

## PERSONALITY, SOCIAL NETWORK SITES, AND LEISURE ACTIVITIES – A CONCEPTUAL EXPLORATION

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### ABSTRACT

Facebook, a social network site, has been experiencing a tremendous rate of growth, and today it has more than 500 million active users worldwide. Researchers have started to investigate use of Facebook and its possible impacts on our social lives. The purpose of this research is to explore possible relationships between personality, social network sites usage, and leisure activities. A conceptual model about the possible relationships was proposed. A survey is in the process of development and the authors hope possible findings can improve our understandings of interactions between personality, use of social network sites, and leisure activities.

**Keywords:** Personality, Social network sites, Facebook, Leisure Activities

### I. INTRODUCTION

The evolution of web applications has been continuing with a very fast pace of change since the introduction of Mosaic in 1991, and it evolved into the first commercial web browser called Netscape. With Netscape, individuals and businesses have started to create personal and business websites to make sure that people can find their presence on the web. In 1994, two Stanford Ph.D. students Jerry Yang and David Filo gave birth to Yahoo, the very first search engine of the web sites. A decade later, in the Web 2.0 era, some web applications such as blogging, wikis, and social networking have caught people's interest of creating and sharing information over the Internet. The number of users that signed up for social networking sites has been growing at an amazing speed. For instance, the most popular social network site Facebook had around 1.2 million active users in 2006, but today it has more than 500 million active users worldwide with 70 different language versions, and 70% of users live outside of the USA.

People have used their leisure time for various leisure activities, and some researchers have considered Internet usage including social networking sites as one type of leisure activities.

Obviously, the time spent on Internet will decrease the time available for other leisure activities. In addition, personality may have some impacts on social networking site usage and leisure activities.

Some researchers have investigated possible relationship between personality and social networking, or personality and leisure activity, but there is no research about possible relationship between personality, social network sites usage and leisure activities. Hence, the purpose of this research is to investigate possible relationships between personality, social networking site usage, and leisure activities.

### II. RESEARCH BACKGROUND

#### 1. Social Network Sites

A social network includes people or organizations that are linked with some common interests or value [13], [27], [39]. The traditional social network focuses on face-to-face relationships, but with recent development in virtual communities, the focus has been shifted to online relationships.

A social network site can be defined as a web-based service within a bounded system that allows users to create a public or semi-public profile, to share a connection with a defined group of friends, and to view and traverse their list of connections [4]. Social network sites allow individuals to meet with strangers with similar interests, but also allow individuals to make their social network visible [17]. To join a social network site, an individual has to answer a series of questions and the answers were used to generate an individual's profile. User profiles with demographic data, relational data, and extraordinary rate of increase, have created a fertile and attractive source of data for researchers [4], [33].

The EDUCAUSE Center of Applied Research has been conducting annual survey on undergraduate students' use of information technology and has made its annual research study available since 2004. The 2010 research study [44], indicates that the number of respondents' use of social network sites has increased from 81.6% in 2007 to 90.4% in 2010. The social

network sites include Facebook, MySpace, LinkedIn, Flickr, Classmates, myYearbook, Tagged, Bebo and the Facebook is the most popular site with 96.6% of respondents, and MySpace is the second one with 22.5% of respondents. According to the survey, the majority of respondents used social network sites for (1) staying in touch with friends (96%), (2) sharing photos, music, videos, or other work (72.1%), (3) Finding out more about people (52.6%), (4) communicating with classmates about course-related topics (51.5%), and (5) planning or inviting people to events (50.4%). The percentage of students who use social network sites on a daily basis has increased from 32.8% in 2006 to 59.3% in 2010, and the percentage of students who has never used social network sites has decreased from 25.2% in 2006 to 9.6% in 2010.

Facebook has been experiencing a tremendous rate of growth. In the U.S. the number of users has increased from 56.8 million in April, 2009 to 154.2 million in April, 2011 (171.6% increase), and in Asia, the number of uses has been increasing at an astonishing rate (Taiwan, 4305%, Thailand, 2959.39%; South Korea, 2599.06%). In 2006, the estimated number of Facebook users was around 1.2 million but there are more than 500 million of active users worldwide in 2010, with 70% of active users are outside of the United States, an average user has 130 friends, and people spend over 700 billion minutes per month on Facebook [11].

Obviously, the increasing popularity of social network sites has some impacts on our social lives [2], such as friendship, information sharing, and leisure activities and the huge number of users' data has attracted researchers' interests about possible impacts of Facebook on our social lives. Ross et al. [41] conducted a survey about the influence of personality and competence factors on Facebook use. They found that the majority of the respondents (79%) used Facebook daily for 10 to 60 minutes and different personality types did use different aspects of Facebook. For instance, people with high extraversion personality were found to join more groups than people with low extraversion personality, and people with high neuroticism personality liked to use the Facebook's Wall, but people with low neuroticism personality preferred posting photos. People with openness liked to be socialable on Facebook.

