The Relationship Among Tertiary Level EFL Students’ Personality, Online Learning Motivation And Online Learning Satisfaction

Hsiu-Feng SHIH\textsuperscript{a}, Shu-Hui Eileen CHEN\textsuperscript{b}, Shu-Chu CHEN\textsuperscript{c}\textsuperscript{*}, Shyh-Chyi WEY\textsuperscript{d}

\textsuperscript{a}Department of Applied Foreign Languages, National Yunlin University of Science and Technology, Yunlin, Taiwan, R.O.C.
\textsuperscript{b}Department of Children English Education, National Taipei University of Education Taipei City 106, Taiwan
\textsuperscript{c}\textsuperscript{*}Department of Applied Foreign Languages, National Yunlin University of Science and Technology, Yunlin, Taiwan, R.O.C.
\textsuperscript{d}Department of Applied Foreign Languages, National Yunlin University of Science and Technology, Yunlin, Taiwan, R.O.C.

Abstract

The paper investigated the relationship among 153 tertiary level EFL students’ Big Five personality traits, online learning motivation and online learning satisfaction in a digital English learning environment. Participants completed questionnaires regarding the Big Five personality traits, online learning motivation and satisfaction. Results revealed that personality traits were correlated with online satisfaction, and that extraversion and conscientiousness were the two important traits among the Big Five in predicting motivation and satisfaction. Motivation was a strong predictor of satisfaction. Five constructs of motivation, including escape, social contact, desire to learn, self-development and academic progress, were significantly related to satisfaction.

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Selection and peer-review under responsibility of The Association of Science, Education and Technology-TASET, Sakarya Universitesi, Turkey.

Keywords: Personality; online learning motivation; online learning satisfaction

* Shu-Chu Chen. Tel.: +886-5-5342601; fax: +886-5- 5312036.
E-mail address: chensc@yuntech.edu.tw
1. INTRODUCTION

Application of online learning technology not only enhances teaching effectiveness but also makes up for the inadequacies of traditional education. In other words, online learning provides a facilitative environment where students could engage in learning. It allows students’ repeated exposure to the learning activities at their own pace and learning sites are not limited to physical classrooms. Students can engage in their individual learning and their learning styles are changed from the passive acceptance to more active self-oriented learning. In colleges and universities across many countries, online courses continue to enhance their presence in the schedules of undergraduate and graduate students, and many studies have been conducted to evaluate students’ online learning programs and satisfaction. While some of the online learning studies focused on the development of technology acceptance model (Jung, Loria, Mostaghel, & Saha, 2008; Masrom, 2007), others focused on online learning satisfaction, a key factor that determines the success or failure of online programs in this competitive global environment (Dziuban, Moskal, Brophy-Ellison, & Shea, 2007).

2. LITERATURE

2.1. Factors related to learners’ online learning satisfaction

Studies have been conducted to investigate factors related to learners’ online satisfaction. Based on 1,056 participants’ responses, Muijenburg and Berge (2005) identified factors that explained student difficulties to online learning. It included barriers related to administrators and instructors control, obstacles to online learning caused by a lack of interaction, obstacles to online learning caused by a lack of academic skills, obstacles to online learning caused by a lack of technical skills, factors related to learner motivation, factors related to time and support for studies, factors related to cost and access to the Internet, obstacles caused by technical problems (Mulienburg & Berge 2005). Similarly, Sun, Tsai, Finger, Chen, and Yeh (2008) identified seven factors that influenced online learners’ satisfaction based on 295 responses from students enrolled in 16 different online learning courses. They were computer anxiety, instructor attitude, course flexibility, course quality, perceived usefulness, perceived ease of use, and diversity of assessment.

