily an individual behaviour. In contrast to traditional institutional people that work for the organization they belong to, people can now write for themselves and build reputations on their own. On the other hand, people may need to believe that they can really contribute something by themselves in order to be willing to continuously author blogs. Belief in personal competence is an individualistic trait. The primary purposes of social computing applications, however, are to facilitate collective action and social interaction among users (Parameswaran & Whinston 2007). Blogging is a social activity, a form of social communication in which the blogger and audience are intimately related through the writing and reading of blogs (Nardi et al. 2004b). Therefore, how people treat their relationships with others should be a major determinant of blogging.

How people perceive themselves and their relationships with others is a cultural phenomenon that can be described by individualism and collectivism (Hofstede 1980). Individualism and collectivism have also been found to relate to self-efficacy, the belief in one’s capabilities to perform a specific action (Earley 1994, Earley et al. 1999). The purpose of this study is to explore the impacts of individualism-collectivism and self-efficacy beliefs on blogging. Results from this study can help explain why blogging is so widely accepted and can also help us understand the nature of social computing as a cultural phenomenon.

2 LITERATURE REVIEW

2.1 Individualism-Collectivism

Individualism-collectivism has been a main construct in culture study since Hofstede’s work in 1980. According to Hofstede’s definition, “individualism pertains to societies in which the ties between individuals are loose and everyone is expected to look after himself or herself and his or her immediate family.” On the other hand, “collectivism pertains to societies in which people from birth onwards are integrated into strong, cohesive in-groups, which throughout people’s lifetime continue to protect them in exchange for unquestioning loyalty” (Hofstede 1991). Although Hofstede’s work was primarily concerned with cultural differences, subsequent researchers have applied individualism and collectivism at the individual level as well. Individualism gives priority to an individual and stresses autonomy, whereas collectivism gives priority to an in-group and stresses conformity (Takano & Osaka 1999). Triandis et al. (1985) proposed using idiocentrism and allocentrism to refer to the individual-level individualism-collectivism. Idiocentrics view the self as being separate from others, are concerned with personal achievement, and give priority to personal goals over the goals of collectives. Conversely, allocentrics view the self as embedded in social contexts. They are concerned with interpersonal harmony; when they make distinctions between personal and collective
goals, they subordinate their personal goals to the collective goals (Chen et al. 2007). Similarly, Markus and Kitayama (1991) delineated independent and interdependent as two general “cultural self-schemata”. The independent view conceptualizes one’s self as an autonomous, independent person and it is assumed that, on average, more individuals in Western cultures hold this view than individuals in non-Western cultures. The interdependent view of self characterizes one’s relationship with others not as separate from the social context, but as more connected and less differentiated from others. The interdependent view is exemplified in Japanese culture, as well as in other Asian cultures.

Individualism-collectivism is defined and measured as either a one-dimensional or multi-dimensional construct. The one-dimensional model is consistent with the measurements Hofstede explained in 1980 (Yamaguchi et al. 1995). On the other hand, individualism-collectivism can also be modelled as a multi-dimensional construct (Triandis et al. 1988). Triandis et al. (1986) defined and measured individualism-collectivism by family integrity, interdependence with sociability, separation from in-groups, and self-reliance. The first two represent collectivism, and the last two individualism. Hui (1988) developed an individualism-collectivism scale based on the assumption that collectivism is target-specific. The scale was comprised of six subscales that measured these target-specific collectivisms. Singelis et al. (1995) argued that both individualism and collectivism might be horizontal or vertical. The horizontal patterns assume that one self is more or less like every other self. In contrast, vertical patterns consist of hierarchies, and one self is different from other selves. The ways in which these relative emphases combine with individualism and collectivism produce four distinct patterns. Triandis & Gelfand (1998) modified the original version suggested by Singelis et al. (1995).

Wagner (1995) integrated previous studies and conducted a factor analysis to explore the structure of individualism-collectivism. He produced a model of five factors that concerned personal independence and self-reliance, the importance accorded to competitive success, the value attached to working alone, the espousal of norms about the subordination of personal needs to group interests, and the beliefs about the detrimental effects of pursuit of personal goals over group goals. These five factors were termed as beliefs in self-reliance, competitiveness, solitary work preferences, supremacy of group interest, and supremacy of group goals by Ramamoorthy & Carroll (1998).

