

The Influence of Personality Traits in Relation to Choice of Major in University

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In a Thai context, few studies have been conducted on the Big Five Personality traits and choice of college major. The present study, selected 327 students from 3 departments, namely Marketing, Management and Accounting at the Undergraduate Degree level from an International University with the intention of finding out if the Big Five personality traits, were related to students choice of major, gender and to Grade Point Average. The findings using ANNOVA and Post Hoc test of Scheffe, indicated that there were significant differences in the Big Five personality traits of students from Accounting, Management and Marketing majors, especially on Extraversion, Conscientiousness and Openness to Experience traits but no significant differences in the Big Five personality traits of students from Accounting, Management and Marketing majors, for gender and GPAs.

Keywords: Big Five Personality Traits, College Major Choice

Field of Study: Management

1. Introduction

“We continue to shape our personality all our life. If we knew ourselves perfectly, we should die.” (Albert Camus, 1957) Personality can be referred to the summation of ways a person thinks, acts feels and behaves, which determines uniqueness. The reason for differences arises because of traits which are partly genetic, according to psychologists who conducted research on identical twins (Tellegen, Lykken, Bouchard, Wilcox, Segal & Rich 1988). These traits predispose a person behave in a similar and consistent way across most situations and determine our personality make-up. If this is true, it is unlikely that a person's personality can change easily.

Gordon Allport, was one the first theorist to categorize traits into 3 types namely, Cardinal traits which dominate a person's life, Central traits are the building blocks of personality and Secondary traits are not obvious. Since, Allport described a person's traits in more than 4000 ways, it was Ramond Cattell (1946) who reduced the traits to 16 categories by combining common traits using factor analysis and eventually developing the Sixteen Personality Factor Questionnaire (16PF). Later, Hans Eysenck (1947) introduced 2 dimensions of personality traits introversion/extroversion, neuroticism/emotional stability and added one more, Psychotism in the (1970s). Since individual traits can influence the job a person chooses, a career path, a choice of studying a major or even a partner, psychologist discovered a comprehensive, yet easy way of describing a person's

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personality during the 1990s (Digman, 1990). The general/ super traits are on the top of the hierarchy but the specific traits are lower (Digman, 1990, McCrae & Costa 1987, 1992). This is referred to as the Big Five Personality Model. Each bipolar trait consists of many more specific facets which help to describe a person. Several adjectives can be used to describe peoples' traits, Tupes & Christal, 1961/1992 & Goldberg, 1981 & McCrae & Costa, 1985, agreed on the superiority of the five traits.

Research studies indicate that these traits are genetic characteristics that describe members of a species (McCrae & Allik 2002). Culture not only shapes personality but personality and culture interact and shape the behaviors of persons (McCrae, 2000). A person's Big Five traits can be attributed to inheritance as well as experiences (Bouchard & Mc Gue, 2003) and studies indicate stability during a person's life span (McCrae & Costa, 1994, 1999). A summary of the Big Five which can form into acronyms, OCEAN is described below (John, O. P., & Srivastava, S. (1999).

1. Extraversion vs. introversion- sociable, energetic, adventurous, optimistic, straight forward versus sober, retiring, quiet, and reserved.
2. Agreeableness vs. antagonism- trust, tender-mindedness, cooperation, warm and forgiving versus ruthless, selfish, vengeful and irritable.
3. Conscientiousness vs. lack of direction- reliable, hardworking, efficient, and orderly and self-discipline versus lazy, negligent, disorganized and careless.
4. Neuroticism vs. emotional stability- anxiety, anger, worry, nervous compared to calm, relaxed, at-ease and comfortable.
5. Openness vs. closedness to experience- imagination, creativity, originality, and fantasy, curious, artistic versus uncreative, down-to-earth, conventional and narrow interest.

The findings of the present paper indicates that the Big Five personality traits do have an impact on student's choice of major, unlike previous studies that paid too much importance cognitive skills more than other factors (Turner & Bowen, 1999).