Other scholars also have found that learners’ on-line learning satisfaction was affected by factors like learners’ technology acceptance behaviors, learners’ experience in online learning, quality of institutional support, academic environment, and instructional interaction (Biner, Dean, Mellinger, 1994; Changhit, 2007; Chute, Thompson, & Hancock, 1999; Conrad, 2002; Fulford & Zhang, 1993; Palloff & Pratt, 2005; Song, Singleton, Hill, & Koh, 2004; Swan, 2003). For instance, learners who had more experiences in online learning were more likely to be satisfied with learning online, and were less likely to feel anxious about online learning (Arbaugh & Duray, 2002; Conrad, 2002). In addition, the issues of academic environment and instructional interaction also contributed to students’ online learning acceptance and satisfaction in higher education online programs (Artino, 2009; Driver, 2002; Osman & Herring, 2007). However, these perspectives do not account sufficiently for the influence of individual differences in online satisfaction since motivation, a predictor of achievement in academic settings (Chute et al., 1999), and personality, the description of an individual’s pattern of personality interaction with the environment to satisfy needs, both help in understanding why individuals process and respond to the same online learning situations differently. There have been fewer studies of online learning that account for the impact of personality and motivation differences on online learning satisfaction.

2.2 Personality traits

One person’s values and preferences were often reflected in their personality traits. They could explain the occurrences of certain individual behaviors and were regarded as an individual's disposition to particular patterns,
or as enduring dispositions that caused characteristic patterns of interaction with one’s environment (Goldberg, 1993; Olver & Mooradian, 2003). Previous studies had different development and categorization of personality traits (Buss, 1991; Digman, 1990; Funder & Sneed, 1993; Goldberg, 1992; Hogan, 1996; McCrae & Costa, 1997; Sneed, 2002; Sneed, McCrae, & Funder, 1997). Among them, NEO-FFI, developed by Costa and McCrae (1992), consists of 60 items, 12 for the factors of Conscientiousness, Neuroticism, Extraversion, Agreeableness and Openness to Experience. It was the most widely used measure of personality traits and has demonstrated good internal and external validity (Costa & McCrae, 1992).

2.3. The relationship among personality, satisfaction and motivation

In previous studies, most scholars investigated the relationship between personality and work satisfaction (Judge, Higgins, Thoresen, & Barrick, 1999; Organ & Lingl, 1995; Tsai, 2001) and they found individuals with high agreeableness were easy to get along and cooperated with others; when individuals with high agreeableness, they were satisfied with their work. It seemed to support that high agreeableness could predict work satisfaction. Among the few that studied the relationship among personality and learning satisfaction, Morahan-Martin and Schumacher (2003) found lonely people were more likely to be satisfied with their online interactions than were nonlonely people. Similarly, Chou (2002) reported that learners’ learning satisfaction was affected by their personality; specifically Neutricism, Agreeableness, and Extraversion had significant influence on learning satisfaction. Personality influences learners’ learning satisfaction.

In terms of the relationship between personality and motivation, many studies have been conducted to uncover the relationship among the big five and learners’ motivation (Komarraju & Karau, 2005; Meera, Steven, & Karau, 2005; Meera, Steven, Karau, Ronald, & Schmeck, 2009). Personality had a significant influence on their learning motivation; learning motivation in turn had a significant effect on learning satisfaction (Chuang, 2008). For instance, Heaven (1989) reported that achievement motivation was positively correlated with extraversion, and negatively correlated with impulsiveness and psychoticism among high school students. Also, Busato, Prins, Elshout, and Hamaker (1999) reported that conscientious and extraverted students were more achievement oriented and preferred meaning, reproduction, and application directed learning styles. Individuals high in conscientiousness, extraversion, and openness showed the strongest learning goal orientation (Payne, Youngcourt, & Beaubien, 2007), whereas high neuroticism and low extraversion students were most likely to experience a fear of failure and pursued avoidance performance goals. Similarly, Chuang (2008) found undergraduates’ personality had a significant influence on their learning motivation; learning motivation in turn had a significant effect on learning satisfaction.

