

RESEARCH ARTICLE

The Correlation Between Personality Dimensions and Young People's Choice of a Medical Career

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Objective: The research assumes that there is a correlation between personality dimensions Extraversion and Conscientiousness which mean autonomy, ambition and consistency of purpose, self-efficacy and determination for young people who want to aspire to a medical career.

Methods: In this study's target group were included 130 students aspiring to a medical career, that participated in the summer school organized by UMF Tîrgu-Mures in 2016, of which 25 (19%) male and 106 (81%) female, average overall age group being 17.23.

Results: Within the female group, the Pearson cross-correlation coefficient of Openness and Conscientiousness is $r. \text{Pearson} (105) = -.20, p < 0.05$. The Pearson coefficient of cross-correlation between Extraversion and Conscientiousness is $r. \text{Pearson} (105) = -.20, p < 0.05$. The Pearson coefficient of cross-correlation between emotional stability and conscientiousness is $r. \text{Pearson} (105) = .36, p < .001$. In the male group, the Pearson cross-correlation coefficient between the Extraversion and Conscientiousness personality dimensions is $r. \text{Pearson} (N = 25) = -.39$ where $p < 0.05$.

Conclusions: The Extraversion dimension of personality is a dynamic factor and motivator only when it is correlated with the Conscientiousness personality dimension. This indicates dynamism and autonomy, persistence in achieving goals, ambition, high motivation, interpersonal social intelligence and emotional stability, resulting a personality profile that matches one of the aspirants to a medical career.

Keywords: the big five, personality, DECAS, conscientiousness, academics performance

Received 13 November 2016 / Accepted 12 December 2016

Introduction

Personality represents all the characteristics of how a person defines his thinking, emotions and behaviors based on situational stimuli. In the case of aspiring to a career of doctor / dentist / pharmacist, identifying specific personality profiles, and some correlations that may represent strengths in choosing future medical careers, can contribute to a better orientation in choosing the profession of these young people. In terms of the investigation and assessment of human personality, "The big five" model and its derivatives psychometrically represented by Personality Inventory NEO-PI-R is currently one of the most used tools in psychological assessment of personality around the world (1,2), because of its factorial analysis that is also applicable in terms of multicultural (3). *The big five model* is a dimensional system of understanding and assessment with five personality dimensions: Openness, Extraversion, Conscientiousness and Agreeability, neuroticism / emotional stability (4). Openness refers to a facet of personality that is directly related to intellectual interests and learning style of the student. Extraversion represents the social orientation of a person, the dynamic interactions with others, and consistency in performing tasks. Conscientiousness indicates probity, determination, organization, responsibility and persistence in undertaken projects. Agreeability is to

trust that others, interpersonal and impersonal relationship skills, capability of empathy, honesty. Emotional stability designates emotional balance, stress resistance, tolerance to frustration (5-9). All five are biologically determined, incorporating trends / characteristics innate and genetically transmitted, subsequent purchases of the process of personogenesis based on these biological determinants (10).

The relation between the big five factors of personality and academic motivation

Personality is a predictor in terms of academic success, but also direct student motivation to achieve good results during their studies. The main features that define the personality profile of a medical student / aspirant to a medical career represent important attributes needed in learning and acquiring knowledge during college, and choice of specialties / medical careers and further development in this career (11-14). High levels of personality dimensions Openness and Conscientiousness and low neuroticism (= for Emotional Stability), is the personality profile that can predict most accurately the efficiency and performance in academia (15-16). Also, employment and dynamism in job-related academic activities are predicted and characterized by above-average level of Openness and Extraversion (17) dimensions. At the same time, a correlation between Extraversion and Conscientiousness personality dimensions can be viewed through the lens of a high degree of autonomy and independence in relation to tasks, which

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contributes to better decision-making capacity in prioritizing activities (18-19).

Objective

The research assumes that there is a negative correlation between Extraversion and Conscientiousness personality dimensions for young aspirants to a medical career, which means autonomy, ambition and consistency of purpose, self-efficacy and determination for young people who want to aspire a medical career.

