

Influence and Induction of College Students' Personality Traits on Self-awareness Using China College Students as an Example

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ABSTRACT

This study aims to explore the influence and induction of five-factor personality traits on self-awareness. 90 participants were recruited as the research subjects and were divided into three groups in this experiment. The results revealed that students' public and private self-awareness was considerably improved after the personality traits testing. Among the five personality traits, conscientiousness had the strongest inducing ability, followed by extroversion and agreeableness. Personality traits play an essential role in improving self-awareness and evaluating its level. Therefore, this experiment aims to provide suggestions for future studies of social and emotional learning in higher education.

Keywords: Social and Emotional Learning (SEL), self-awareness, personality traits, college students

1. INTRODUCTION

Social and emotional learning (SEL) is defined as the effective application of knowledge, attitudes and skills, can be learned to help students understand and manage emotions, set and strive to achieve goals, maintain empathy for others, actively build and maintain relationships with others, and make responsible decisions [1]. Researchers believe that learning of SEL related skills can create an innovative and effective learning environment for students, where they are allowed to improve their performance and achieve goals [2].

Currently, most studies on SEL have concentrated on the students in the K-12 period; however, since the Ministry of Education of China proposed that undergraduate education be placed at the core of talent development in 2018, the promotion of SEL in higher education has thus become critical and deserved sufficient and thorough research. On the other hand, researchers found that SEL is closely related to the formation and development of certain personality traits, as well as the development of interpersonal behaviors [3]; therefore, by using the college students as samples, the study aims to analyze whether and how personality traits impact self-awareness, which is considered one of the competencies of SEL.

2. SELF-AWARENESS AND PERSONALITY TRAITS

2.1 Previous Studies

In 1972, Duval and Wicklund coined the term "self-awareness" and pioneered its early development which demonstrated an ability and internal standards utilized to evaluate one's current status including their behaviors, emotions, attention, and personality [4]. In this case, the development of self-awareness also exerts a profound effect on people's subsequent learning and prosperous job opportunities; for example, Stanford University proposed that self-awareness proves to be essential in nurturing management capability as it is positively correlated with management efficiency and leadership [5]. Since self-awareness is primarily an assessment of an individual's internal standards and abilities, some researchers have explored the relationship between self-awareness and personality traits, assuming that the higher self-compassion people have, the more positive personality traits and self-awareness they were more likely to develop [7]. Recently, in a study targeted at Chinese children aged between 3 to 5, researchers found that children with higher self-awareness usually demonstrate more honest behaviors [8].

However, the relevant studies mainly focused on early childhood from birth to 4 or 5 years old and defined six degrees of self-awareness including Confusion (level 0), Differentiation (level 1), Situation (level 2), Identification (level 3), Permanence (level 4), and “Meta” Self-awareness (level 5) [9]. Some researchers also believed that by creating a self-focused environment or being placed in a first-person pronoun context, the children can take responsibility for themselves, thereby temporarily inducing and enhancing their self-awareness [10] [11]. However, there does not appear to be sufficient data to suggest that adults who have developed a fundamental ability for self-thinking but still continued their education also improve their self-awareness by thinking more about themselves. This may be something that deserves to be studied.

2.2 Measurements of Self-Awareness and Personality Traits

Based on these existing experiments, Govern and Marsch established the *Situational Self-Awareness Scale (SSAS)* in 2001, which is used to quantify public and private self-awareness [13], and this scale was later adapted and translated into Chinese version (*SSAS-C*) in 2006. Using a 7-point Likert-type self-report scale ranging from strongly disagree to strongly agree, the scale has proved its reliability and validity in the Chinese environment [14]. In the original version, an item assigned in the private self-awareness category (*Right now, I am reflective about my life*) showed a high correlation with public self-awareness in the Chinese context; therefore, this item was transferred to the public self-awareness category in *SSAS-C* due to the divergent understanding of the word ‘life’ in two cultures [14]. With the only aforementioned exception, the remaining items all demonstrated high correlation and objective structural validity, with coefficients ranging from 0.7 to 0.72. To illustrate, the *SSAS-C* was classified into three different types: 1) public self-awareness including items 3, 4, 6, and 7; 2) private self-awareness including items 2 and 8; 3) surrounding self-awareness including items 1, 5, and 9. The test-retest reliability of *SSAS-C* has been explored to be higher in the same situation (0.66, 0.44, and 0.61) than that in different situations (0.42, 0.37, and 0.37). In this case, it reflected that the scale of self-awareness is highly sensitive to environmental factors; for instance, higher public awareness of participants can be expected in bright rooms than those in dim rooms [15]. Therefore, in this experiment, in order to reduce the influence of external variables on the experimental results, the experiment was carried out in a unified environment with the same degree of light brightness, temperature, so on.