For the relationship between motivation and online learning satisfaction, it is reported that motivation is an essential prerequisite for learners’ learning in web-based environments (Hoskins & van Hooff, 2005; Song, Singleton, Hill, & Koh, 2004), and the relationship between learning motivation and on-line satisfaction were positively interrelated (Biner, Dean, Mellinger, & Tallman, 1994; Chute, Thompson, & Hancock, 1999; Lim, 2004). A review of these studies showed that there was conflicting findings related to the role of personality and learners’ online satisfaction (Chou, 2002). For instance, Summers, Anderson, Hines, Gelder, and Dean (1996) reported no significant relationship between satisfaction and learners’ personality. On the other hand, Biner, Bink, Huffman, and Dean (1995) investigated 16 personality variables in a web-based instruction and discovered strong relationship between satisfaction and participants’ personality. In addition to the conflicting evidence in previous research, earlier studies focused on the technology dimension of a learning system while ignoring the influence of learners’ affective factors (Jones & Issroff, 2005; Kreijns, Kirschner, & Jochems, 2003; Miltiadou & Savenye, 2003). In order to fill in the gap, the research investigated whether personality and motivation of tertiary level EFL college students were related to online satisfaction in a digital learning environment. The
research questions were as follows: 1. What is the relationship among learners’ Big Five personality traits and their on-line learning motivation? Among the Big five, which factors can predict their online learning motivation? 2. What is the relationship among learners’ Big Five personality traits and their online learning satisfaction? Among the Big five, which factors can predict their online learning satisfaction? 3. What is the relationship between learners’ motivation and their online learning satisfaction? Among the factors of motivation, which factors can predict their online learning satisfaction?

3. METHODOLOGY

3.1. Participants

To ensure the homogeneity of learners’ background, all 153 (116 male and 37 female) tertiary level university freshmen recruited from three classes, participated in this study. College students are appropriate samples for Internet study because they have Internet experience and access to the Internet on and off campus (e.g., Bonebrake, 2002). These students majored in engineering, aged from 18 to 19, and have learned English as a required subject for 10 years at school. Based on their performance of the Mock TOEIC test administered to the participants at the beginning of a semester, the participants scored around 412 on average. The data was collected during the years of 2009 to 2010.

3.2. Instruments

The instruments employed in this study included NEO-FFI personality questionnaire developed by Costa and McCrae (1992), the on-line learning motivation questionnaire by Huang (1985), and online learning satisfaction questionnaire developed by Wu (2003) and Yu (2004). The personality traits were measured by NEO-FFI, developed by Costa and McCrae (1992). NEO-FFI is the most widely used measure of personality traits. This inventory has been proved to reliably assess the Big five personality variables and has demonstrated good internal and external validity (Costa & McCrae, 1992). Participants indicated their degree of agreement with each statement using a 6-point Likert scale ranging from strongly disagree (1) to strongly agree (6). In terms of the reliability of the test, the Cronbach’s $\alpha$ value of the questionnaire was 0.88.

Based on Huang (1985), the 27-item on-line learning motivation questionnaire was developed to evaluate participants’ online motivation in the factors of escape or stimulation, social contact, desire to learn, self-growth, and academic progress. Participants indicated their degree of agreement with each statement using a 6-point Likert scale ranging from strongly disagree (1) to strongly agree (6). With regard to the reliability of the test, the Cronbach’s $\alpha$ values of the five constructs were 0.91, 0.88, 0.85, 0.84, and 0.94 respectively. This confirms that the questionnaire had high reliability.

Adopting the online satisfaction inventory of Wu (2003) and Yu (2005), we measured participants’ online satisfaction in four dimensions: course content, learning outcomes, learning environment and relationship. Participants indicated their levels of agreement with 25 statements on a 6-point Likert scale (1 = strongly disagree, 6 = strongly agree). The reliability of each factor in the questionnaire of online learning satisfaction was 0.86, 0.85, 0.82 and 0.92 respectively.

