Students of Low Academic Achievement – Their Personality, Mental Abilities and Academic Performance: How Counsellor Can Help?

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Abstract

Do students' personality and mental abilities influence their academic performance? In an attempt to answer the above question a preliminary study was conducted to explore the potential relationship between personality and cognitive or mental abilities. 121 undergraduate students were administered with the STROOP task and Eysenck personality inventory. The STROOP task provided the reading interference and naming interference scores to indicate cognitive ability while the Eysenck personality inventory provided levels of Activity, Sociability, and Assertiveness to indicate Extraversion dimension of personality. The Emotionality dimension of personality was indicated by the levels of Anxiety, Unhappiness and Inferiority. The participants were grouped into high achievers and low achievers on the basis of their CGPA. Correlational analysis and independent Sample T-test revealed that personality traits of the low and high achieving students are the same except for assertiveness. In addition there exist significant relationships between personality traits and cognitive abilities only in low achievers. The role and importance of counseling service as a helping mechanism are discussed.

Keywords: academic performance, personality, cognitive ability, high and low achievers, counseling.

1. Introduction

Malaysian society puts great emphasis on levels of academic achievement. Parents are keen at seeing their children enroll and graduate from prestigious universities and educational institutions are competing each other to offer their best educational programmes and be at the forefront of academic excellence. In the process of pursuing academic excellence, there is a tendency to focus only on the people who excel and what make them excel. What happen to those who do not excel? Should we just ignore and hope for them to struggle for excellence? It is of clear injustice and improper to even thought of doing that. Students who do not excel or who do not show outstanding academic performance should not be left aside. Rather the people who are directly and indirectly involved in their academic life; namely lecturers/teachers, family members, peers and counselor should be providing help to this group of students.

What make high academic achievers and low academic achievers differ? Do they have different personality traits that will vary their academic performance? or are they utilizing different degree of mental or cognitive processes? In other words, are the two groups of students differ due their different abilities to focus attention in class, or their different abilities in remembering information, or their different abilities in solving problems or involve in making decisions? This paper reports about a current research conducted as an attempt to find answers to the above questions. Specifically it is to understand a potential relationship between students who differ in their levels of academic performance in terms of their personality and their mental or cognitive processes. In addition, this papers aims at contributing ideas and providing suggestions on how a group of significant people to the life of students i.e. counselor can help to ensure a successful academic life.

No doubt, excellence in academic life demands high level of intelligence. But, in addition to intelligence, recent studies have indicated that there are other factors that can be useful predictors of academic performance (Busato, Prins, Elshout, & Hamaker, 1999, 2000; Chamorro-Premuzic & Furnham, 2003). One of the factors is personality.

According to Colman (2006), personality is the sum total of the behavior and mental characteristics that are distinctive of an individual. Personality is also described as a categorized set of attributes that is found in a person that influences and defines the individual's cognition, motivations and behaviors. Larsen and Buss (2008) defined personality as "a set of psychological traits and mechanisms within an individual that are organized and relatively enduring and that influence his/her interactions with, and adaptations to, the environment.

One of the famous theories of personality is known as the Big Five or the Five-factor model of personality (McCrae and Costa, 1990). In this theory of personality there are five trait dimensions; Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism. These five traits represent the core description of human personality. The personality traits such as Conscientiousness and agreeableness, have been found to significantly related to students' performance in a course. This means students who are high in conscientiousness and agreeableness performed better than those low in conscientiousness and agreeableness (Chowdory and Amin, 2006). Similarly in a longitudinal study conducted by Furnham, Chamorro-Premuzic and McDougall (2003), the relationship between the Big Five personality traits, cognitive ability, and beliefs about intelligence was explored. It was found that university students who are more conscientious were more likely to think that intelligence can be increased throughout the life span whilst low conscientious individuals were more likely to believe that intelligence is stable. In addition, personality trait such as conscientiousness was found to be positively correlated with academic performance, while the extraversion trait was found to be negatively correlated with academic performance.