The Five-Factor Model (FFM) is often considered one of the most effective and influential models for personality analysis [16]. The five factors include

Openness to experience (O), Conscientiousness (C), Extraversion (E), Agreeableness (A), and Neuroticism (N) respectively. Based on FFM, researchers developed a variety of scales to assess personality traits, but the number and format of questions varied. For example, the 240-item *NEO Personality Inventory-Revised (NEO PI-R)* is currently the most commonly used set of scales to measure personality; however, the *Ten-Item Personality Measure (TIPI)* only contains 10 items [17]. *TIPI* was revised and tested in China for its reliability and validity by Li in 2012 (*TIPI-C*), with items 1, 3, 5, 7, and 9 being forward scoring items and items 2, 4, 6, 8, and 10 being reverse-scored items. Both *TIPI* and *TIPI-C* employ a 7-point Likert-type self-report scale and the test-retest reliability coefficient of *TIPI-C* was between 0.41 to 0.77, compared to its original scale standing between 0.6 to 0.67. Moreover, *TIPI-C* also has high discriminant validity and compatibility validity, indicating that its structure is acceptable. Accordingly, the Ten Item Personality Measure (*TIPI*) was selected as a tool to measure inducing factors in this experiment.

2.3 Research Questions

The research of SEL mainly focuses on children in K-12 education, while the necessity and importance of SEL in higher education are becoming increasingly obvious. As an indispensable part of SEL, self-awareness, which emphasizes self-understanding and control, can lay a solid and basic foundation for the relevant studies. SEL researchers found that personality traits function as an essential role in enabling individuals to better understand their inner thought; therefore, FFM is frequently used as an effective template in the process of SEL evaluation [18]. Moreover, *SSAS* and *TIPI* are commonly used as self-awareness assessment scales and personality trait assessment scales. Based on the above background information, the research questions of this study are, therefore, 1) whether and how personality traits can be used as an inducer to positively influence or improve students’ self-awareness; and 2) how should these factors be utilized to enhance other aspects of college students’ SEL abilities.

In this experiment, the first part of SEL, self-awareness, was chosen as the main variable of the study. By selecting Chinese college students as the participants, the study aims to explore the approaches to developing college students’ self-awareness and the influence and effect of their personality traits on self-awareness. Based on the research question, they study hypothesized that through understanding their individual personality traits, college students can improve their self-awareness; also, the five factors in FFM are significantly correlated with self-awareness.

3. METHOD

3.1 Participants

The study chose 90 students ranging from 18 to 24 (average age: 20.61 ± 0.908) from Beijing Normal University-Hong Kong Baptist University Uniter International College (UIC) as the experimental subjects. The participants (27 males, 63 females) were randomly divided into three groups with each allocated 30 students. These subjects were asked to go to a fixed laboratory room, Applied Psychology Lab T8-404, and fill in the questionnaire in accordance with the grouping requirements. The sample size of this experiment was at the normal data collection level.

3.2 Procedures

Before the beginning of the experiment, all participants were required to read and sign the informed consent, acknowledging that they obtained sufficient information about the experiment including the process, content, risks, and potential challenges. Next, participants can voluntarily decide whether to participate in the experiment. The ongoing consent form was also sent to all participants by email ensuring that they can engage with it with a high degree of voluntariness. After providing the fundamental background information which was completely confidential, the students were required to sit quietly in the lab for five minutes without doing anything so that they can reach a similar level of thinking at the beginning of the experiment. After that, formal experiments were conducted in three different sequences:

Group A: Fill the *TIPI-C* → 1 minute rest → Fill the *SSAS-C*; Group B: Fill the *SSAS-C* → 1 minute rest → Fill the *TIPI-C* → 1 minute rest → Fill the *SSAS-C*; Group C: Fill the *SSAS-C*.

4. RESULTS

4.1 Analysis of Self-Awareness of College Students

Self-awareness (*SSAS-C*) was evaluated in all three groups in this experiment. For those who completed a personality test (*TIPI-C*) before the self-awareness test (*SSAS-C*), they are considered the A-PT Group; whereas, for those who did not take or took the *TIPI-C* test after the *SSAS-C* test, they are W-PT Group. Accordingly, the A-PT Group was composed of Group A's *SSAS-C* test data (Group A) and Group B's *SSAS-C* post-test data (Group B2); conversely, the W-PT Group consisted of Group C's *SSAS-C* test data (Group C) and the Group B's *SSAS-C* pre-test data (Group B1). The overall average score of the A-PT Group is

45.47 ± 5.53 with the total mean scores for the three subscales being respectively 19.55 ± 3.138 for public self-awareness, 10.77 ± 1.00 for private self-awareness, and 15.15 ± 2.98 for surrounding self-awareness. Similarly, in the W-PT Group, the total average score is 37.85 ± 6.32 with the abovementioned three subscales being 16.02 ± 3.51 , 8.05 ± 1.97 , and 13.78 ± 3.00 respectively.