Hew [19] reviewed current published research studies on students' and teachers' use of Facebook, and found nine motives of using Facebook: (1) to maintain existing relationships,

(2) to meet new people, (3) using Facebook is cool, (4) to make oneself popular, (5) to pass time, (6) to express one present oneself, (7) for learning purpose, (8) as task management tool, and (9) for student activism. Most students did not use the Facebook for educational purpose. The finding is similar to the 2010 ECAR's report on undergraduate students and information technology [44]. On average, students spent about 10 to 60 minutes daily, and the majority had about 200 to 350 friends.

Kirschner and Karpinski [29] studied possible negative impacts of Facebook on academic performance. Their research collected data about hours of Facebook use, number of groups and applications used, GPA, hours of studying, and extracurricular activities. They found that Facebook users reported lower grade and less hours of studying than non-users did and Facebook users tended to be more involved in extracurricular activities.

Lin and Lu [34] investigated why people use social networking sites and found that enjoyment, the number of peers and usefulness were the main reasons of joining social network sites, and they also found that gender difference has different influences on the number of peers and the number of members.

Pfeil, Arjan and Zaphiris [40] studied MySpace's user profiles and age differences in using MySpace and they found out that teenagers had more friends than the older users, and teenagers had friends in their own age.

## 2. Leisure Activities

Leisure activities are activities that individuals participate during free time. Researchers have been trying to classify leisure activities in various patterns. Some researchers suggested that there is continuity in leisure patterns across the life span [23].

Scott and Willits [43] conduct a survey about adolescent and adult leisure patterns in 1947, and updated their data in 1998 with individuals originally surveyed in 1947. They found that adolescent leisure participation is a good predictor of adult leisure activities. Through their studies, subjects were asked about their participation in five types of leisure activities: (1) socializing with friends or relatives, (2) participating in creative or artistic activities, (3) reading or studying, (4) participating in sports, and (5) participating in fraternal or community organizations.

A questionnaire of 70 activities was developed by Hultsch et al. [21], and these activities were categorized into the following scales: physical, social, self-maintenance, passive information processing, integrative information processing, and novel information processing [22]. The original 70 activities were expanded to 82 activities and 11 activity scales: physical, crafts, games, TV, social-private, social-public, religious, developmental, experiential, technology, and travel [26].

The U.S. Bureau of Labor Statistics has been conducting an annual survey about American time use since 2003, and the data are available from its website. The American Time Use Survey [6] divided the leisure and sports activities into the following scales: (1) participating in sports, exercise and recreation, (2) socializing and communicating, (3) watching TV, (4) reading, (5) relaxing/thinking, (6) playing games and computer use for leisure, and (7) other leisure and sports activities, including travel. According to the 2009 survey, total average leisure and sports time for Americans was around 5 hours per day, which consisted of 2.8 hours watching TV, 38 minutes for socializing and communication, 23 minutes for playing games and using computer for leisure, 20 minutes for reading, 17 minutes for other leisure activities, and 15 minutes for relaxing and thinking.

Japan has a similar survey on time use and leisure activities, but it was surveyed every five year, and the most recent one was the 2006 survey [24]. Japan classified the leisure activities in 6 scales: (1) Internet use, (2) studies and researches, (3) sports, (4) hobbies and amusements, (5) volunteer activities and (6) Travel and excursions.

Brajsa-Zganec et al. [5] studied possible impacts of leisure activities on social well-being of Croatian citizens. They identified 15 leisure activities of Croatian citizens and classified these activities into three leisure scales: (1) active socializing and going out (playing sports, going to cafes, clubs or pubs; attending sport events; and dining in restaurants), (2) visiting cultural events (visiting exhibitions; going to theatres; reading books; attending concerts; going to the movies; going to excursions or field trips; engaging in some particular hobby), and (3) family and home activities (visiting friends and relatives; shopping; going to the church; watching TV). They found that participation in leisure activities had positive effects on individuals' social well-being.

Munson & Widmer [38] studied relationships between leisure behavior and occupational

identity of college students, and they used the following leisure activities: arts and hobbies, games and sports, music, reading, social, thinking, and television. According to their study, students participated in intellectual leisure activities such as thinking, reading were more advanced in occupational identity.

Jopp & Hertzong [26] developed a leisure activity model with 11 types of leisure activities: physical, crafts, games, TV, social-private, social-public, religious, technology use, developmental, experiential and travel.