Apart from personality, the extent to which students utilize their cognitive abilities is also important and may contribute to a better academic achievement. The cognitive abilities of the students refer to the way the students perceive, pay attention, remember, think and understand. In general, the mental activities that the students use in receiving information, comprehending it, storing it, retrieving it and using it to make decisions and solve problems.

These mental or cognitive abilities are so much involved in students' academic life. For many individuals, it is during the school years that the greatest demands are placed on cognitive functioning. Students need to pay attention effectively, organize information for thorough comprehension and effective expression (e.g., reading books, writing papers), remember the information and retrieve it for tests, reason effectively, and apply strategic thinking to the many academic problems that arise in school. Thus effective cognitive functioning is critical for all students to learn and profit from their educational experiences.

It is thus beneficial to be investigating whether students' cognitive abilities are related to the personality traits that they possess. It is also interesting to investigate and identify personality traits that may be common among high achievers and low achievers. In addition, the research aims to contribute to the research on how to help and manage students who have low academic achievement.

2. Method

2.1. Sample

The sample of this study consisted of 121 undergraduate students of the International Islamic University Malaysia (IIUM). Their age range was 20 -25 years (M= 20.7, SD = 2.78). There were 69 females and 52 males. They were selected using purposive sampling technique. For the purpose of the study, the participants were divided into two groups, low and high achieving groups. Low achieving group refers to students who obtained Cumulative Grade Point Average (CGPA) of 2.0 and below, and high achieving group refers to students who obtained CGPA of 3.5 and above. There were 61 participants in the high achieving group and 60 participants in the low achieving group.

2.2. Materials

The computerized versions of two measures were used; the measures were set up on the Vienna Test System. These measures were compiled into a test battery whereby all participants had to key in their responses for the two measures one after another with a break allowed if required. The first measure was the Eysenck Personality Profiler V6 (EPPv6), used to measure students' personality traits of extraversion and emotionality. These two components have their own sub-components.

The level of extraversion is determined through the scores of different variables such as activity, sociability, and assertiveness. The level of emotionality is determined through scores on different variables such as inferiority, unhappiness and anxiety. The response format were "1" for "can't decide", "2" for "yes", "0" for "no' and the respondents had to press the corresponding buttons on the keyboard panel. The second measure used was Stroop Interference Test. The Stroop test is a test of attention and perception and it measures two variables: reading interference tendency and naming interference tendency. Reading interference tendency refers to the difference in reaction times between reading incongruent and reading congruent. Naming interference tendency refers to the difference in reaction times between naming incongruent and naming congruent. Congruent item refers to the condition in which the colour and the wording of the word match. For example, the word 'green' is printed with 'green' colour. Incongruent is when the printed color of the word and the wording of the word does not match. For example, the word 'green' is printed in red colour. The reading congruent/ incongruent task requires participants to read the given congruent/incongruent words while the naming congruent/incongruent task requires participants to name the colour of the congruent/incongruent words. Cognitive ability is determined by analyzing the time the participants took to respond. Participants had to press on the corresponding coloured button on a keyboard panel attached to the computer.

3. Results

Table 1 shows the mean and standard deviations of scores in the high achieving and low achieving groups. There were no significant differences in any cognitive variables between high and low achievers. In addition, both groups had lower mean for naming interference tendency compared to mean for reading interference tendency. In terms of personality variables, on average, all participants had moderate activity, sociability and assertiveness scores (range between 20 and 23) to represent their level of extraversion. For high achievers group, the mean for assertiveness was the lowest (m = 20.20). Interestingly, low achievers group had higher assertiveness scores compared to high achievers, $t(119) = -2.10$, $p<.05$. For emotionality, both groups had a moderate emotionality scores, made up of scores for levels of inferiority, unhappiness and anxiety. Comparing the different sub-dimensions, each group had lowest level of unhappiness and the highest level of anxiety.