2.2 Self-efficacy

Self-efficacy is the belief in one’s capabilities to organize and execute the course of action required to manage a prospective situation (Bandura 1995). Efficacy beliefs play a key role in the self-regulation of motivation. People motivate themselves and guide their actions anticipatorily by exercising forethought. They form beliefs about what they can do, anticipate likely outcomes of prospective actions, and set goals for themselves and plan courses of action designed to realize valued futures. Those who have a high sense of efficacy visualize success scenarios that provide positive guides and supports for performance. Pajares & Graham (1999) argued that self-efficacy predicts performances better than any other motivation construct.

Self-efficacy also affects behaviour through affective processes. People’s beliefs in their coping capabilities affect how much stress and depression they experience in threatening or difficult situations, as well as their level of motivation. Perceived self-efficacy to exercise control over stressors plays a central role in anxiety arousal. The selection processes means that people avoid activities and environments they believe exceed their coping capabilities, but they readily undertake challenging activities and select environments they judge themselves capable of managing.

The concept of self-efficacy has been applied in many different situations. With the development of information technology, self-efficacy has been applied to people’s attitudes and behaviours in the use of computers and the Internet. Computer self-efficacy refers to an individual’s perceptions of his or her ability to use computers to accomplish a task (Compeau & Higgins 1995). Some researchers further separate computer self-efficacy into general computer self-efficacy and task-specific computer self-efficacy, because task-specific measures are more reliable and accurate than general measures
Internet self-efficacy has also been distinguished from computer self-efficacy and is defined as the belief that one can successfully perform a distinct set of behaviours required to establish, maintain, and effectively utilize the Internet over and above basic personal computer skills (Eastin & LaRose 2000).

2.3 Blog Self-efficacy

Blog self-efficacy represents an individual’s perceptions of his or her capability to use blogs to accomplish specific tasks. Previous studies argued that documenting one’s life, providing commentary and opinions, expressing deeply felt emotions, articulating ideas through writing, and forming and maintaining community forums are five major motivations for blogging (Nardi et al. 2004). Self-efficacy theory proposes that self-efficacy judgments are relatively task specific. Therefore, we summarize the purposes for blogging into three specific tasks and propose a three-component model of blog self-efficacy.

2.3.1 Self-Presentation

Presenting one’s self is a major motivation that drives individuals to create and maintain blogs (Dominick 1999, Jung, Youn & McClung 2007, Nardi et al. 2004, Schau & Gilly 2003). Self-presentation is a goal-directed activity of controlling information to influence the impressions formed by an audience about oneself (Schlenker & Wowra 2003). Self-presentational tactics form an integral part of the social interaction process (Schlenker 1975). People communicate their identity to others by means of signs, symbols, and embodied representations and experiences such as dress, appearance, body posture, sport behaviours, etc (Brewer 1998, Schlenker 1975, Conroy et al. 2000).

People may not be able to present the ideal values that they aspire to have in their real life. Web sites, however, give them greater freedom to express their identities through the construction of a digital self, projection of a digital likeness, digital association, and reorganizing linear narrative structures (Schau & Gilly 2003). Bloggers’ motivations of advocacy, a desire for professional or personal self-promotion, a fulfilment of a fantasy, and expression of opinions or emotions, may all relate to the task of self-presentation. People who believe they can control presented information and perfectly project their desired impression in cyberspace will be more likely to construct blogs.

2.3.2 Information Contribution

Some people use weblogs to express their opinions or post useful information by integrating other authors’ views, relevant links, or personal experience on topics that they think worth discussing (Nardi et al., 2004). Knowledge in a virtual space can be considered a public good, owned and maintained by a community (Wasko & Faraj 2000). Exception for one’s self-interest, people may contribute information or knowledge to the community for the expected enjoyment in helping others, the expected community welfare, and expected moral obligation (Batson 1994). Previous studies have shown altruism as one major factor driving people to contribute information and knowledge on the Internet (Davenport & Prusak 1998, Wasko & Faraj 2005). Knowledge exchange is also motivated by moral obligation and community interest (Ardivivili et al. 2003, Wasko & Faraj 2000). Although altruism and community interest can explain why people are willing to provide information to others, people have to believe that blogs can contribute worthwhile information and can really help others in order for them to expend effort on blogging (Kalman, 1999).

