

Explore the Relationships Among Demography, Personality Traits and Self-Directed Learning

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ABSTRACT

Recent literature on the role of personality traits in adult learning has become important and induces several theoretical perspectives. Surprisingly, previous studies had been limited to empirical work and have aroused arguments concerning these relationships. This paper thus examines the relationship among demographics, personal traits, and self-directed learning with Manova and regression analysis, with sampling conducted by adult learners participating in self-directed program courses in Taiwan's central area. The main finding indicates that personality traits are positively correlated with self-directed learning; inversely, there is no significant difference between demographics and self-directed learning. Results suggest that adult learners need to be disciplined via self-directed instruction.

Keywords: Demographics, Personality traits, Self-directed learning

INTRODUCTION

Background

Individuals have to increase their knowledge and learn continuously in order to face the coming of the knowledge economy, the competition of industries, a transition of society and the shortening of knowledge's half-life period. Also, an enterprise has to emphasize developing into a learning organization, recognizing that knowledgeable employees will play an important role in their economic development (Ducker, 1993). Therefore, lifelong learning has observably become a strong trend. Besides traditional school education, multiple informal learning approaches have arisen, for example, pursuing further education on the job, receiving training in second professional specialties, or by changing occupations, which also play decisive roles in adult's learning progress. However, the model of adult learning chosen varies according to participants' age, gradually moving from traditional teacher-directed learning to self-directed learning. According to Tough (1989), about 73% of adult learning is through the individual's plan, 7% of adult learning is through others' help, and only 20% of adult learning is through school teachers' instruction. The above phenomenon indicates that individual' self-directed learning has become a very important research trend. Knowles (1975) also claimed that self-directed learning can be a better way to cope with the new direction of education and meet the needs of future society. An individual needs to have the abilities required for self education in order to achieve an object of lifelong learning (Cropley, 1980). Nevertheless, the more thorough the cognition of factors which influence self-directed learning, the easier it is to grasp the key points of learning. Both adult's learning characteristics and learners' demands can influence the inclination for self-directed learning. Adult's learning characteristics are as follows: adult learning must center on problems and experience, with active participation in learning and reception of appropriate feedback (Knox, 1986; Bunndage & Mackeracker, 1980; Gibb, 1960). Since adult learner's backgrounds are highly heterogeneous, individual's differences in learning demands is more divergent than it is for younger learners. Yeung, Ulrich, Nason, and Glinow (1999) proposed a decisive factor of educational training effect. This factor not only depends on educational training itself, but it also includes learners' learning will.

Regarding external factors which influence adult learning, they include planning teaching method and curriculum design in advance, through evaluating and understanding learner's characteristics and learning demands, and building a good quality learning atmosphere to promote adult's learning motivation (Knox, 1986). However, the latent factors also influence adult's learning, e.g. personality traits; former scholars' studies have some conceptualized descriptions of the relationship between personality traits and self-directed learning (Ponton, Derrick, & Paul, 2005; Roberson & Merriam,

2005; Knowles, 1973; Peterson, 1983; Guglielmino, 1978). Ponton, Derrick, and Paul (2005) mentioned that the view of personality traits could explain the content of self-directed learning. Moreover, the results of path analysis revealed that adult learner's persistence is a necessary condition of lifelong learning. Roberson and Merriam (2005) also interviewed 10 people, and pointed out that the developmental process of adult's self-directed learning is related to characteristics of personality, however, there is little empirical analysis directed toward the interrelationships of key aspects of self-directed. Additionally, scholars argue over the mutual relationship between factors and influence. For instance, Young (1985) and Adams (1992) stated that personality traits have no significant difference with self-directed learning. Contrarily, Gossman (1995) noted that personality traits of internal/external control are highly correlated with self-directed learning, Knowles (1975) also claimed that self-directed learning needs greater human interaction, instead of isolated learning, so they regarded that personality traits are related to self-directed learning. Besides, more scholars' researches (Morris, 1995; Roberts, 1986; Young, 1985; Tough, 1989) showed that there is no common consensus concerning the correlation of self-directed learning with gender, age and educational degrees. In addition, informal education is the future trend of adult learning (Roberson & Merriam, 2005). However, former scholars' relevant researches on self-directed learning focused on formal higher education learners who had received an academic degree (Jensen, 2000; Young, 1985). In summary, the distribution of some scholars' sample choice is too narrow for truly representative results. For example, Adams (1992) studied the correlations among internal/external control personality traits, self-directed learning and demography, but samples were limited to 60-80 year-old students of Southern Florida University in the U.S.A.

