

Relationship between Personality Traits and students Motivation

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Abstract: The present study aims to understand the relationship between the big five factors of Personality Traits and Motivation. To gather the information, participants were asked to complete the Survey on Motivation and Personality traits. The sample is composed of 39 students from University Mohammed VI Polytechnic. The results showed that 2 in every 3 UM6P students are motivated. Also, most of the students are agreeable. Finally, we found that there was a significant relationship between Conscientiousness and motivation.

Keywords: Motivation; personality traits.

INTRODUCTION

Academic motivation is one of the effective factors for learners' performance. Learners must be interested in learning; otherwise, the educational system would fail despite all the efforts. Therefore, having critical insight into factors that influence academic motivation can help improve overall academic performance and the educational system as a whole.

Motivation comes from the Latin word moveo, meaning to move, stir, agitate, provoke, or affect (Ünal-Karagüven, M. H., 2015). Motivation is defined as "the process responsible for the initiation, intensity, and persistence of behaviors" (Schunk, D. H., 1991). A person's motivation may be intrinsic (derived from internal processes) or extrinsic (external forces). Similarly, an individual is provoked to act by conscious and unconscious motives.

Academic motivation is the driving force behind behaviors that are somehow related to academic success and functioning, such as how much effort students put out, how well they manage their workload, what they choose to do for a living, and how tenacious they are when faced with challenges. 2008 (Schunk, D. H., 1991; Schunk D. H., 2008). Several studies have been conducted to examine the relationship between these factors, particularly among university students.

The Big Five personality traits model is a general taxonomy of reference in behavioral and psychological research. This model consists of five dimensions which are comparatively independent of each other: Extraversion, Neuroticism, Conscientiousness, Agreeableness, and Openness to Experience (Sandu, M., 2019; Costa & McCrae, 1987). Neuroticism describes a person's emotional stability and general temperament. Extraversion reflects a person's activity and sociability. Openness refers to the willingness to have new experiences and be open-minded. Agreeableness, on the other hand, refers to our relationships with others and our friendliness. Finally, conscientiousness is our ability to regulate impulsivity, orderliness and perseverance (Costa & McCrae, 1987). Some literature argue that some personality dimensions are not covered by the Big Five personality trait model. However, empirical evidence showed that the model accurately assesses personality and its relationship to academic motivation and academic achievement. The big five model established has been related to academic motivation, academic performance as well as job performance in later life It has been successful in many countries and is therefore considered the most widely used theoretical personality framework (Judge, Jackson, Shaw, Scott & Rich, 2007; McCrae et al., 2005; Schmitt et al., 2007).

Over the years, the relationship between personality traits and academic motivation has been crucial in designing effective teaching strategies due to individual differences in learning styles and education preferences. The level of motivation exhibited by students differs from one student to the other. Some approach their studies with eagerness and an inner desire to learn more while others seem fed up and unperturbed (Komarraju, 2005). According to Stipek (2002), there are various factors including both personal and contextual factors that could account for these differences.

Additionally, a meta-analysis by Ackerman and Heggestad (1997), concluded that intellectual ability and personality traits determine an individual's success. Furthermore, according to a study by O'Connor and Paunonen (2007), there are three rationales for evaluating personality traits as predictors of students' academic achievement. First and foremost, students' behavioral tendencies which are reflections of personality traits could influence habits that impact academic achievements such as perseverance, conscientiousness and extraversion. Secondly, while cognitive abilities reflect what a person can do, personality traits reflect what a person will do. That personality and cognitive abilities in older students better predict later achievement, especially motivation-related personality variables.

While many researchers have studied individual differences in learning strategies and academic performance, few focused on the relationship between various personality traits and the types of academic motivation among university students.

It is therefore imperative that closer attention should be given to the relationship between personality traits and academic motivation of tertiary students. The current study was designed to address this need by directly assessing the relationship between the five personality traits and academic motivation (extrinsic and intrinsic) of students at Mohammed VI Polytechnic University.