2.3.3 Relationship Establishment/Maintenance

Some people use weblogs to make friends with strangers or maintain connections to relatives and friends. Bloggers can post photos and articles to inform their long-distance relatives and friends of their daily life events (Schau & Gilly 2003). Really Simple Syndication (RSS) further helps readers
get new information updated on the weblogs in time. Interactions across weblogs may also emerge when a weblog post triggers feedback from others, either through comments to the original post or replies in other weblogs linked to it (Efimova et al., 2005). Therefore, blogging is frequently characterized as socially interactive and community-like in nature and building a social network strongly motivates some bloggers in relevant studies (Nardi et al. 2004). Differing from traditional online communities such as chat rooms or bulletin board systems, however, blog communities emerge from connections between weblogs and their authors often do not have a shared space, clear boundaries, or clear membership; people interact with others in a more relaxed and undemanding way (Efimova et al. 2005).

3 RESEARCH FRAMEWORK

Blogs are social tools that connect people. Therefore, people’s treatment of their relationships with others should be a major determinant of blogging. Individualism-collectivism is a major construct in culture studies that describes how people perceive themselves and their relationships with others; however, the meanings and impacts of individualism-collectivism are still controversial. Collectivism can be defined as a person’s concern about the effects of actions or decisions on others, sharing material benefits, sharing nonmaterial resources, a person’s willingness to accept the opinions and views of others, concern about self-presentation and loss of face, belief in the correspondence of one’s own outcomes with the outcomes of others, and feeling involvement in and contribution to the lives of others (Hui and Triandis 1986). These features of collectivism create a more positive attitude toward blogging, creating more blogging activity.

On the other hand, previous studies have also argued that autonomy and independence, both features of individualism, are necessary conditions for the development of interpersonal cooperation and social solidarity (Allik & Realo 2004). Collectivists had longer and fewer interactions with fewer people, while individualists had shorter but more interactions with more people (Wheeler et al. 1989). People in individualistic cultures tend to have more acquaintances and friends (Triandis 2000); they are more extraverted and open to new experiences (McCrae 2001). Blogging is an autonomous activity that allows people to establish weak ties with a large number of known or unknown people (Constant et al. 1996, Cummings et al. 2002). Accordingly, individualists may like to blog in order to connect with people beyond their immediate group. It is not clear whether individualists or collectivists have a more positive attitude toward blogging; however, for the exploratory purpose of this study, we propose the following hypothesis:

H1: Individualism-collectivism orientation affects people’s attitudes toward blogging, thereby affecting their blogging behaviour.

Individualism-collectivism may also influence blogging through the impact on the perceived self-efficacy of blogging. According to blogging purposes, blog self-efficacy can be divided into self-presentation, information, and relationship establishment/maintenance self-efficacy. People’s cultural values may influence their self-efficacy beliefs because of the sources they use to shape efficacy (Bandura 1995, Triandis 1989). People from individualistic cultures feel most efficacious and perform best under an individual oriented system, whereas those from collectivistic cultures judge themselves most efficacious and work most productively under a group-oriented system (Bandura 2001). Blogging is primarily an individual activity. People have to believe in and rely on their own capabilities to construct their blogs. Since self-reliance is a feature of individualism, individualists may possess a higher blog self-efficacy.

The most effective way to create a strong sense of efficacy, however, is through mastery experiences (Bandura 1982). If as suggested by Hui & Triandis (1986), that collectivism tends to be concerned with the effects of actions or decisions on others, sharing nonmaterial resources, willingness to accept the opinions and views of others, concern about self-presentation and loss of face, and involvement in and contribution to the lives of others, collectivists may be more familiar with the tasks of self-
presentation, information contribution, and relationship establishment/maintenance. The self-efficacy belief is a major determinant of human behavior. Although we are not sure of the impacts of individualism-collectivism on blog self-efficacy, we propose the following hypothesis to test the mediation role of blog self-efficacy:

H2: Individualism-collectivism orientation affects people’s attitudes toward blogging through the mediation of blog self-efficacy.

Since the impacts of individualism-collectivism are unclear, in order to explore the impacts of its different components, we used the five-factor model proposed by Wagner (1995) to operationally define individualism-collectivism. The five factors were named as suggested by Ramamoorthy & Carroll (1998). Finally, the research framework of this study is shown in Figure 1.

4 RESEARCH METHOD

We gave bloggers an online survey to test the proposed hypotheses. As suggested by Marakas (2007), we developed measurements of blog self-efficacy closely aligned to the tasks and applications under study. The self-presentation blog self-efficacy was defined as individuals’ beliefs that they can successfully present their desired impression to others through a blog. Based on the descriptions in Schau & Gilly’s study (2003), five items measuring self-presentation self-efficacy were developed in this study. Information self-efficacy refers to an individual’s belief that the information he or she presents on a blog would be helpful to others. Five items measuring information self-efficacy were revised from Kalman’s study (1999). Relationship self-efficacy refers to a person’s belief that he or she is able to establish relationships with strangers or maintain relationships with acquaintances through blogging. It is comprised of relationship-establishment and relationship-maintenance self-efficacy; five and four items measure each, respectively. The measures were developed based on previous studies on the community-like nature of weblogs (Nardi et al. 2004, Schau & Gilly 2003). The items measuring blog self-efficacy were all in a 7-point Likert-type scale.