The Big Five traits are significant for educators and parents who are eager to predict the right choice of major for further academic successes and the right career path for children,

The researches will proceed with the literature review, methodology, findings and conclusions keeping in mind the question "Do personality traits affect choice of college major"?

2. Literature Review

Few studies exist in the Asian context, particularly in Thailand on the Big Five personality traits, although personality traits have an impact on the extent to which a person pursues studies like getting a school degree or college degree (Heckman, Stixrud, Urzua, 2006; Cunha & Heckman, 2007; Borghans, Duckworth, Heckman, Weel, 2008; Baron Cobb-Clark, 2010). Prior research emphasize on broad findings rather than minute details at a smaller scale in university.

Heckman, Stixrud & Urzua (2006) found that personality traits are an advantage for a person that help with productivity on tasks. Research indicates that personality traits are related to certain style of behaviors a person prefers (Almlund, Duckworth, Heckman & Kautz, 2011). The subject an individual is attracted to can impact the choice of major, next

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to cognitive ability (Arciadacono, 2004). A person choice of occupation can be determined from personality traits (Cobb-Clark & Tan, 2011). Holland in 1992 and 1997, believed that persons who possess certain traits tend to affiliate together and match the work environment to fit their needs. Wilson & Jackson (1994) believed those people who are introverted, not sociable, and cautious tended to be physicist. Persons who are ambitious, achievement- oriented and did not care much for affection were likely to be choose Marketing (Matthews & Oddy, 1993). Rubinstein (2003) found that students who choose interior design were less authoritative and more creative than students of the law and behavioral sciences. In 2003, Rubinstein indicated that women could be more creative than men. Other studies show that women are more verbally skilled than men (Hyde & Linn, 1988). Van der Werfhorst et al. (2001) found that Arts, Social Sciences and Humanities were more likely to be chosen by students whose parents had higher status and were more educated but technical majors were chosen by students whose parents had lower socio-economic status. Saks & Shore (2005) found that wealth in a family can affect what majors are chosen because the earning risks can be mediated by this.

Considered individually these traits and the outcomes are different as well.

1. **Extraversion (E):** Extraverted persons do select jobs which have an opportunity for social contact (Krueger and Schkade, 2008). Extraverts are inclined to perform better in jobs related to sales occupations and management (Barrick & Mount, 1991). Judge et al, 1999 believed extraversion can lead to career success as well.
2. **Conscientiousness (C):** Conscientious persons are likely to perform better academically since they are motivated more, than vice versa (Chamorro-Premuzic & Furnham, 2005). Conscientious persons are careful about the implementation of future plans (Burch & Anderson. 2008)
3. **Agreeableness (A):** Persons with high agreeableness and emotional stability prefer jobs with team work and customer relations that are dyadic (Mount, Barrick & Steward, 1998). This traits helps one to negotiate to maintain balance (Ostendorf et al., 1992)
4. **Neuroticism (N/ES):** Kelly & Shin (2009) pointed out that career indecisiveness is related to neuroticism because of negative thoughts and feelings. Mueller & Plug, 2006; Nyhus & Pons, (2005) indicated that emotional stability is a trait that could be positively related to performance in all jobs. De Fruyt & Mervielde, (1997) agree that emotional stable persons are more likely to choose technical and business studies, math , economics and law compared to social sciences and humanities because they like structured rules and situations more.
5. **Openness to Experience (OE):** Being open to experience has been found to have a positive relationship with intelligence (Chamorro-Premuzic & Furnham, 2005). Persons with this trait have a deductive ability to analyze problems (Mount et al., 2005).

Lounsbury, Huffstetler, Leong, & Gibson (2005, p. 508) found that persons feel more genuine when they identify with their traits and act in accordance with these traits. Higher job performance can be contingent upon a person's occupational interest and realized occupational choice (Neumann, Olitsky, & Robbins (2009).