### 3. Personality

Several personality instruments developed for determining individuals' personality traits or types. Among them, the most commonly used one is the Big Five Factors Model [36]. According to the Big Five model, human personality can be classified into five types: openness, conscientiousness, extraversion, agreeableness, and neuroticism. People with extraversion personality are active, assertive, energetic, enthusiastic, outgoing, and talkative. People with agreeableness personality are appreciative, forgiving, generous, kind and sympathetic, and trusting. People with conscientiousness personality are efficient, organized, planful, reliable, responsible and thorough. People with neuroticism personality are anxious, self-pitying, tense, touchy, unstable, worrying. People with openness personality are artistic, curious, imaginative, insightful, original and wide interests [36].

There have been several instruments for measuring the Big Five Factors. The longest one has 240 items but it takes around 45 minutes to complete [8]. Though it is comprehensive, but may be not suitable for many researches because of possible negative feeling from responders. Researchers have developed several short instruments such as the 60-item NEO five Factor Inventory [8]; 44- item Big-Five Inventory [25], and 100 trait descriptive adjectives [14].

The most recent one is the 10-item personality inventory (TIPI) scales developed by Gosling et al. [15]. The 10-item is suitable for situations when the primary focus of a research is on relationship between personality traits and other constructs [15].

Personality traits can be used to explain personal choices of various leisure activities. However, leisure activities are no longer limited to physical activities, playing online games or using internet are also considered as possible leisure activities.

Therefore, with limited amount of time available for leisure, increasing use of internet or social network sites must have some impacts on the time allocated to other leisure and sports activities. Furthermore, decide how to allocate time among different leisure activities can be resulted from different personality traits.

Lu & Hu [35] conducted a search on the psycINFO about “personality and leisure” but found only a few empirical studies about this issue [12], [20]. Furnham [12] found that people with psychoticism personality liked combative leisure activities. Extraversion people liked competitive leisure activities such as team sports, and people with sensation-seeking personality liked various leisure activities. Hills & Argyle [20] found similar result about people with extraversion personality who liked sports clubs and team sports. People with neuroticism personality would prefer hobbies. Lu & Hu [35] focused on possible relationships between two types of personality, namely, the extraversion and neuroticism, and their choices of leisure activities. They found that extraversion individuals are interested in all leisure activities, but neuroticism individuals have shown little interest in leisure activities.

Jopp & Hertzog [26] investigated possible relationships between personality and leisure activities. They found that people with agreeableness personality tended to dislike crafts, physical activities and developmental activities, but they liked watching TV, religious activities, experiential activities and social-public activities. People with openness personality liked developmental activities and technology use, but disliked religious activities.

There are some researches about possible influences of personality on the use of mass media such as TV, music, TV, internet, blogging, and social network sites [1], [3], [7], [9], [10], [16], [28], [31], [41], [42] and [45].

Amichai-Hamburger [1] suggested that psychologists and web builders have to work together to develop user-friendly web sites based on individual differences.

Amichai-Hamburger and Vinitzky [3] investigated possible relationships between the individual personality and users' behavior on Facebook. Their study found that there was a strong link between personality and Facebook uses. People with extraversion tended to have more friends and groups than people who were not. People with neuroticism tended to be willing to show more personal information and use private messages. People with agreeableness liked

to post more pictures on Facebook. People with openness would use more features of the Facebook. People with conscientiousness tended to have more friends but less pictures loaded in the Facebook

Correa et al. [7] studied relationships between personality and social media use, and found that extraversion and openness people liked to use social media, but neuroticism people disliked using social media.

Ebeling-White et al. [9] found people with shyness or neuroticism personality preferred talking and making friends online. A similar study done by Ehrenber et al. [10] also found that neuroticism people liked to use instant messaging.

Kraaykamp & Eijck [28] found that the Big Five personality factors have different impacts on media preferences and cultural participation. People with openness disliked less challenging activities such as reading romantic fiction or watching soap operas, but people with agreeableness, conscientiousness, and neuroticism liked these activities.

Guadagno et al. [16] found that people with openness and neuroticism tend to be bloggers.

Landers & Lounsbury [31] investigated relationships between Big five personality and Internet usage. They found people with agreeableness, conscientiousness, and extraversion disliked Internet usage.

Tosun & Lajunen [45] studied possible relationship between personality and internet use, and found that psychoticism individuals tend to use the Internet as a substitution for face-to-face communication, but extraverted people would use the Internet as an extension of social connection.

Ryan & Xenos [42] investigated possible relationship between the Big Five personalities and Facebook usage, and found that Facebook users are likely to be extraverted, but less conscientious.