Therefore, studies can deeply investigate not only the correlation of personality traits toward self-directed learning, but also the demography variable. Then studies can provide the learning atmosphere which learners prefer, offer appropriate teaching materials and teaching methods, to promote the learning effect, and help adults to develop abilities for lifelong learning in order to cope with the challenge of the knowledge economy and intense competition of industries. This study focuses on 20-40 year-old adult students enrolled in schools, offering adult education in the middle part of Taiwan. Researchers adopts Costa & McCrae 's (1992) big five model of personality traits, as variables to measure personality traits, then through regression analysis and ANOVA analysis, inspect the relationship among the variables. Hopefully, research results can benefit all adult learners, educational institutions and teachers.

Purpose

Brockett and Hiemstra (1995) mentioned that students who have higher self-directed can benefit from their leaning process, and recommended to regard self-directed learning as personality traits. Thus, teaching approaches might be blended with the both factors in order to reach a best learning effect (Merriam & Caffarella, 1991), which is the reason why this research explores this issue. Hence, this study explores the influence of personality traits on self-directed learning, and inspects some factors of personality traits which have greater influence on self-directed learning. At the same time, demography is inspected to see if has a significant difference toward the above two dimensions (personality traits and self-directed learning) to make up for a flaw in past studies, by retrieving and trying to eliminate previous arguments on these issues. Researchers expect that the results which emphasized learners' unique personality traits and learning abilities in regard to self-directed learning, and offer a basis for planning some better teaching strategies in order to help adult learners to learn more efficiently.

LITERATURE REVIEW

Adult's self-directed learning

Adult education is referred to an education for adult who exceeds degrees of normal education, under the view of lifelong education, and the purpose of adult education is to increase those people's knowledge and develop their potential to make up for their insufficiency of school education (Ministry of Education, 1995). Moreover, the learning characteristics include integrating a learning model of self-object direction, such as: problem-direction, critical thinking and self-evaluation (Lorenzo & Abbott, 2004).

In a study on self-directed learning, the problem is to adopt a certain philosophical position, or at least a more open position to define self-directed learning (Caffarella and O'Donnell, 1987). Most scholars focused on the meaning of self-directed learning, especially on learners' learning characteristics, abilities. Mocker and Spear (1982) regarded self-directed learning as an adult's learning style. Under this learning style, learners can decide what to learn and how to learn. Garrison (1997), Roberson and Merriam (2005) suggested that self-directed learning is a self-monitored and self-regulated learning style. Carre (2000) noted that self-directed learning includes personal autonomy and self-control. Tough (1966) assumed that self-directed learning involves a person with the ability to learn how to plan and maintain motivation. Knowles (1975) reported self-directed learning involves a person who has the abilities to diagnose his own learning demands, draft learning objectives, choose appropriate learning strategies, and evaluate the process of learning effect. Brockett and Hiemstra (1985) asserted that self-directed learning involves a person who possesses the ability to plan and proceed with his/her learning activity. To sum up, in self-directed learning, learners can emphasize their own particular learning, set a feasible objective, choose appropriate strategies, and have the ability to evaluate learning effect (Caffarella & O'Donnell, 1987).