Individualism-collectivism was measured using Wagner’s 20 items (1995). Four items measuring attitude were revised from the scale provided in Agarwal & Prasad’s (1999) study. Finally, the behaviours were measured by asking bloggers about the time they spent on blogging and the frequency of updating their weblogs. After a draft of the instrument was developed, 12 people were invited to examine the fluency of items’ statements and correct phases that might lead to misunderstandings. An online pretest was initiated by inviting 117 bloggers by email or by commenting on their web pages. Some items were revised after the pretest.
We systematically sampled subjects from three major blog service providers in Taiwan. First, we chose 24 subcategories from the five major topic categories in these blog service providers. Then, the preceding 50 weblogs in every subcategory, which are arranged randomly or by the last updated date, were chosen and the bloggers were informed by either email or comment on their weblogs; 1200 invitations were sent in total. The survey was conducted via an online questionnaire for four weeks. A drawing for gift certificates to a department store and movie tickets were offered as an incentive for respondents. Respondents were asked about the time they spent on blogging and their posting frequency during their most frequent and present period. We used these two pairs of questions as the criteria for a valid response that the answer to the most frequent period must be larger than or equal to the present period. In the end, 333 responses were received and 282 were valid.

5 RESULTS

Since some measurements were developed in this study, we first conducted a principal component analysis to examine the factor structure of our data. One item in self-presentation self-efficacy and individualism-collectivism, and two items in information self-efficacy and attitude, were dropped because these items were not loaded in predicted factors. We then used confirmatory factor analysis to test the reliability and validity of our measurements. Results show that the fit between the data and the measurement model is acceptable ($\chi^2 = 1220.42$, df = 685, $\chi^2$/df = 1.78, RMSEA = 0.053, NFI = 0.89, NNFI = 0.94, CF1 = 0.95, SRMS = 0.063). All the t-values from the item loading were significant. Also, the composite reliabilities of all constructs were larger than 0.7. The average variance extracted (AVE) of most constructs were larger than 0.5, except for the self-reliance AVE, which was 0.41. Additionally, the results of significant chi-square difference tests provide evidence of discriminant validity for our measurements (Anderson & Gerbing 1988). The final items and measurement model are show in the appendix.

We used nested structured equation modeling to test our framework with the mediation hypothesis. A partial mediation model, as illustrated in Figure 1, was tested and showed a moderate fit ($\chi^2 = 1429.81$, df = 700, $\chi^2$/df = 2.04, RMSEA = 0.061, NFI = 0.88, NNFI = 0.92, CF1 = 0.93, SRMS = 0.068). Then we tested a full mediation model, in which the five paths from individualism-collectivism to attitude in the partial mediation model were dropped. The results also showed a moderate fit with data ($\chi^2 = 1430.30$, df = 705, $\chi^2$/df = 2.03, RMSEA = 0.061, NFI = 0.88, NNFI = 0.92, CF1 = 0.93, SRMS = 0.068). The chi-square difference test showed that the difference between the two models was insignificant, indicating the impacts of individualism-collectivism on attitude are fully mediated by their impacts on blog self-efficacy. Besides, all five paths dropped from the partial mediation model were insignificant. The results of the full mediation model are summarized in Table 1.

Table 1 shows that most of the paths in the model are significant. Both Hypotheses 1 and 2 are basically supported. People’s individualism-collectivism orientation affects blogging through the impacts on the beliefs of blog self-efficacy, and then on their attitudes toward blogging. The impact of relationship establishment self-efficacy on attitude, however, is insignificant, suggesting that making friends with strangers may not be a reason for blogging for most people. On the other hand, trying to create a desirable impression, helping others by providing useful information, and maintaining relationships with friends are likely to be the major reasons for blogging.