Methods

This study included a total of 130 possible candidates for medical school, participating in the summer school organized by UMF Tirgu Mures in 2016. They were distributed in two groups in the first batch of 25 (19%) of people male and 105 in the second group (81%) females. The overall average age of the female lot of $M_{age} = 17.21$ ($SD = .05$, $Mdn = 17.00$) and the overall average age in the group of man is the $M_{age} = 17.28$ ($SD = .01$, $Mdn = 17.00$). Overall average of both groups ($N = 130$) by age is $M_{age} = 17.23$ ($SD = .05$, $Mdn = 17.00$). This distribution of the entire sample by gender, was achieved due to different standards depending on age and sex, for interpretation of results obtained in Personality Inventory DECAS. This study was conducted in the Department of Counseling, Career Guidance and Information Students from the UMF Tirgu Mures in the period 25 to 30 July 2016. This research has no clinical implications, only implications for the psychological character of the educational spectrum. All participants were instructed on filling in the DECAS personality inventory, being answered all the additional questions. The same test conditions were insured for all participants, thus implementing protocols observed by DECAS (a specially designed room / classroom, participants are not under the effect of alcohol / psychotropic, not tired, etc). DECAS Personality Inventory measured the five personality dimensions model *The Big Five* questionnaire, comprising a total of 97 items that measure the five dimensions of personality: D-Opening, E-Extraversion, C-Conscientiousness A-Agreeableness, S-Emotional Stability. Responses to each item are defined in dual model with "True" or "False". There are also three validation / control scales SD (social desirability), RD (random answers) and AP (Approval), a score greater than 65 transformed in T odds automatically leading to invalidation of the profile. The internal Cronbach alpha consistency coefficient is .71 for Open, .75 for Extraversion, .70 for Conscientiousness, .71 for Agreeableness for, .74 Emotional Stability, .72 for social desirability

and .82 for approval, which is calculated on a representative sample of 1552 people. Transforming raw scores to T odds generates the dimension of personality: very low T levels - between 20.00 and 34.99; low - between 35.00 and 44.99; average - between 45.00 and 55.00; high - between 56.01 and 65.99; very high - between 66.00 and 80.00 (20). For statistical processing of data, SPSS-18 statistical software version for Windows was used.

Results

In the female sample (see Table I), in Open Dimension a value of $M = 9.52$ ($SD = 3.38$, $Mdn = 9.00$) was obtained, while in Extraversion Dimension $M = 11.32$ ($SD = 3.73$, $Mdn = 11.00$) was obtained. In Conscientiousness, $M = 12.60$ ($SD = 2.74$, $Mdn = 13.00$) was obtained. The average raw scores on Agreeableness dimension was $M = 9.87$ ($SD = 3.29$, $Mdn = 10.00$). Emotional stability presented $M = 8.59$ ($SD = 3.79$, $Mdn = 9.00$). Regarding SD (social desirability / lie scale), M was 14.16 ($SD = 3.86$, $Mdn = 15.00$). RD (Random Responses) present scores of $M = 7.25$, ($SD = 2.12$, $Mdn = 7.00$). AP scale validation (approval) presented $M = 52.43$ ($SD = 6.69$, $Mdn = 52.00$). By reference to standard DECAS on factorial combination within the female lot, the $D + E = C + A + S$ personality profile resulted. The results obtained from the scales validation confirms the authenticity of the answers and lack of distortion trends, approval or random answers, which led to the validation protocols applied to all subjects.

Cross-correlation coefficient for the female sample (see Table II) in Openness and Agreeableness is r . Pearson (105) = -.20, with $p < 0.05$. Pearson coefficient of cross-correlation between Extraversion and Conscientiousness is r . Pearson (105) = -.20, with $p < 0.05$. Pearson coefficient of cross-correlation between Emotional stability and Conscientiousness is r . Pearson (105) = .36, with $p < .001$. The results obtained in the female group indicate a statistically significant negative correlation between personality dimensions Openness and Agreeableness and also a statistically significant negative correlation of low level between Extraversion and Conscientiousness; a statistically significant positive correlation of moderate levels was found between emotional stability and conscientiousness dimensions. No further statistically significant inter-correlations exist.

Within the male lot, (See Table III), on Openness Dimension $M = 9.32$ ($SD = 2.83$, $Mdn = 9.00$) was obtained. On Extraversion Dimension $M = 10.24$ ($SD = 2.97$, $Mdn = 11.00$) was obtained. On Conscientiousness $M = 12.24$ ($SD = 2.55$, $Mdn = 12.00$) was obtained. The average raw

Table I. Descriptive Statistics of Personality Dimensions for Female Participants (N = 105)

	Openness	Extraversion	Conscientiousness	Agreeableness	Emotional
Mean	9.524	11.32	12.60	9.867	8.590
Median	9.000	11.00	13.00	10.00	9.000
Std. Deviation	3.389	3.735	2.744	3.294	3.794
Minimum	2.000	1.000	6.000	3.000	1.000
Maximum	17.00	17.00	19.00	17.00	16.00