These researches supported possible relationships exist between personality and leisure activities, and between personality and social network sites, so there might be some relationships between leisure activities and social network sites. However, the authors conducted a search on the ScienceDirect database using “personality, leisure activity, social network” as key words and found no articles. After changing the key words to “personality, leisure, Internet”, there were two

matched articles. One article [32] studied possible impact of Internet activities and leisure activities on quality of life, and suggested that use of Internet for sociability would decrease the quality of life, but participating in community or religious activities for leisure would improve the quality of life, but the study does not investigate possible relationships between use of Internet and community activities. The other article [46] investigated the relationship between loneliness and the use of Internet for entertainment, and found that lonely people tend to use Internet for entertainment or getting information about the entertainment world, but people with high Internet self-efficacy would use Internet for entertainment or facilitating off-line entertainment.

Mokhtarian et al. [37] did a conceptual exploration on the impacts of ICT (information and communication technology) on leisure activities and travel, and suggested that a traditional leisure activity may be replaced by an ICT activity.

In summary, though there are evidences of relationships between personality and use of social network sites, and between personality and leisure activities, but there is no research about possible relationships among personality, leisure activities and social network sites.

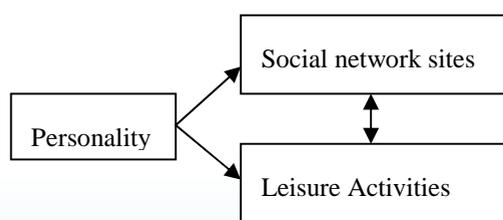
### III. RESEARCH PROPOSAL

#### 1. Research questions

This study examines possible relationships between personality and use of social network sites, personality and leisure activities, and use of social network sites and leisure activities. The specific research questions are as follows:

1. Will different personality traits influence individuals' use of social network sites?
2. Will different personality traits influence individuals' choices of leisure activities?
3. Will use of social network sites influence choices of leisure activities or choices of leisure activities influence use of social network sites?

Figure 1 Research model



#### 2. Research instruments

In addition to data related to personality, leisure activities and use of social network sites, demographic data such as age, gender, income, and education will be collected.

Personality data will be collected with the TIPI (Ten-Item Personality Inventory) instrument [15] to avoid negative feeling of using lengthy instrument. It will be used to assess personality with Big five traits of Openness (open to new experiences, complex vs. conventional, uncreative), Conscientiousness (dependable, self-disciplined vs. disorganized, careless), Extraversion (extraverted, enthusiastic vs. reserved, quite), Agreeableness (sympathetic, warm vs. critical, quarrelsome), and Neuroticism (anxious, easily upset vs. calm, emotionally stable). The instrument uses a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

To measure the leisure activities, this research will use the six scales from the American Time Use Survey: (1) participating in sports, exercise and recreation, (2) socializing and communicating, (3) watching TV, (4) reading/thinking, (5) Playing games and computer use for leisure, (6) other leisure and sports activities, including travel. Instead of asking individuals to answer the number of hours used daily for each leisure activity, the research will ask individuals to provide their time of leisure activities with a seven-point Likert scale ranging from 1(less than 10 minutes per day), 2(between 10 to 20 minutes per day), 3(between 21 to 40 minutes per day), 4(between 41 to 60 minutes per day), 5(between 1 to 2 hours per day), 6(between 2 to 4 hours per day), 7(more than 4 hours per day).

Among all social network sites, Facebook has become the number one social network site, so this research will ask individuals about their Facebook usage profile. Ross et al. [41] developed a 28-item Facebook questionnaire with three categories of items including basic uses of Facebook, attitudes toward Facebook, and personal information on Facebook. Ryan and Xenos [42] shortened the questionnaire from 28 questions to 18 questions about frequency of Facebook use, and preferences for different features on Facebook. This research adopted the 18-item questionnaire developed by Ryan and Xenos [42]. The frequency of Facebook will be measured with a seven-point Likert scale ranging from 1(less than 10 minutes per day), 2(between 10 to 20 minutes per day), 3(between 21 to 40 minutes per day), 4(between 41 to 60 minutes per day), 5(between 1 to 2 hours per day), 6(between 2 to 4 hours per day), 7(more than 4 hours per day). The Facebook features include 13 items:

status, wall, comments, news feed, like, messages, photos, groups games, fan pages, events, notes, and chats, and with a 5-point Likert scale ranging from 1(dislike a great deal) to 5(like a great deal).

#### IV. CONCLUSION

This research has reviewed current researches about personality and social network sites, personality and leisure activities, but did not find any research connecting these three variables. The authors proposed a conceptual model with possible relationships among personality, use of social network sites, and leisure activities. The authors are currently developing the questionnaire, and a survey will be conducted in the Fall of 2011. The authors hope that possible findings about the survey can improve our understanding of the impacts of personality on social network sites and leisure activities and the interaction between social network sites and leisure activities.

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