Except for the impact of supremacy of individual goals on self-presentation self-efficacy, all other impacts of individualism-collectivism orientation on blog self-efficacy are significant. Self-reliance and supremacy of individual goals positively affect blog self-efficacy, and then positively affect attitudes toward blogging; competitiveness, solitary work preference, and supremacy of individual interests create negative effects. Among the components of individualism-collectivism, self-reliance is a major factor that motivates blogging, and solitary work preference is a major factor that discourages blogging.
### Table 1. Summary of the full mediation model

<table>
<thead>
<tr>
<th></th>
<th>Self-presentation SE</th>
<th>Information SE</th>
<th>Relationship establish SE</th>
<th>Relationship maintenance SE</th>
<th>Attitude</th>
<th>Blogging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-reliance</td>
<td>2.80**</td>
<td>2.81**</td>
<td>3.24**</td>
<td>1.55**</td>
<td>2.26**</td>
<td>1.58**</td>
</tr>
<tr>
<td>Competitiveness</td>
<td>-1.27**</td>
<td>-1.22**</td>
<td>-1.50**</td>
<td>-0.82**</td>
<td>-1.03**</td>
<td>-0.72**</td>
</tr>
<tr>
<td>Solitary work preference</td>
<td>-2.27**</td>
<td>-2.32**</td>
<td>-2.78**</td>
<td>-1.38**</td>
<td>-1.87**</td>
<td>-1.30**</td>
</tr>
<tr>
<td>Supremacy of individual goals</td>
<td>0.51</td>
<td>0.58**</td>
<td>0.80**</td>
<td>0.38**</td>
<td>0.45**</td>
<td>0.32**</td>
</tr>
<tr>
<td>Supremacy of individual interests</td>
<td>-0.93**</td>
<td>-0.80**</td>
<td>-0.92**</td>
<td>-0.59**</td>
<td>-0.72**</td>
<td>-0.50**</td>
</tr>
<tr>
<td>Self-presentation SE</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.39**</td>
<td>0.27**</td>
</tr>
<tr>
<td>Information SE</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.30**</td>
<td>0.21**</td>
</tr>
<tr>
<td>Relationship establish SE</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.02</td>
<td>0.01</td>
</tr>
<tr>
<td>Relationship maintenance SE</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.17**</td>
<td>0.12**</td>
</tr>
<tr>
<td>Attitude</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.70**</td>
</tr>
</tbody>
</table>

\[
R^2 = 0.66** 0.64** 0.82** 0.23** 0.41** 0.20**
\]

*a*, *b*: Numbers in the white area are path coefficients (direct effects); numbers in the gray area are total effects. Both are standardized coefficient.

**p<0.05

### 6 CONCLUSIONS

This study examined the impacts of individualistic and collectivistic orientation on perceived self-efficacy in blogging, and then on the attitudes toward blogging and blogging behaviour. We used the five-component model proposed by Wagner (1995) to define individualism-collectivism orientation; however, the impacts of these five components differ. The results show that self-reliance and supremacy of individual goals increases blogging, but competitiveness, solitary work preference, and supremacy of individual interests decreases it. These results suggest that although bloggers tend to be people who believe in their own ability and believe their personal goals are more important than group goals, they may also believe that it is important to work with others to achieve the goals. Therefore, they may believe that cooperation is more important than competition and that group interests are important if they really want to work with others.

The impacts of the components of individualism-collectivism differ when defined in a traditional view. This suggests that a new cultural value may be emerging among active users in cyberspace. Culture is a socially cultivated phenomenon; a modern view of individualism versus collectivism may not exist in traditional society (Allik & Realo 2004). The Internet initially reflected the collective nature that it was born and bred in an atmosphere of sharing and cooperation (Johnston & Johal 1999). Besides, it has empowered people so that individuals can write and work for themselves instead of working for an organization, and allowed individuals to publish their works directly, without being controlled by publishing companies. New information and communication technology has redefined relationships between people. In order to fully realize the potential benefits of this technology, except for some literacy skills for the Internet, we may also need a new value that emphasizes self-reliance and personal goals, along with cooperation and group interests.

This study also found that individualism-collectivism orientation affected attitudes toward blogging and blogging through the mediation of beliefs in self-efficacy. Self-presentation self-efficacy, information self-efficacy, and relationship maintenance self-efficacy in blogging were all important determinants of blogging; however, the impact of relationship establishment self-efficacy was not significant. This result suggests that although some people may find friends through their blogs, making friends with strangers may not be a major motivation for people to build their blogs in the first place.