LITERATURE REVIEW

A study by Komarraju et al.,(2009) looked at the relationship between the Big Five personality traits (extraversion, agreeableness, conscientiousness, neuroticism, and openness) and academic motivation among university students. The study found that conscientiousness and openness were positively related to intrinsic motivation, and conscientiousness and extraversion were positively related to extrinsic motivation, and agreeableness and conscientiousness were positively related to academic motivation, while neuroticism was negatively related. This suggests that students who score high in agreeableness and conscientiousness are more likely to have high levels of academic motivation, while those who score high in neuroticism may have lower levels of academic motivation.

Furthermore, a study conducted in Pakistan examines the relationship between personality traits and academic motivation among university students and found that all personality traits (conscientiousness, agreeableness, neuroticism, extraversion, and openness) have a significant positive effect on academic motivation the with an exception of agreeableness, which has an insignificant effect on academic motivation (Raza, S. A., & Shah, N., 2017). A similar study conducted in Ireland showed that conscientiousness was the strongest predictor among the Big Five Traits of both academic motivation and academic performance and was followed by neuroticism (Sandu, M., 2019).

Another study by Clark & Schroth (2010) examined the relationship between personality traits and academic motivation.the study indicated that those who were intrinsically motivated to attend college tended to be extroverted, agreeable, conscientious, and open to new experiences; although these trends varied depending on the specific type of intrinsic motivation. Those who

were extrinsically motivated tended to be extroverted, agreeable, conscientious, and neurotic; depending on the type of extrinsic motivation. Those who lacked motivation tended to be disagreeable and careless. These results suggest that students with different personality characteristics have different reasons for pursuing college degrees and different academic priorities. Our study mainly focused on the relationship between these five dimensions as earlier mentioned and academic motivation.

Study Rationale/Justification

This study was relevant to the university management in understanding the profile of the cohort of students with regard to their personality and their type of motivation. This would be helpful to predict students' academic success during their degree studies and their future professional performance. Also, it served as a baseline study for future studies in exploring motivational strategies to enhance high academic and professional performance among UM6P students.

METHODOLOGY

Research question

What is the relationship between personality traits and academic motivation of students at the University Mohammed VI Polytechnic?

On the basis of theoretical assumptions, we hypothesized.

Objectives of study

General Objective

To determine the relationship between personality traits and academic performance of student at University Mohammed VI Polytechnic

Specific Objectives

1. To determine the personality traits among students at UM6P
2. To assess the level of motivation among students at UM6P
3. To determine the relationship between personality traits and motivation among UM6P students.

Hypothesis: Some Personality Traits have a relationship with students' academic motivation at UM6P.

Study variables

Demographic characteristics: Year of study, gender, campus

Independent variables: Personality traits (Conscientiousness, Openness, Extraversion, Neuroticism, Agreeableness).

Dependent variable: Motivation (Extrinsic and Intrinsic).

Variables Measurement

For data collection, a slider was used to measure the two types of motivation (intrinsic and Extrinsic). Five statements were asked to measure students' motivation. It is answered using a Likert type scale with seven options (1 totally disagree and 7 totally agree). Table 1 shows the items for each factor.

Tableau 1:Statements of types of Motivation (Intrinsic and Extrinsic).

Motivation	Statements	Scale						
Intrinsic	I like to learn as much as I can in school.	1	2	3	4	5	6	7
	I like difficult problems because I enjoy trying to figure them out.							
	I ask questions in class because I want to learn new things.							
	I do extra projects because I can learn about things that interest me.							
	If I get stuck on a problem, I keep trying to figure out the problem on my own.							
Extrinsic	I put more efforts in my studies when I like the course content.							

	I need at least a high-school degree in order to find a high-paying job later.						
	I am pushed to study more when I am on a scholarship.						
	I am pushed to study more when I see my peers studying or when I get homework from my teacher.						
	I'm studying to make my parents proud.						

And for Personality Traits, a matrix table was used to measure the type of personality (Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism) for each student. Two statements were asked for each personality trait. It was answered using a label of four scales (Strong disagree, Disagree, Agree and Strong Agree). Table 2 shows the items for each factor.

Tableau 2:Statements of types of Personality traits.