From the developmental style of learning autonomy perspective, self-directed learning includes innate disposition, acquired quality, and learned characteristics. The above developmental style revealed that self-directed learning ability is not only a natural inheritable factor, but also a training style which is acquired through learning. This study explores self-directed learning as an acquired characteristics. Researchers have asserted that self-directed learning must be viewed from the perspectives of educators and lifelong learners, and the researchers propose the relationship between self-directed learning and adult learning effect in order to add practical value to this study.

Relationship between personality traits and self-directed learning

From results of former studies, self-directed learning and adult's characteristics have absolute correlations. Ponton, Derrick and Paul (2005) mentioned that self-directed learning which was analyzed from a psychological dimension has to explain the content under the aspect of personality traits. Roberson and Merian (2005) also interviewed 10 people of different race and gender from rural areas, and found that the developmental process of influencing adult self-directed learning included various reasons: retirement, next generation, inner inspiration, physiological changes (Bee & Bjorklund, 2004) and relatives. In addition, Guglielmino's (1978) self-directed learning scale demonstrated that everyone has a self-directed learning inclination. People who have stronger self-directed learning inclination are easier to achieve self-directed learning. Contrarily, people who have weaker self-directed learning inclination are harder to process into self-directed learning (Chen, 2001).

The aspect of personality traits could explain the content of self-directed learning (Ponton, Derrick, & Paul, 2005). Roberson and Merriam (2005) also claimed that developmental process of influencing adult self-directed learning is related to personality traits. Rotter (1966) was the first to divide the individual's perception into internal control and external control. Later, Robbins (1993) also presented five personality traits: internal control and external control, achievement, authority, strategy and risk. The broadest category for examining personality traits was Costa and McCrae's (1992) five personality traits dimensions: agreeableness, conscientiousness, extraversion, neuroticism/emotional stability and openness to experience. The most often used self-directed learning scale is Guglielmino's (1978) constructed self-directed learning readiness scale. The related variables include: motivation, learning style, creativeness, life-satisfaction, autonomy, intelligence, self concept, age, socio-economic status, and occupation (Cafferella & O'Donnell, 1988). Although Young (1985) pointed out that personality traits provides no significant difference to self-directed learning. Knowles (1970) and Tough (1979) recommended that the emphasis of self-directed learning should be the learner's autonomy, conscientiousness which is related to personality traits. Adams (1992) noted that internal/external control personality traits and self-directed learning do not have a significant correlation. In contrast, Gossman (1995) found that there is a high correlation between internal/external control personality traits and self-directed learning. Due to the above contradictory arguments, it is necessary to examine the correlation between internal/external control personality traits and self-directed learning. Kobasa (1984) believed that some personality traits are acquired, not innate, so personality traits can be strengthen via training in self-directed learning ability and acquiring through these acquired personality traits.

According to self-perception theory, people will determine their own attitude by observing their own behavior (Bem, 1972). Furthermore, the phenomenon results in the change of behavior through repeated messages, cumulating at a certain level and exceeding behavior threshold on the basis of incremental effect theory (Saegert, 1987). For example, if extraversion of personality traits is higher during learning, the behavior which people display will have greater human interaction. If learners' durability is higher, it means that people are more willing to cooperate with others. If learners' stability of emotion is higher, this means that learners can adequately control their temper and easily receive help from other, all of which can influence their own self-directed attitude and behavior. Since self-directed learning is not isolated with learning, but the learning needs others' help (Knowles, 1975), if their personality traits are more open during learning, their behaviors will present a broad-minded capacity for tolerance, imagination and curiosity, and support self-directed active learning and independent learning. If degree of conscientiousness is higher, people will easily manage their time and will continue to finish their learning plan and form a durable self-directed learning behavior. Guglielmino (1978) also found that self-directed learning ability is related to some personality traits, so personality traits are not only important factors influence self-directed learning, but also worth a deeper examination (Chen, 2001).