3. Methodology

Three hypotheses were designed as below:

1. There are significant differences in the Big Five personality traits of students from Marketing, Management and Accounting majors at the undergraduate level in university.
2. There are significant differences in the Big Five personality traits of males and females students from Marketing, Management and Accounting majors at the undergraduate level in university.
3. There are significant differences in the Big Five personality traits of students from Marketing, Management and Accounting majors with different GPAs at the undergraduate level in university.

The disproportional stratified random sampling technique was utilized and structured questionnaires were distributed to each of the three majors at the undergraduate level, namely, Marketing, Management and Accounting, until a sufficient sample size of 327 was obtained.

The items for the instrument to measure the Big Five Personality traits were adapted from the Big Five Inventory (BFI) designed by John, O. P., & Srivastava, S. (1999) and both the Thai and English version were distributed for clarity. The items were rated on a five point Likert scale with 1= strongly disagree, 5 = strongly agree), having some questions reverse-coded. A score of 165 indicates high scores for the 5 dimensions and a score of 32 indicates low scores on for the 5 dimensions of the traits. The value of Cronbach's Alpha 71.7 indicates an acceptable internal consistency.

For the Descriptive analyses measures of central tendency such as the mean, median and mode and measures of variability such as standard deviation, skewness and kurtosis and fiduciary limits were utilized to find out differences in the Big Five Personality traits .For the Inferential analyses, ANOVA was used to find out differences in the Big Five personality traits of students from Marketing, Management and Accounting majors on the basis of gender and GPAs,The Post Hoc test of Scheffe was also utilized to find out details of differences between two majors.

4. Major Findings

The findings of the research indicate sufficient evidence that the student's major choice is impacted by personality.

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Table 1: Comparison of the Big Five Personality Traits of Accounting, Management and Marketing Majors using ANNOVA

| Personality Traits | Means (SD) | | | Critical Ratios for Differences F-score |
|--------------------|---------------------|---------------------|---------------------|---|
| | Accounting (N=103) | Management (N=76) | Marketing (N=148) | |
| E | 3.2961 (0.59589) | 3.2237 (0.62926) | 3.0912 (0.69507) | 3.718* |
| ES | 3.3641 (0.82306) | 3.1974 (0.74422) | 3.1959 (0.73687) | 1.678 |
| A | 3.8544 (0.65914) | 3.8289 (0.65601) | 3.7095 (0.65728) | 1.718 |
| C | 3.0971 (0.56472) | 2.9079 (0.55804) | 3.1115 (0.57682) | 3.544* |
| OE | 3.1505 (0.73041) | 3.4408 (0.71165) | 3.3243 (0.71871) | 3.746* |

Remarks: F-values are significant at * $p < .05$ ** $p < .01$

Table 1 indicates that there are significant differences in the Big Five personality traits of students from Accounting, Management and Marketing majors, especially on Extraversion, Conscientiousness and Openness to Experience and hypothesis 1 is partially supported by the data.

The obtained value for the ANNOVA test, for Extraversion, $F=3.718$, is positive and statistically significant at the 0.05 level. The means for Accounting are 3.29, for Management are 3.22 and for Marketing are 3.09, respectively. Although the differences between the 3 majors are minute, the findings indicate that Accounting students scored the highest for Extraversion, followed by Management and Marketing. The Post Hoc test of Scheffe revealed that there were differences between Accounting and Marketing students, with Accounting students possessing higher Extraversion personality trait than Marketing (Mean Difference=.20490) Unlike, the stereotype of the past, which considered Accounting majors as logical, introverted and detail oriented ((c.f., Wheeler, 2001), the notion today, especially for Generation Y is different. According to study by Briggs et al., 2007, the job demands of accountants at present, stress on interpersonal communication, interaction and team-based work and if accountants possess these traits they could have higher career satisfaction. Owing to the needs of globalization the American Institute of Certified Public Accountants (AICPA) documented the *CPA Vision project--2011 and beyond* (AICP, 2000), whereby core competencies, namely leadership, communication skills, adaptability to the market and clients needs, and the ability to interpret a broader context of financial and non-financial needs were emphasized.. Lower scores for Extroversion personality trait of Marketing major can be attributed to the fact that the content in these subjects has changed over the years because of globalization and a lot of marketing these days is conducted on line using technology. According to Matthews and Oddy (1993), being less affectionate is a trait possessed by marketing students. This could result in lower scores for Extraversion.