Personality Traits	Statements	scale			
Openness	I have a vivid imagination	Strongly disagree	Disagree	Agree	Strong Agree
	I have excellent ideas.				
Conscientiousness	I am always prepared				
	I follow a schedule				
Extraversion	I feel comfortable around people				
	I talk to a lot of different people at parties.				
Agreeableness	I make people feel at ease				

	I feel others' emotions				
	I am not usually relaxed				
Neuroticism	I get upset easily				

Two types of variables were used to conduct this study: independent variables (personality traits) and dependent variables (intrinsic and extrinsic motivation). We used two levels of measurement nominal for independent variables and interval for dependent variables. The type of data was qualitative for IDV and quantitative for DV. For measurements we had 4 scales of matrix using (Strongly agree=4, agree=3, disagree=2 and Strongly disagree= 1) for the personality traits measurements and for the two types of motivation 7 point Likert scale. Table 3 shows the variables and their items.

Tableau 3: Variables and Statements of types of Personality traits.

Variable	Variable Composition	Level of measurement	Type of data	Means of measurement
Independent Personality traits	Conscientiousness	Nominal	Qualitative	4 scale matrix using
	Openness			Strongly agree=4
	Extraversion			Agree = 3
	Neuroticism			Disagree = 2
	Agreeableness			Strongly disagree = 1
Dependent Motivation	Extrinsic	Interval	Quantitative	7-point Likert scale
	Intrinsic			

Experimental design

The study employed within-group experimental design. With this design, each respondent answered questions on both the five personality traits and motivation (extrinsic and intrinsic). This design was appropriate because it helped to control for individual differences between subjects, making the results more reliable.

Sampling Technique

Convenience sampling technique was used to recruit participants for the study. They were selected based on the ease of access and willingness to participate in the study. This technique was adopted due to the limited time for the study.

Sample size

A total of 53 participants filled the questionnaire during the data collection. However, 14 respondents were dropped due to incomplete data. Therefore, a total of 39 observations were achieved after data cleaning was done.

Data Collection Instrument

A structured questionnaire with close-ended questions, matrix and likert scale were developed and launched on qualtrics, an online data collection tool at UM6P. The close-ended questionnaire captures data on the respondents' demographic characteristics. The motivation (extrinsic and intrinsic) was measured using a 7-point likert scale where 1=minimum point and 7=maximum point. There were a total of ten(10) questions for the motivation (5 for extrinsic and 5 for intrinsic). The five personality traits were measured using 4-scalar matrix questions (Strong agree, Agree, Disagree, Strong disagree). The five personality traits questions were also ten(10) with 2 statements for each trait.

Inclusion and Exclusion Criteria

All students at UM6P above 18 years of age and have consented to partake in this study were included. However, students who did not consent to participate in the study were excluded. Students who were below 18 years were excluded due to complexities in ethics (issues of consents) with minors in studies.

Ethical Issues

Approval for the study was obtained from the School of Collective Intelligence, Mohammed VI Polytechnic University, Rabat. Also, permission was sought from students during data collection. Data was protected and only researchers had access to it. Participating in the study was voluntary and the purpose of the study was clearly explained to the students so they decide whether to consent or not. Only those who provided consent were included in the study. There

were no direct benefits for participants. Students were assured that under no condition whatsoever will their names or any other contacts be linked to the data analysis and dissemination of the findings of the study.

Results

The total number of respondents to the survey was 53 but only 39 (73.58) completed the survey.

Demography

The percentage of female respondents is 64% while males is 33%. 3% of the respondents chose to not say about their gender. Also, respondents from Benguerir accounted for 51% while 46% were from Rabat campus. The year of study had 44% from M2, 38% from M1, 10% from L2 and only 3% from L1. Below is the chart showing the distribution.