Relationship among demography, personality traits and self-directed learning

Personality traits which are related to learning include; self-concept, person-situation interaction and the factor of affecting others (Luthans, 1992). Most people believe that these factors are related to individual' different backgrounds. Personality traits are also changed through learning, so age, gender, and educational degree will influence personality traits and self-directed learning ability.

Adams (1992) pointed out that internal/external control personality traits have no significant correlation with demography. Also, Young (1985) and Adams (1992) asserted that gender, age, and educational degree, exhibit no significant difference in relation to self-directed learning. Tough (1989) claimed that self-directed learning has no significant difference in terms of age, income, social status and educational standard. Nevertheless, other researches had different findings. For instance, Roberts (1986) stated that self-directed learning has no significant correlation to gender and age, but does have significant correlation to educational degree. Morris (1995) also noted that self-directed learning has a significant positive correlation to gender and educational degree. In summary, there is no common consensus between the correlation of demography and self-directed learning, so the correlation between personality traits and self-directed learning requires further examination.

According to social judgment theory, Sherif and Hovland (1961) suggested that people's behavior will be based on messages which they already know; then they assimilate new messages which they receive. There is a discrepancy in categorizing personality traits and self-directed learning, so establishing a hypothesis to examine the correlations among demography, personality traits and self-directed learning, is necessary.

METHOD

Hypothesis

According to the aforementioned literature review and purpose of this study, this study establishes the following hypotheses and examines correlations among personality traits, self-directed learning and demography:

H1 : Personality trait has a significant positive influence toward self-directed learning.

H2 : Demography exhibits a significant difference toward personality traits.

H3 : Demography exhibits a significant difference toward self-directed learning.

Framework

According to the aforementioned literature review, this study builds the following framework in order to understand the relationships among: demography, personality traits and self-directed learning, as in Chart 1:

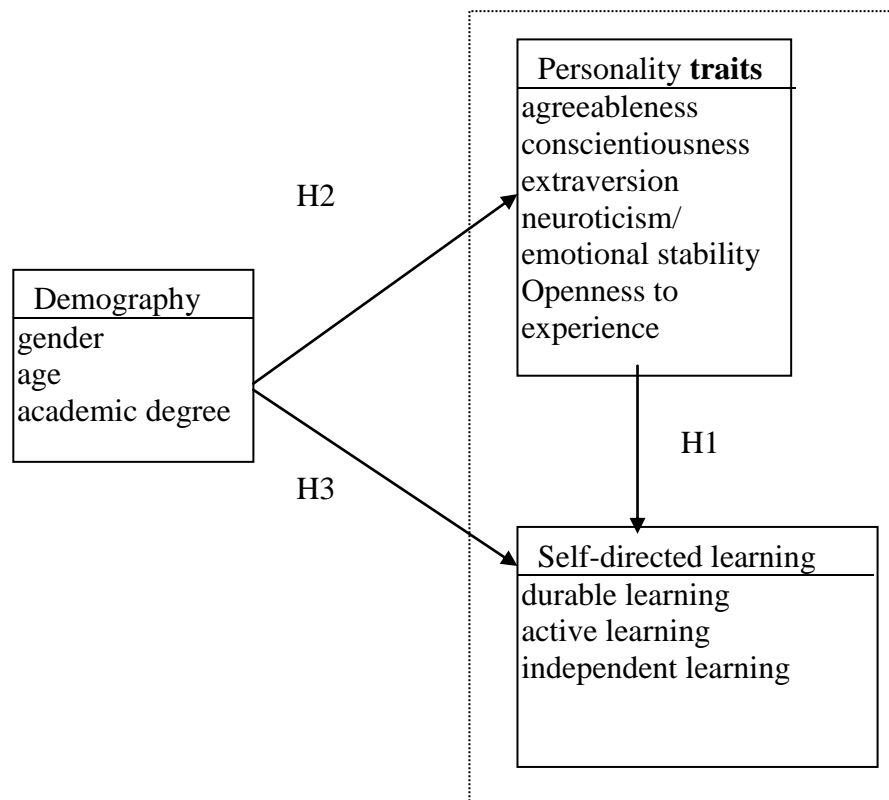


Chart 1

Operational definition

According to the research purpose, and Costa and McCrae 's(1992) notion, personality trait was defined as individuals' agreeableness, conscientiousness, extraversion, neuroticism/emotional stability and openness to experience. In addition, Knowles (1975), Brockett and Hiemstra (1985) suggested that self-directed learning involves learners' durable learning, active learning and independent learning during the whole learning process. The aforementioned questionnaires, except for demography, used a different scale to measure interviewees' gender, age and academic degrees, personality traits and self-directed learning, adopting the Likert 5 point scale as a measurement standard with one to five points, from strongly disagree to strongly agree.

Samples

Since samples of adult education are people whose ages are already over the normal education, with the view of lifelong education, the purpose is to counteract insufficiency of their education (Ministry of Education, 1995). Thus, samples of the questionnaires are limited to students who are enrolled in adult education courses, in Taiwan's central area.

Sampling procedure

Samples of this study are from three schools which offer adult educational courses in Taiwan's central area. These adult students are 20 to 45 years-old. Because most of these adult students felt the importance of continuum education than other age students, this reason drives 20-45 years-old adult students back to school. For the convenience of reaching samples, all questionnaires were delegated to faculties of the schools who send them to students by random selection from May, 2005 to Aug, 2005. Total questionnaires are 225 copies, and 142 copies returned. Therefore, valid copies are 119 copies. With an effective return rate of 52.9%.

Data analysis

The researchers decoded all returned questionnaires and analyzed information through the following ways: First, descriptive statistics is adopted to analyze samples and understand the distribution of individual background. Secondly, explorative factor analysis is used to reduce question items to benefit later analysis. Thirdly, demography is an independent variable, while personality traits and self-directed learning are dependent variables in MANOVA. Differences among personality traits and self-directed learning are then examined. Since measurement of independent variable is a non-metric variable, the two dependent variables are metric variables, and data is analyzed by MANOVA. If results are significantly different, the result is analyzed by ANOVA. Finally, Scheffe's test is applied in order to determine the difference of each group.

Finally, because questionnaires measurement of personality traits and self-directed learning are all metric variables, the researchers use regression analysis to examine cause-effect relationship between personality traits and self-directed learning.

Analysis of reliability and validity

This study adopts Cronbach's α to examine reliability; but analysis of validity focuses on content validity to systematically examine the content of questionnaires in order to let instrument of measurement cover topics which this study wants to research (Wu, 2000). Thus, researchers collected all relative items to cover variables which need to be measured, and built the content items based on the above theories to establish the best measurement tool. After establishing these questionnaires, the researchers asked scholars and experts to modify the appropriateness of questionnaires in order to ensure the importance and completeness of variables.

Personality traits scales in this study, mainly refer to Costa and McCrae's big five model, deleting the items which factor loading below 0.3 (Chao, 2000). However, self-directed learning scale refers to Guglielmino's (1978) theory to develop questionnaire items. Then researchers adopt SPSS software to sum up total scores and select the significance items by validity analysis, in order to conduct factor analysis. At the same time, researchers adopt LISREL software to process confirmative factor analysis (CFA) in order to meet the requirement of content validity. After the examination, this study reaches content validity. Besides, Cronbach's α of construct of personality trait is 0.997, and Cronbach's α of construct of self-directed learning is 0.9617. Since figures of Cronbach's α are all above 0.9, it shows that the questionnaires have a very high reliability.