3.1. Relationship between cognitive and personality variables

Table 2 displays the correlation indexes for low achievers. There were no significant relationships among the cognitive variables. Among the personality variables, there was only one positive correlation among the sub-dimensions of extraversion, namely between assertiveness and sociability, $r (60) = .25$, $p<.05$. All sub-dimensions of emotionality dimension correlated positively with each other. Among the sub-dimensions of both personality dimensions (extraversion and emotionality), inferiority correlated negatively with assertiveness, $r (60) = -.29$, $p<.05$, and with activity, $r(60) = -.32$, $p<.05$. Extraversion correlated with emotionality sub-dimensions except for unhappiness sub-dimension but emotionality only correlated negatively with activity sub-dimension. Between the cognitive and personality variables, reading interference tendency correlated negatively with activity, $r (60) = -.30$, $p<.05$ and positively with anxiety, $r (60) = .29$, $p<.05$. There was also positive correlation between reading interference tendency and overall emotionality, $r (60) = ..29$, $p<.05$.

3.2. Summary of result

To sum up, the result of the analysis indicates that low achievers were more assertive compared with the high achievers. In addition, there was a negative correlation between reading interference tendency with variable activity. This means the more active the low achieving students are, the lower the reading interference tendency. A positive correlation was found between reading interference tendency with variable anxiety, which indicates that the more anxious they are, the higher the reading interference tendency. Finally, a positive correlation was also found between reading interference tendency and overall emotionality, which can be interpreted as the higher the level of emotionality in low achievers, the higher the reading interference tendency.

4. Discussion

This section highlights the implications of the findings in the current study by emphasizing the important role of counselors. The results showed that low achievers were more assertive compared with the high achievers. Though significant, the scores were still moderate (between 20 and 23) meaning the higher score did not represent a really high level of assertiveness.

This finding is ironic as it was expected that at least high achievers would be more assertive than the low achievers. High scorers in assertiveness depict those who have a strong personality, independent, dominant and stand up for their rights, having attributes needed for attainment of achievement. The finding denotes that students who performed poorly may be academically poor, but they still have strong and positive personal characteristics that can help them to succeed. This aspect should be acknowledged by educators and counselors. Therefore it is important for counselors to plan counseling strategies that meet the need and specific situations of the individual. This recommendation support Perry, Cassondra and Jeremy (2007)'s review of the literature concerning counseling approaches with Taiwanese university and college students which reveals that understanding the personality characteristics and cultural influences of Taiwanese university students will undoubtedly contribute to the effectiveness of counseling with these students.

The results in this study also suggest that students' mental ability, measured through the reading interference tendency may be more sensitive among the low achievers compared to the higher achievers. Low achievers may easily become distracted the more emotional they are whereas for high achievers, their performances were unchanged regardless of their emotional levels. The reading interference tendency relates to how the students are distracted when they are asked to read words that are spelled incongruent to their colour. From the cognitive perspective, the automatic processes of reading seem to be disrupted and slowed down, causing more response delay for the low achievers. Reading interference tendency in STROOP may indicate the sensitivity of respondents towards distraction. Therefore the findings may be related to how emotions and level of activity may predict the performance of students. For low achievers, the more anxious and the more emotional they are the more their grades may be vulnerable. Thus, they may need to learn how to manage their emotions better in order to stay on track in their studies. More importantly, the support from counselors is necessary. Counselors may focus on how to help students managing their emotions better and prepare students to face the demands of academic life positively. This is in line with Shechtman's review (2002) that states that in order to improve achievement, the social and emotional dimensions along with the academic need to be addressed. This finding was echoed by Masten & Coatsworth (1998); Wang, Haertel, & Walberg (1994); and Hattie, Biggs, & Purdie (1996).

Masten and Coatsworth (1998), Wang et al. (1994), Hattie et al. (1996) pointed out that success in school demands three clusters of skills; cognitive and meta cognitive skills, social skills and self-management skills. The cognitive and meta cognitive skills include skills related to goal setting, progress monitoring, and memory skills, whereas social skills refer to interpersonal skills, social problem solving, listening, and teamwork skills. In addition, the self-management skills such as managing attention, motivation, and anger are also essential in ensuring success. These three skill sets were the most powerful predictors of long-term school success and seemed to separate high achievers from low achievers.