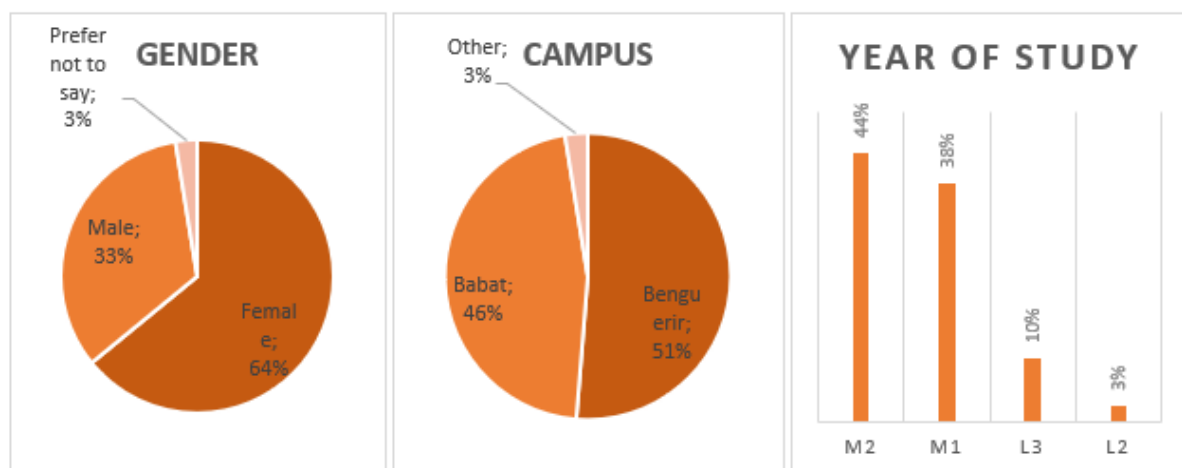


Figure 1: Demography

Personality traits

Agreeableness was the most dominant trait amongst the respondents with about 92% followed by extraversion with 46%, neuroticism with 44%, conscientiousness with 33% while openness, the least present with a percentage of 21%, based on the scoring adopted.

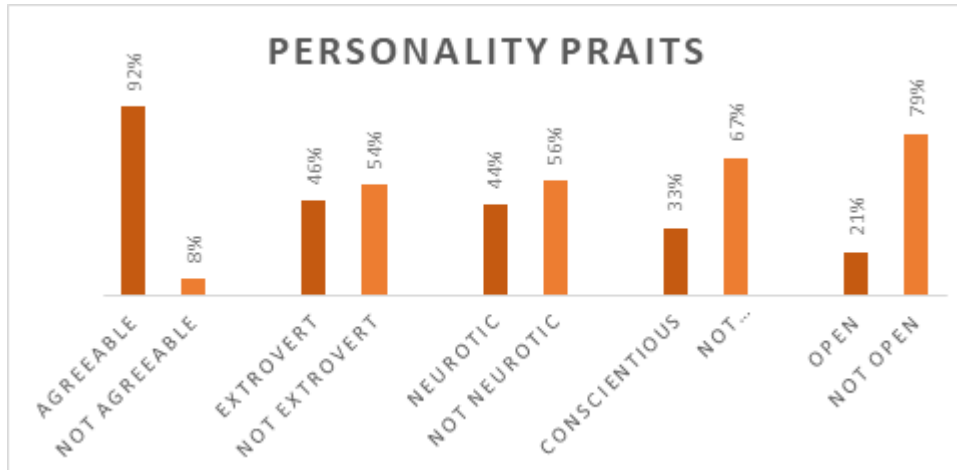


Figure 2: Personality traits distribution

Motivation

The motivation of the respondents was assessed based on intrinsic and extrinsic with about 59% of the respondents intrinsically motivated while 74% were extrinsically motivated. The overall motivation was ascertained with about 64% of respondents motivated.