Table 1 indicates that the obtained value for the ANNOVA test, for Conscientiousness, $F=3.544$, is positive and statistically significant at the 0.05 level. The means for Accounting

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are 3.09, for Management are 2.90 and for Marketing are 3.11 respectively. The Management major students scored the lowest for the personality trait of Conscientiousness, followed by Accounting and Marketing. The Post Hoc test of Scheffe revealed that, there were minute differences between Accounting and Marketing majors on the personality traits of Conscientiousness but there were differences between the Marketing and Management majors with Marketing major possessing higher on the personality trait of Conscientiousness (Mean Difference= .02359). This can be attributed to the fact that if Marketing students miss out on opportunities, in today's highly competitive world, getting a second chance would prove difficult and tiring. In comparison an emphasis for Management major students is training to become a future manager and more importance maybe paid to agreeableness, emotional stability and openness to experience which can lead to success.

The obtained value for the ANNOVA test, for Openness to Experience, $F=3.746$, is positive and statistically significant at the 0.05 level. The means for Accounting are 3.15, for Management are 3.44 and for Marketing are 3.32 respectively. The Accounting major students scored the lowest on the personality trait of Openness to Experience, followed by Accounting and Marketing. The Post Hoc test of Scheffe revealed that, there were minute differences between Accounting and Marketing majors on the personality trait of Openness to Experience but differences between Management and Accounting majors, with Management major possessing higher Openness to Experience (Mean Difference=.29030). These findings are consistent with the earlier research conducted by Briggs et al., 2007, indicating that accountants like linearity and predictability compared to thinking institutively and creatively. The subjects in the Management major stress on entrepreneurship, risks taking, creativity, challenge, leadership rather than just being conscientiousness alone.

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Table 2: Comparison of the Big Five Personality Traits of Accounting, Management and Marketing Majors, on the basis of Gender using ANNOVA

| Personality Traits | Means (SD) | | | | | | Critical Ratios for Differences F-score (combined) |
|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--|
| | Accounting (N=103) | | Management (N=76) | | Marketing (N=148) | | |
| | Male (N=27) | Female (N=76) | Male (N=37) | Female (N=39) | Male (N=49) | Female (N=95) | |
| E | 3.3333 (0.66506) | 3.2829 (0.5735) | 3.1892 (0.67032) | 3.3564 (0.59462) | 3.2551 (0.66240) | 3.0579 (0.64768) | 1.056 |
| ES | 3.2037 (0.69696) | 3.4211 (0.86044) | 3.1351 (0.71345) | 3.2564 (0.7769) | 3.1122 (0.78571) | 3.2474 (0.70663) | 3.647 |
| A | 3.6852 (0.63773) | 3.9145 (0.66024) | 3.8784 (0.59401) | 3.7821 (0.71446) | 3.6327 (0.66752) | 3.7789 (0.63880) | 1.819 |
| C | 3.3333 (0.60447) | 3.0132 (0.52898) | 2.9324 (0.5739) | 2.8846 (0.54364) | 3.1531 (0.62253) | 3.1158 (0.54798) | 1.751 |
| OE | 3.0000 (0.7468) | 3.2039 (0.72193) | 3.4054 (0.62108) | 3.4744 (0.79429) | 3.3776 (0.68107) | 3.2947 (0.74909) | 0.000 |

Remarks: F-values are significant at * p<.05 ** p<.01

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Table 2 indicates that there are no significant differences in the Big Five personality traits of students from Accounting, Management and Marketing majors, with regards to gender. The obtained value for the ANNOVA test, for all 5 personality traits and gender was not statistically significant and therefore hypothesis 2 is not supported by the data.