It should be noted that the samples in this study were not random. Subjects whose weblog was most recently updated were invited to participate. Those who update their weblog often were more likely to be selected. Additionally, whether the subjects answered the invitation may also relate to how they...
treat their relationships with others, therefore biasing the findings of this study. Finally, individualism-collectivism was used to describe national cultures at the beginning of this paper. This study was conducted in a Chinese society; it may need to be replicated with other cultural backgrounds to test if the cultural orientation of bloggers is universal.

References


Appendix: Measurement items and the result of CFA

**Self-presentation self efficacy** (AVE: .59; reliability: .85)
1. I have confidence in presenting the ideal impression that I want it to be in my blog. /.78*
2. I possess the power of decision on the characteristics that I selectively want to show the readers. / .64 (10.57)*
3. I have confidence in representing personal impression effectively by using pictures, writing, music, or video in my blog. / .85 (14.44)
4. In my blog, it is very easy for me to present the impressions that I want to present. / .78 (13.20)

**Information self-efficacy** (AVE: .58; reliability: .80)
1. I have confidence in my ability to provide information which readers think as valuable in my blog. / .80
2. I am proud of the useful information I am able to provide in my blog. / .78 (12.73)
3. I have all the skills needed to provide outstanding optional information in my blog. / .69 (11.26)

**Relationship establish self-efficacy** (AVE: .54; reliability: .85)
1. I have confidence in my ability to know the readers who have the same interests with me through my weblog. / .78
2. It is difficult for me to establish relationship with strangers through my blog. / .51 (8.43)
3. I believe that I can link to others' blogs through the cites by readers of my weblog, and further make more friends of the same interests. / .79 (13.81)
4. It seems that I belong to a group in which members have the same interests through the hyperlinks across weblogs. / .74 (12.67)
5. I am confident in my ability to let many people know me through the articles or photos posted in my blog. / .80 (13.86)

**Relationship maintenance self-efficacy** (AVE: .65; reliability: .88)
1. I am confident that I can let relatives and friends know what happens to me in my daily life after they read my weblog. / .79
2. I am confident that I can maintain the affection with relatives and friends through my weblog. / .95 (18.55)
3. The use of blogs can improve the understanding of me for my friends and relatives. / .93 (18.34)
4. I think that I cannot maintain close relationships with relatives and friends through posting articles or photos on my weblog. /46 (7.81)

Self-reliance (AVE: .41; reliability: .77)
1. Only those who depend on themselves get ahead in life. /56
2. To be superior a person must stand alone. /70 (8.22)
3. If you want something done right, you’ve got to do it yourself. /80 (8.76)
4. What happens to me is my own doing. /55 (7.06)
5. In the long run the only person you can count on is yourself. /56 (7.14)

Competitiveness (AVE: .54; reliability: .85)
1. Winning is everything. /70
2. I feel that winning is important in both work and games. /78 (11.94)
3. Success is the most important thing in life. /87 (12.90)
4. It annoys me when other people perform better than I do. /49 (7.67)
5. Doing your best isn’t enough; it is important to win. /79 (11.95)

Solitary work preference (AVE: .51; reliability: .75)
1. I prefer to work with others in a group rather than working alone. /83
2. Given the choice, I would rather do a job where I can work alone rather than doing a job where I have to work with others in a group. /54 (7.78)
3. Working with a group is better than working alone. /74 (9.24)

Supremacy of individual goals (AVE: .62; reliability: .82)
1. People should be made aware that if they are going to be part of a group then they are sometimes going to have to do things they don’t want to do. /85
2. People who belong to a group should realize that they’re not always going to get what they personally want. /86 (12.88)
3. People in a group should realize that they sometimes are going to have to make sacrifices for the sake of the group as a whole. /62 (10.26)

Supremacy of individual interests (AVE: .60; reliability: .81)
1. A group is more productive when its members do what they want to do rather than what the group wants them to do. /62
2. A group is most efficient when its members do what they think is best rather than doing what the group wants them to do. /98 (9.64)
3. A group is more productive when its members follow their own interests and concerns. /67 (9.76)

Attitude toward blog (AVE: .62; reliability: .77)
1. I like posting articles or photos on my blog very much. /80
2. It is fun for me to establishing my own blog. /78 (12.78)

Blogging behaviour (AVE: .53; reliability: .77)
1. How long has it been since you opened up your blog? /67
2. During the period when you take most time and efforts on your blog, how many hours in a week did you spend (include post articles, read and give feedback on the messages your readers gave)? /79 (10.04)
3. During the period when you take most time and efforts on your blog, how often did you post up a new article or photo? /72 (9.56)

*: standardized factor loading.
+: standardized factor loading (t value).