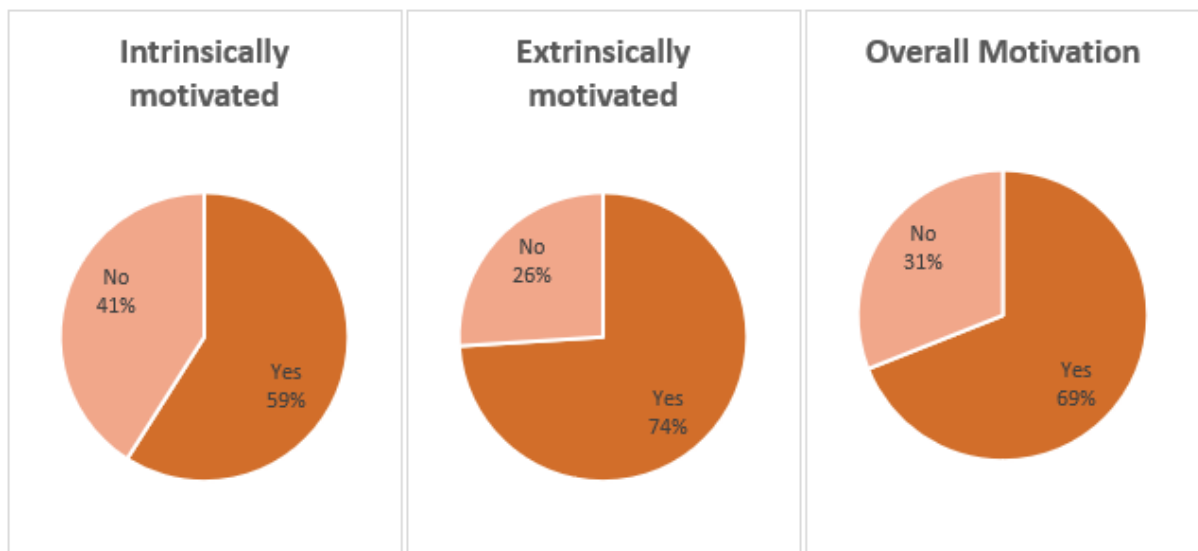


Figure 3: Motivation distribution

Hypothesis testing

Normality

The first assumption carried out on the dependent variable was to check if the variable was normally distributed. This was done using the Shapiro-Wilk test which assumes that the

distribution is normal as its null hypothesis. Below is the graphical representation of the distribution.

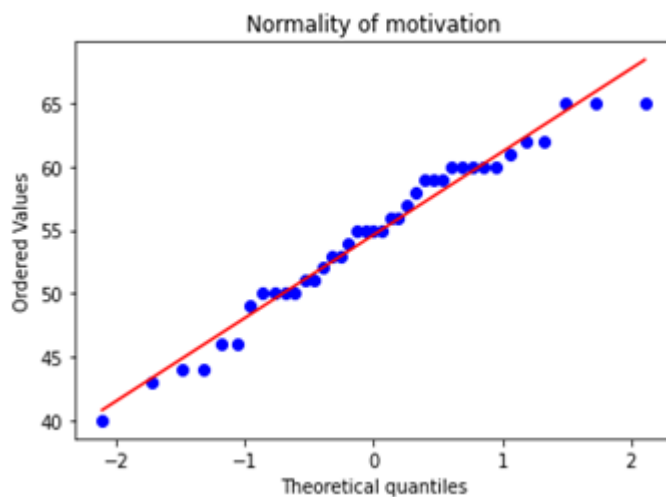


Figure 4: Normal distribution of motivation

The p-value for the normality test is 0.282 therefore we fail to reject the null hypothesis which indicates that the distribution is normal.

Equality of variance

The variance of the dependent variable (motivation) was compared for equality using the Barlett test which assumes that the variance on the different levels of the traits is equal.

Tableau 4: Bartlett test for equality of variance

	P-value	Decision	Conclusion
Openness	0,029	Reject H0	No equality of variance
Agreeableness	0,955	Fail to reject H0	Equality of variance

Extroversion	0,459	Fail to reject H0	Equality of variance
Conscientiousness	0,487	Fail to reject H0	Equality of variance
Neuroticism	0,327	Fail to reject H0	Equality of variance

The p-value for the following traits agreeableness, extroversion, conscientiousness and neuroticism were above 0.05. Hence, we fail to reject the null hypothesis. We can conclude that the motivation has equal variance across these traits. Openness had a p-value less than 0.05 which indicates that we reject the null hypothesis.

Comparison of means

The means of the following traits agreeableness, extroversion, conscientiousness and neuroticism were compared using ANOVA Test while Welch test was used for openness.