4.2 Induced Results of Self-Awareness

In this experiment, the participants were grouped to test whether personality traits can be used as an inducing factor for self-awareness. Table 1 presented the mean plots of three subscales and the total score of self-awareness.

Table 2 shows the scores of a paired sample test of Group B's twice *SSAS-C* tests results including the pre-self-awareness test and the post-one. The participants' pre-test scores were significantly lower than the post-test scores in public self-awareness ($t = -3.885$, $p = .001$) and private self-awareness ($t = -4.208$, $p < .001$); however, in terms of surrounding self-awareness, there was no significant difference between the first and second test scores of Group B participants.

Table 3 demonstrates the independent sample t-test scores of *SSAS-C* test results of Group A and Group C. The self-awareness test *SSAS-C* of Group A was completed after performing the personality test *TIPI-C* whereas Group C merely completed *SSAS-C*. In three sub-aspects, there were significant differences between the scores of Group A and Group C (Public self-awareness: $t = 5.356$, $p < .001$; Private self-awareness: $t = 11.938$, $p < .001$; Surrounding self-awareness: $t = 3.126$, $p = .003$).

Independent sample tests were employed to analyze the W-PT Group and A-PT Group, the result of which were shown in Table 4. In those groups affected by personality traits, there were no significant differences in the three aspects of self-awareness and the total score; while in those groups that were virtually unaffected, such as Group C and Group B1, tremendous divergence can be expected between these two groups in private self-awareness level ($t = 3.506$, $p = .001$) and large SE (Cohen's $d = .095$).

4.3 Correlation Analysis of Participants' Personality Traits and Self-Awareness

In addition to exploring whether personality traits can be regarded as an inducing factor, the study also aims to examine whether individual personality can enhance the overall level of self-awareness. Table 5 analyzes the correlation between personality traits tested by *TIPI-C* and self-awareness. In each dimension of the five factors, extraversion trait showed a significant

positive correlation with the total score of self-awareness ($r = 0.279$; $p = .031$); Agreeableness factor positively correlated with private self-awareness ($r = 0.279$; $p = .031$); Conscientiousness factor positively

predicted private self-awareness ($r = 0.407$; $p = .001$), surrounding self-awareness ($r = 0.412$; $p = .001$) and the total score of self-awareness ($r = 0.365$; $p = .004$).

Table 1. Mean (and Standard Deviations) of Self-Awareness

Variables	Group A	Group C	Group B (Pre-test)	Group B (post-test)
Public Self-Awareness	20.23 (2.86)	16.10 (3.11)	15.93 (3.91)	18.87 (3.30)
Surrounding Self-Awareness	15.40 (2.86)	13.27 (2.41)	14.30 (3.47)	14.90 (3.12)
Private Self-Awareness	10.90 (1.06)	7.23 (1.31)	8.87 (2.19)	10.63 (0.93)
Total Self-Awareness	46.53 (4.74)	36.60 (3.54)	39.10 (8.10)	44.40 (6.11)

Table 2. Paired samples test of pre-tests and post-test of Group B's SSAS-C

Pairs	Std. Error Mean	95% CI		t	df	Sig. (2-tailed)
		Lower	Upper			
Public Self-Awareness	0.755	-4.477	-1.389	-3.885	29	0.001
Private Self-Awareness	0.420	-2.625	-0.908	-4.208	29	0.000
Surrounding Self-Awareness	0.444	-1.507	0.307	-1.353	29	0.187

Table 3. Independent sample test of self-awareness affected or not by personality traits (Group A Vs. Group C)

Self-awareness	Std. Error Difference	95% CI		t	df	Sig. (2-tailed)
		Lower	Upper			
Public	0.772	2.589	5.678	5.356	58	0.000
Private	0.307	3.052	4.281	11.938	58	0.000
Surrounding	0.682	0.767	3.499	3.126	58	0.003

Table 4. Independent sample test of self-awareness on the group dimensions

Self-awareness	W-PT Group			A-PT Group		
	t	Sig. (2-tailed)	Cohen's d	t	Sig. (2-tailed)	Cohen's d
Public	-0.813	0.856	-0.047	1.714	0.092	0.443
Private	3.506	0.001	0.905	1.036	0.305	0.267
Surrounding	1.342	0.186	0.346	0.647	0.520	0.167

Table 5. Pearson correlation (r) analysis of personality traits and self-awareness (SA)