3.3. Data analysis

To address the research questions, the collected data were analyzed by applying a few statistical measures run by the Statistical Package for Social Sciences (SPSS) 15.0. First, the Pearson product-moment correlation
analyses were performed to see the relationship among the three variables—big five personality traits, online learning motivation and online learning satisfaction. As a rule of thumb, correlations were less than 0.3 were deemed low or weak. Those in the range of 0.4 to 0.6 were moderate, and those greater than 0.7 as being strong or high (Bryman & Cramer, 2004). Next, the data were subjected to regression analyses to determine the predictive power of each variable.

4. RESULTS AND DISCUSSION

4.1. Personality and learning motivation

Research question 1: What is the relationship among learners’ Big Five personality traits and their online learning motivation? Among the Big five, which factors can predict their online learning motivation?

Pearson’s product-moment correlation analyses showed that the personality and motivation had low but significant relationships ($r = .206$, $p < .05$). Linear regression was conducted to explore the contribution of big five in predicting online learning motivation. The amount of contribution of big five personality traits can account for 12.7% of the variance in motivation ($R^2 = .155$, adjusted $R^2$ change= 0.086, $p < .01$).

$R^2$ change indicates the amount of the contribution of each of the variables to the percentage of the explained variance. Specifically, as shown in Table 1, extraversion ($R^2$ change= 0.086, $p<.01$) contributed most variance to motivation. This was followed by conscientiousness ($R^2$ change= 0.006, $p < .01$), which accounted for an additional 0.6 percent of the variable. On the other hand, Openness to Experience ($R^2$ change= .003, $p > .01$), Agreeableness ($R^2$ change=.001, $p > .01$), and Neuroticism ($R^2$ change=.0001, $p > .01$) did not have any significant contribution to motivation. Therefore, compared with other big five personality traits, extraversion and conscientiousness seemed to better predict students’ motivation.

Table 1. Multiple regression of motivation by big five personality

| Variable               | $R^2$ change | $p$ value |
|------------------------|--------------|-----------|
| Extraversion           | .086         | .000***   |
| Openness to Experience | .003         | .470      |
| Neuroticism            | .000         | .840      |
| Conscientiousness      | .006         | .043*     |
| Agreeableness          | .001         | .775      |

Note:*** $p<.001$

The results showed that extraversion and conscientiousness affected positively on learners’ online learning motivation. People who were in extraversion were more active and willing to receive new learning style; so they had higher online learning motivation. Similarity, people who were classified into conscientiousness were achievement oriented and were willing to receive different learning ways to strengthen their professional ability; so online learning can activate their learning motivation. The results were in agreement with previous studies (Busato, Prins, Elshout, & Hamaker, 1999) which reported that conscientious and extraverted students were more achievement oriented, and individuals high in extraversion and conscientiousness had the strongest learning goal orientation (Payne, Youngcourt, & Beaubien, 2007).
4.2. Personality and learning satisfaction

Research Question 2: What is the relationship among learners’ Big Five personality traits and their online learning satisfaction? Among the Big five, which factors can predict their online learning satisfaction?

To explore the relationship between learners’ Big Five personality traits and their online learning satisfaction, Pearson product-moment correlation analyses were conducted. Although Big Five personality traits significantly correlated with online learning satisfaction, the strength of association was weak ($r = .205$, $p < .01$). Linear regression was conducted to explore the contribution of big five in predicting online learning satisfaction. The amount of contribution of Big Five personality traits can account for 12.2% of the variance in online satisfaction ($R^2 = .151$, adjusted $R^2$ change = .122, estimated standard error $p < .001$). Specifically, as shown in Table 2, Extraversion ($R^2$ change = .093, $p < .01$) significantly contributed most variance to motivation (9 per cent). This was followed by Conscientiousness ($R^2$ change = .072, $p < .01$), which accounted for an additional 7 per cent of the variable. However, the amount of contribution for Neuroticism ($R^2$ change = .008, $p > .01$), Openness to Experience ($R^2$ change = .001, $p > .01$), and Agreeableness ($R^2$ change = .0001, $p > .01$) were low and insignificant. It seemed to imply that Extraversion and Conscientiousness were the two more important traits among the Big Five in predicting online learning motivation. The results corresponded to the studies of Chou (2002) and Tsai (2001) in which they reported that Extraversion and Conscientiousness were positively correlated with satisfaction.