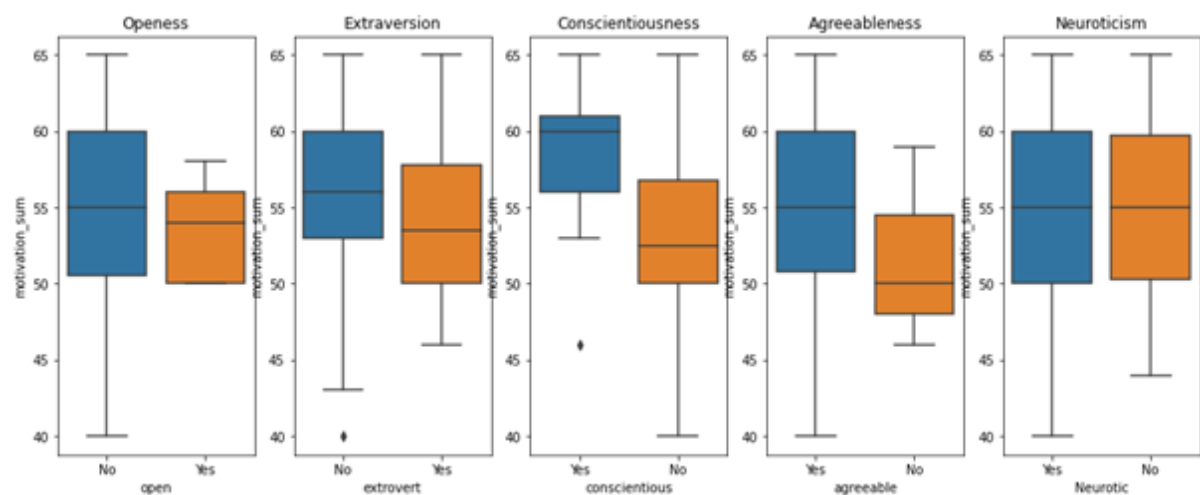


Figure 5:Boxplot showing the relationship between Personality Traits and Motivation

Tableau 5: Comparison of means

	P-value	Decision	Conclusion
Openness	0,417	Fail to reject H0	Equality of the means

Agreeableness	0,416	Fail to reject H0	Equality of the means
Extroversion	0,729	Fail to reject H0	Equality of the means
Conscientiousness	0,005	Reject H0	No equality of the means
Neuroticism	0,826	Fail to reject H0	Equality of the means

We fail to reject the null hypothesis for all of the traits excluding conscientiousness. This indicates that only conscientiousness has a significant relationship with motivation.

Logistic Regression

Logistic regression was used to determine the direction and strength of the relationship between conscientiousness and motivation. Below is the table showing the results.

Tableau 6:Results of the logistic regression

	Options	coefficient	P-value	Odd ratio
conscientious	No	Reference		
	Yes	0,641	0.004	2,226

From the results above, conscientiousness is positively related to motivation because the coefficient is greater than 0. The more conscientious an individual is, the more motivated he/she would be. Furthermore, The Odd ratio is equal to 2.226 which indicates that students who have conscientious traits are likely to be twice as motivated than those who do not.

Discussion

Our first objective is to study the pt of UM6P students. We came to the conclusion that these students are not really open and conscientious. They are relatively extroverted and neurotic but almost all of them are pleasant. This agreeableness could be related to the selection criteria of the students, which are not only based on skills but also life skills and morals.

The second goal is to evaluate the level of motivation of UM6P students. The results show that students are more motivated extrinsically than intrinsically but there is a percentage of

respondents that are intrinsically motivated. The overall motivation is more likely to be present between the students in the university.

In our current study, there was a statistically significant association between personality traits and the motivation of students. Also, with these four personality traits; Extraversion, Neuroticism, Agreeableness, and Openness, our study found no statistically significant association between them and the motivation of students at Mohammed VI Polytechnic University.). Similar results were found in a study conducted in Ireland that conscientiousness was the strongest predictor among the Big Five Traits of both academic motivation and academic performance and was followed by neuroticism (Sandu, M., 2019). Additionally, findings from this study support the result from a study that found that conscientiousness has a positive relationship with academic motivation (Komarraju et al., 2009). However, the findings from our study were contrary to the findings by Shah, N., (2017), all personality traits (conscientiousness, agreeableness, neuroticism, extraversion, and openness) have a significant positive effect on academic motivation with an exception of agreeableness, which has an insignificant effect on academic motivation.

Conclusion

This study offers preliminary evidence regarding the relationship between personality and students' motivation at UM6P. Openness, agreeableness, conscientiousness, neuroticism and extraversion are the five personality traits considered in this study. The result obtained from the data analysis shown that agreeableness is the most common trait amongst our respondents. Moreover, we found that only conscientiousness is significantly related to motivation. Students with conscientious traits are more likely to be motivated than those who don't have this trait. This same study could be conducted with a larger and more representative sample in order to infer the results to all UM6P students.

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