RESULT AND DISCUSSION

The following result is based on questionnaire investigation and the aforementioned analysis approaches. The findings and interpretations are as follows:

Analysis of sample

Regarding gender, males are 42.1%, females are 57.9%. Regarding age, 30~34 years old (26.4%), 20~24 years old (22.3%), 25-29 years old (21.5%), 35-39 years old (18.2%), 40-44 years old (6.6%), above 45 years old (4.9%). Most of the samples are 30 to 34 years old; the phenomenon indicated that students who take adult education course are informal students, so their ages tend to be older. Regarding educational degree, academic degrees of most samples are below high school, which is 66.1%. Second is two-year college and university degree which is 29.8%. Percentage of above graduate school is 4.1%, which also indicated that students who take adult education courses all withdrew from school when they were young, and that they feel that it is necessary to learn more, so the ratio of below high school degree is highest. The results are as follows:

Table 1: Analysis of structural samples

| Based data | Catalogues | Percentage |
|--------------------|-----------------------------------|------------|
| Gender | Male | 42.1% |
| | Female | 57.9% |
| Age | 20~24 years old | 22.3% |
| | 25-29 years old | 21.5% |
| | 30~34 years old | 26.4% |
| | 35-39 years old | 18.2% |
| | 40-44 years old | 6.6% |
| | Above 45 years old | 4.9% |
| Educational degree | Under high school | 66.1% |
| | Two-year college and universities | 29.8% |
| | Graduate school | 4.1% |

Result of factor analysis

Before proceeding with the items of personality by factor analysis, researchers examined the items by KMO, and acquired the value of KMO, which is 0.978. Thus, the study employed principle factor analysis to select the eigenvalue, which is larger than 1, then extracted two factors by maximal rotation, namely: agreeableness and extraversion. The portion of cumulated explanation account for the variance of questionnaires is 95.953%. Regarding self-directed learning, the KMO is 0.941. Three common factors were extracted after factor analysis; this study refers to suggestions by international and domestic experts to categorize factors as durable learning, active learning and independent learning, and the value of cumulated explanation is 75.089% .

Mean and standard deviation

The mean of agreeableness is 3.5171 in personality traits, which is higher; extraversion in personality traits is 3.3268; and mean of self-directed in personality traits is between 3.2101 and 3.4019. By sequence, durableness is 3.4019, activeness is 3.3008, and independence is 3.2101. Scores of durableness are the highest. The results may be attributed to the sources of samples, since samples are students who took adult education courses. Owing to most adult students having stronger learning motivation than do formal students, and adult students agreeing to teachers' requests during learning, the mean of agreeableness is higher. Besides, adult students' learning objects are clearer. At the same time, adult students usually study harder, so their scores of durableness are the highest. In summary, the means of the above dimensions exhibit difference, but the difference is not much. Only the Standard Deviation of self-directed independent factor is 1.1265, which is obviously higher than other factors, signifying that interviewees' view of this factor is discrepant. This phenomenon may be attributed to gender difference. Since females and males are different in independence in their nature: for males it is 42.1, and for females, 57.9. Regarding the ages of interviewee's rations, 20~39 year old is almost 88%, the ratio of 20~24 year old (22.3%) and 35-39 year old (18.2%) are close, but their difference in age is large, so their thinking style and independent thinking of self-directed learning varied, with results shown in Table 2:

Table 2: Analysis of mean and Standard Deviation of each dimension

| Factors | Mean | Standard Deviation |
|----------------------|--------|--------------------|
| Agreeableness | 3.5171 | 0.6637 |
| Extraversion | 3.3268 | 0.6173 |
| Durable learning | 3.4019 | 0.7956 |
| Active learning | 3.8008 | 0.6377 |
| Independent learning | 3.2101 | 1.1265 |