The above points highlight the importance of counselors to shift from a traditional approach of providing counseling to a more active role in the effort to improve students' achievement. Counselors are recommended to conduct research-based counseling programme. This means, counselors are to conduct research on issues related to students' life and use the research findings to plan for their counseling programmes. By doing this counselors can be directly involved and have a substantial positive effect on student performance.

Another point to be highlighted is about the school/ university climate. Purkey and Schmidt (1996) stressed that the climate at the learning institutions is an important ingredient to learning process. The schools with positive school climates have teachers and others who are seen as warm and caring, have educational policies that foster educational and personal development, and recognize students' efforts and accomplishments. Educators who know students names, recognize their efforts, and provide academic support encourage educational and student development. Those who do not care, fail to listen, and refuse to recognize individual differences in achievement potential contribute to the alienation of students. School counselors can improve the climate of their schools by advocating for policies that promote rather than detract from the personal and educational development of students. They can do this by conducting in-service training of teachers and administrators to teach them basic communication skills, and methods of affirming students' importance and providing encouragement to them. To conclude, the implications of the current study include the call for more research supporting the impact of school counselor services on student academic achievement and behavior. It is of no doubt that counselors can be at the forefront in the process of developing educational policies that support students' personal and academic life.

5. Conclusion

The focus of the current study is to explore potential relationship between personality and cognitive abilities of students who differed in their academic performance. The findings in the current study open up some more interesting points involving students who have low or poor academic achievement. Some recommendations involving the role of counselors are highlighted. Further investigation is necessary so as to contribute to the research on how to help and manage students who have low academic achievement.

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	High Achievers Total (n=61)		Low Achievers Total (n=60)	
	Mean	S.D	Mean	S.D
Reading interference tendency (sec.)	.10	.08	.09	.09
Naming interference tendency (sec.)	.06	.05	.05	.05
Sum of incorrect responses - reading	3.39	3.46	3.68	3.31
Sum of incorrect responses- naming	2.64	2.81	3.53	4.83
Activity	22.74	5.351	22.38	6.504
Sociability	22.52	6.233	22.73	6.452
Assertiveness	20.20	5.882	22.42	5.753
Inferiority	18.74	7.429	16.67	9.247
Unhappiness	13.66	8.775	13.90	7.745
Anxiety	19.08	8.930	18.03	8.407
Extraversion	21.75	4.493	22.57	4.428
Emotionality	17.11	7.328	16.20	7.677

Table 1: Mean and standard deviations of scores for personality and cognitive variables in high and low achievers.

	1	2	3	4	5	6	7	8	9	10	11	12
Reading Interference tendency	1.00											
Naming interference tendency	-.05	1.00										
Sum of incorrect reactions –reading	.19	-.02	1.00									
Sum of incorrect reactions -naming	-.07	-.06	.18	1.00								
Activity	**-.30***	-.07	.03	.14	1.00							
Sociability	.09	.09	-.07	-.04	.21	1.00						
Assertiveness	-.05	.06	-.01	-.02	.22	**.25***	1.00					
Inferiority	.25	.00	.01	-.10	**-.32***	-.23	**-.29***	1.00				
Unhappiness	.22	.02	.00	-.04	-.23	-.07	-.01	**.68****	1.00			
Anxiety	**.29***	-.02	.12	-.17	-.24	-.21	-.16	**.80****	**.71****	1.00		
Extraversion	-.12	.04	-.03	.03	**.69****	**.72****	**.68****	**-.40****	-.15	**-.29***	1.00	
Emotionality	**.29***	-.01	.05	-.11	**-.30***	-.20	-.18	**.92****	**.87****	**.92****	**-.32***	1.00

Table 2: Relationships between cognitive and personality variables among low achievers