Table 2. Multiple regression of online learning satisfaction by big five personality

| Variable                 | $R^2$ change | $p$ value |
|--------------------------|--------------|-----------|
| Extraversion             | .093         | .000***   |
| Openness to Experience   | .001         | .718      |
| Neuroticism              | .008         | .276      |
| Conscientiousness        | .072         | .001**    |
| Agreeableness            | .000         | .923      |

Note: *** $p<.001$

4.3. Online motivation and learning satisfaction

Research question 3: What is the relationship between learners’ motivation and their online learning satisfaction? Among the factors of motivation, which factors can predict their online learning satisfaction?

Results showed that motivation had significantly high relationship with online learning satisfaction ($r = .747$, $p < .01$). Also, all of the five constructs of motivation, including escape, social contact, desire to learn, self-development and academic progress, were significantly highly related to four constructs of online learning satisfaction. The results were in agreement with Chuang (2008), who found learning motivation had a significant effect on learning satisfaction.

A follow up linear regression was conducted to explore each factor’s contribution to online learning satisfaction. The amount of overall contribution of motivation can account for 57.4% of the variance in online satisfaction ($R=7.67$, $R^2 = .588$; adjusted $R^2 = .574$; Standard Error = 10.65953; $R^2$ change = .588; $F$ change = 41.897, $p < .001$). Specifically, as shown in Table 3, self-development ($R^2$ change = .498, $p < .001$) significantly contributed
most variance to online learning satisfaction. This was followed by social contact ($R^2$ change=.482, $p < .001$), desire to learn ($R^2$ change=.381, $p < .001$), academic progress ($R^2$ change=.334, $p < .001$) and escape or stimulation ($R^2$ change=.287, $p < .001$) which accounted for an additional 28.7 per cent of the variable. It proved that self-development and social contact were the two more important constructs among motivation in predicting online learning satisfaction. The findings correspond with the study of Blumenfeld, Kempler, & Krajcik(2006), who indicated that students’ motivation was a crucial factor for their academic performance and learning satisfaction.

Table 3. Multiple regression of online learning satisfaction by motivation

| Variable          | $R^2$ change | $p$ value |
|-------------------|--------------|-----------|
| Academic progress | .334         | .000***   |
| Escape or stimulation | .287       | .000***   |
| Social contact    | .482         | .000***   |
| Desire to learn   | .381         | .000***   |
| Self-development  | .498         | .000***   |

Note: *** $p<.001$

5. CONCLUSION AND SUGGESTIONS

The findings of this study extend our knowledge of the influence of learners’ big five personality traits and online learning motivation on learning satisfaction. It also provides valuable information about the amount of contribution of these variables in online satisfaction. For this study, we know that extraversion and conscientiousness were the two important traits among the Big Five in predicting motivation and satisfaction. Compared with personality, motivation seemed to be a stronger predictor of satisfaction. Therefore, in order to increase EFL learners’ online learning satisfaction, instructors and online program designers should design more interactive courses based on learners’ personality traits and provide more interesting activities to motivate their learners in online learning.

Although the present study has yielded findings that have pedagogical implications, it has some limitations. First, there were only 153 participants in this study and the number of males and females involved in this study was not equal. For future studies, it would be beneficial to include more female students, and replicate this study on larger and different populations. Furthermore, this research focused on the variables of personality traits, motivation on learners’ online learning satisfaction. Investigating other potential variables across different learning systems is needed for future studies.

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