CONCLUSION AND SUGGESTION

This study examines learner's self-directed learning from the view points of demography and personality traits. Results indicate that personality traits have a significant positive influence on self-directed learning, which is similar to some researchers' assertion (Knowles, 1973; Peterson, 1983; and Guglielmino, 1978). Nevertheless, this result is different to Young (1985) and Adams' (1992) suggestions, which may be attributed to most former researches only focusing on formal education learners (Jensen, 2000). For instance, Young's (1985) research focuses on 126 undergraduate students at George University in the United States. Informal adult education is a trend that will continue to expand in the future (Roberson & Merriam, 2005), so sampling should include informal education learners. Also, some researchers selected narrowly when sampling, resulting in research that might not be representative. For example, Adams (1992) studied relationships among internal/external control personality traits, self-directed learning and demography, but the samples were limited to elderly students of South Florida in the United States, and most of their ages are between 60 to 80 years old. The samples mentioned above are different from the samples of this study, who are between 20 and 45 years old. Additionally, this study explores relevant scholars' arguments to clarify the correlation between personality traits and self-directed relationship. Except for different samples and the use of factor analysis to deeply investigated the relationship of every factor of personality traits with factors of self-directed learning, the results still indicate that only agreeableness has a significant and positive influence over some self-directed factors. Also, results show that not all factors have a significant cause-effect relationship, so this study not only counters some insufficiencies of previous studies which did not deeply examine this aspect, but also clarifies reasons underlying scholars' former argument. Moreover, correlations of demography with personality traits and self-directed learning are not significant, which shows that gender, age, and educational degree will not cause difference of personality or self-directed learning. This study also indicates that adult learners' presentation in agreeableness of personality trait is very high, whether in males, females, elders, or lower level learners during their learning, and they will not decrease their need for self-directed learning. Consequently, educational institutions should attend to this phenomenon and offer impartial learning opportunities and development space for all adult learners with relevant teaching strategies and learning environment.

Results of Roberson and Merriam's (2005) interviews did not show a correlation between demography and personality traits or demography and self-directed learning, even with ten samples from different races and genders. The above results match the results of this study which reveal that adult lifelong education should emphasize cultivation of personality and self-directed learning, instead of finding reasons in demographics. In order to achieve the best learning effects, teachers should offer adult learners with self-directed personality traits, teaching methods to develop self-directed learning. Since the main factors of educational training effects not only depend on educational training, but also learners' inner learning will, which is a self-directed ability (Yeung, et al., 1999). Hence, Lorenzo and Abbott (2004) claimed that adults' education and learning require a teaching model that integrates students' self-object orientation, which including: problem orientation, critical thinking and self-evaluation.

According to the cognitive balance of triangle-relationship based on Fritz's (1958) balance theory, and Kobasa's (1984) assertion, they suggested that someone's personality traits are acquired through learning. Therefore, self-directed learning could be influenced through acquired personality traits. At the same time, repeat messages are used to increase effect through triangle relationship based on balance theory (Saegert, 1987), which can increase learning effects of adult learning. Therefore, learners have to achieve ultimate control power over the learning situation through their personality traits, which requires opportunities and abilities to influence the learning process (Chen, Mau-Hsung, 2001). In terms of practical application, the results of this research indicate that the more durable and active the learners, the higher the agreeableness of personality traits. Hence, this study strongly suggests that educational institutions attend to the positive influence of personality traits on self-directed learning, and recognize types of personality traits which have more influence to increase adult learners' self-directed learning ability, and then adjust the focal point of teaching or self-directed learning in order to break the limitation of IQ and reach the objectives of adult life-long learning.

The questionnaires used in this study belong to self-reported questionnaires. Consequently, a limitation of this study is that criteria of judgment will depend on personal subjective perspectives. In addition, personal emotion and

comprehension degree influence answers of questionnaires, which may suggest that the results of the questionnaires are not objective and exhibit bias. Since the scope of providing questionnaires focus on the middle part of Taiwan, it would be better to extend future studies nation-wide and sample by stratified method which will help research results to be more representative and conscientious. Regarding measurement, this study refers to previous scholars' scales, which might also cause bias effects. For instance, personality questionnaires are more sensitive and involve more personal matters. Therefore, the researchers suggest that future researchers could focus on qualitative long-term research on this subject or examine other dimensions of personality traits, and possibly discover new findings.

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