Table 3: Comparison of the Big Five Personality Traits of Accounting, Management and Marketing Majors, on the basis of GPAs using ANNOVA

| GPAs | Majors | Means (SD) | | | | |
|--|------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | E | ES | A | C | OE |
| 2 and below | Accounting | 3.000 (0.70711) | 3.75 (0.35355) | 3.25 (0.35355) | 4.25 (1.06066) | 4.25 (0.35355) |
| | Management | 3.3333 (0.28868) | 2.6667 (0.28868) | 3.6667 (0.57735) | 2.6667 (0.28868) | 3.1667 (0.28868) |
| | Marketing | 2.900 (0.65192) | 3.100 (0.65192) | 3.500 (0.35355) | 3.200 (0.27386) | 3.400 (0.54772) |
| 2-2.5 | Accounting | 3.460 (0.51881) | 3.080 (0.96480) | 3.92 (0.67206) | 3.28 (0.48045) | 3.000 (0.80364) |
| | Management | 3.0417 (0.65569) | 3.250 (0.65713) | 3.625 (0.52764) | 2.9167 (0.55732) | 3.4167 (0.55732) |
| | Marketing | 3.2671 (0.62536) | 3.2466 (0.62805) | 3.7877 (0.79732) | 3.1712 (0.58740) | 3.2192 (0.9977) |
| 2.5-3 | Accounting | 3.2571 (0.64593) | 3.5143 (0.78108) | 3.8714 (0.73106) | 2.9143 (0.47721) | 3.1429 (0.72326) |
| | Management | 3.1410 (0.67812) | 3.2436 (0.77690) | 3.9103 (0.57207) | 2.8077 (0.58056) | 3.3462 (0.64025) |
| | Marketing | 3.1695 (0.65397) | 3.1186 (0.78421) | 3.7034 (0.68304) | 3.0847 (0.62390) | 3.3559 (0.75459) |
| 3-3.5 | Accounting | 3.400 (0.61237) | 3.480 (0.83516) | 3.860 (0.65383) | 3.0600 (0.56495) | 3.220 (0.76485) |
| | Management | 3.50 (0.54772) | 3.125 (0.84656) | 3.75 (0.94868) | 2.9688 (0.38595) | 3.5625 (0.87321) |
| | Marketing | 2.9559 (0.70030) | 3.250 (0.6770) | 3.8088 (0.50774) | 3.1471 (0.55772) | 3.2941 (0.74993) |
| 3.5-4 | Accounting | 3.000 (0.48305) | 3.250 (0.60553) | 3.7813 (0.51539) | 3.125 (0.61914) | 3.1563 (0.50724) |
| | Management | 3.3333 (0.40825) | 3.250 (0.61237) | 4.00 (0.54772) | 3.50 (0.63246) | 3.9167 (1.02062) |
| | Marketing | 2.8571 (0.96931) | 3.000 (0.94054) | 3.4643 (0.53581) | 2.9286 (0.47463) | 3.2857 (0.67123) |
| Critical Ratios for Differences F-score (combined) | | 1.169 | 0.321 | 0.711 | 2.125 | 0.455 |

Table 3 indicates that there are no significant differences in the Big Five personality traits of students from Accounting, Management and Marketing majors, with regards to GPAs. The obtained value for the ANNOVA test, for all 5 personality traits and GPAs was not statistically significant and therefore hypothesis 3 is not supported by the data.

5. Summary and Conclusions

Although this data is insufficient to make generalizations with students from other major subjects, it is imperative for educators to select student's based on their traits rather than solely on academic performance, at the onset in order to detect the students who have the ability to succeed in that major and avoid biases in selection. Often, academic performance could be affected by other environmental variables. The importance of variables, like cognitive skills, socio-economic status, family background, life-time earnings and peer influences are minimized, as it is presumed that only personality affects major choice. Cross-cultural studies can be conducted to assess personality traits in various cultures to discover what motivates persons from different cultures with major choice. This seminal research is a priority after the formation of the Asean Economic Community.

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