Variables	Mean	SD	1	2	3	4	5	6	7	8	9
1. Extraversion	4.48	1.25	—								
2. Agreeableness	4.93	0.86	0.058	—							
3. Conscientiousness	4.31	1.12	-0.057	0.322*	—						
4. Openness	4.75	1.10	0.562**	0.076	0.077	—					
5. Neuroticism	4.21	1.17	-0.177	0.293*	0.344**	0.034	—				
6. Public SA	19.55	3.14	0.209	0.017	0.122	0.065	-0.170	—			
7. Private SA	10.77	1.00	0.207	0.279*	0.407**	0.154	0.107	0.448**	—		
8. Surrounding SA	15.15	2.98	0.228	0.190	0.412**	0.045	0.027	0.305*	0.394**	—	
9. Total SA score	45.47	5.53	0.279*	0.162	0.365**	0.089	-0.062	0.813**	0.647**	0.783**	—

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

5. DISCUSSION

Compared with the group that filled in the self-awareness scale after the personality trait scale and the group that merely finished the former one, the group that first completed the personality trait scale significantly improved the public and private self-awareness, while its function was less remarkable concerning the surrounding self-awareness. Therefore, personality traits are of vital importance to induce public and private self-awareness rather than the surrounding self-awareness. This may be due to the fact that: (1) based on the diversity in individuals' characteristics, participants in Group B are likely to be less sensitive to surrounding self-awareness; (2) personality traits, which are primarily demonstrated in public and private self-awareness, may have limited abilities to induce and cope with the environmental factors; (3) the experiment has been carried out in a relatively stable fixed environment.

There was a significant positive correlation in the following pairs of relationships: Extraversion traits and the total score of self-awareness; Agreeableness and the private self-awareness; Conscientiousness and the private self-awareness, the surrounding self-awareness, and the total score ($p < .05$). To sum up, it was discovered in this experiment that not every facet of the personality traits can effectively influence self-awareness, and it is the private self-awareness that the personality can provide the most immediate and maximize the impact.

In this experiment, three traits, extroversion, conscientiousness, and agreeableness, exhibited a striking role; however, the conclusion may be impacted because of the varied state of subjects. For example, males scored considerably higher on openness to experience, whereas women achieved better grades on neuroticism in prior research [19] [20], which, however, was not evidenced in this study. This may be because most of the participants in this study were girls in the fourth grade. Therefore, there are no obvious conclusions to be drawn from this study concerning the influence of openness and neuroticism on the development of self-awareness.

6. CONCLUSION

Through this experiment, the following research conclusions are obtained. Firstly, personality traits can be used as an inducing factor to improve self-awareness in a short period of time. And its inducing effect on private self-awareness and public self-awareness is higher than that on surrounding self-awareness. Then, in these five factors, both Extraversion and Conscientiousness positively correlated with a total score of self-awareness, both Agreeableness and Conscientiousness showed a significantly positive

correlation with private self-awareness, and Conscientiousness also positively predicted the surrounding self-awareness. Consequently, the personality traits can not only serve as the benchmark for evaluating the other four aspects of SEL but it can also provide the educators with an innovative educational model to follow based on individual traits.

There are still some shortcomings and limitations that need to be addressed in this study. Firstly, all of the participants in this experiment were from the same college and they were not distributed evenly enough as the majority of them were females, which may have resulted in some gender disparities. Secondly, the scale used to test personality traits is the *TUPI-C* containing merely 10 items, whose accuracy and validity are lower than those of scales with more questions, such as *NEO Pi-R* and *BFI*. Thirdly, the self-awareness test reflects heightened sensitivity to the environmental and time factors. In this experiment, although all the participants were gathered in a unified room, the time for the individual experiment was not consistent. Therefore, the results of this experiment may not be sufficiently representative.

This study discusses and analyzes whether personality traits can be used as an inducer to positively influence or improve self-awareness and the relationship between personality traits and self-awareness. Personality qualities were discovered to be an inducing factor; moreover, through applying the Five-Factor Model (FFM), it was identified that Extraversion, Agreeableness, and Conscientiousness had a positive association with self-awareness, particularly private self-awareness. This result can motivate students in universities to enhance their self-awareness ability, thereby effectively enabling teachers to explore the model of SEL development in higher education. For example, the educators can use personality traits to detect and distinguish students' individual differences, and thus establish SEL courses with more uniqueness and adaptability. At the same time, it may empower college students to better understand themselves by assisting them in identifying and locating their drawbacks. Future studies will be expected to conceive more appropriate experimental techniques in order to not only solve the deficiencies of this experiment but also to expand the scope of influence of the experiment, making it more effective in both research and practical experience.

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