Table II. Pearson Intercorrelations for Dimensions of Personality for Female Participants (N = 105)

		Openness	Extraversion	Conscientiousness	Agreeableness	Emotional
Openness	Pearson's r	—	0.151	-0.040	0.202 *	0.187
	p-value	—	0.125	0.683	0.039	0.056
Extraversion	Pearson's r		—	-0.202 *	-0.053	0.117
	p-value		—	0.039	0.593	0.233
Conscientiousness	Pearson's r			—	0.020	0.358 ***
	p-value			—	0.843	< .001
Agreeableness	Pearson's r				—	0.143
	p-value				—	0.145
Emotional	Pearson's r					—
	p-value					—

Note. * p< .05, ** p< .01, *** p< .001

Table III. Descriptive Statistics of Personality Dimensions for Males Participants (N = 25)

	Openness	Extraversion	Conscientiousness	Agreeableness	Emotional
Mean	9.320	10.24	12.24	10.12	7.760
Median	9.000	11.00	12.00	9.000	7.000
Std. Deviation	2.839	2.976	2.554	3.855	4.304
Minimum	5.000	5.000	8.000	4.000	1.000
Maximum	14.00	15.00	19.00	18.00	17.00

scores on Agreeableness dimension where $M = 10.12$ ($SD = 3.85$, $Mdn = 9.00$). Emotional stability $M = 7.76$ ($SD = 4.30$, $Mdn = 7.00$). Regarding SD (social desirability / lie scale), $M = 13.44$ ($SD = 3.76$, $Mdn = 14.00$). RD (Random Responses) present scores of $M = 7.44$ ($SD = 2.31$, $Mdn = 8.00$). AP scale validation (approval) presented $M = 52.16$ ($SD = 7.83$, $Mdn = 52.00$). Following the interpretation of these data through the DECAS standard, combining factor indicated in the male lot, the following personality profile $D + E = C + A + S$ was obtained. The results obtained from the scales validation confirms the authenticity of the answers and lack of distortion trends, approval or random answers, which led to the validation protocols applied to all subjects.

Cross-correlation coefficient Pearson for male participants (see Table IV) of the personality dimensions Extraversion and Conscientiousness is r . Pearson ($N=25$) = $-.39$ where $p < 0.05$. The results obtained in the male group present a statistically significant negative correla-

tion of moderate level between Extraversion and Conscientiousness personality dimensions. No further statistically significant inter-correlations exist.

Discussion

Our hypothesis was confirmed both in the female group and male group. It should be noted that in the female group there are two correlations between Openness and Agreeableness dimensions, and between Conscientiousness and emotional stability respectively. Thus, the correlation that is constant in the two groups is the Extraversion and Conscientiousness personality dimensions of young aspirants in pursuit of a medical career. This suggests autonomy, ambition and consistency of purpose, for young people who aspire to a medical career. Also, the personality profile obtained by factorial combinations of Extraversion and Conscientiousness dimensions is reflected by a high degree of independence in decisions, beneficial implications in the social and interpersonal and determination, as well

Table IV. Pearson Intercorrelations for Dimensions of Personality for Male Participants (N = 25)

		Openness	Extraversion	Conscientiousness	Agreeableness	Emotional
Openness	Pearson's r	—	0.281	-0.034	0.183	0.047
	p-value	—	0.173	0.872	0.382	0.822
Extraversion	Pearson's r		—	-0.397 *	-0.333	0.219
	p-value		—	0.049	0.104	0.292
Conscientiousness	Pearson's r			—	0.154	-0.135
	p-value			—	0.464	0.521
Agreeableness	Pearson's r				—	-0.041
	p-value				—	0.846
Emotional	Pearson's r					—
	p-value					—

Note. * p< .05.

as ambition and persistence in achieving goals / objectives. At the same time, high levels of Openness, Conscientiousness and Agreeableness dimensions and the relative norm of emotional stability shown by combining factor (D + E = C + A + S) reveals a personality profile of the candidate to a medical career, characterized by features such as creativity, intuition, imagination, lack of formality and openness to new education and rationality in action, interpersonal intelligence, respect, selfless, helpfulness and reliability. Komaraju et al (2011) found that students who obtained high scores in Openness and Conscientiousness dimensions were much more focused on the task and managed to learn more efficiently because of the interest in the areas of intellectual curiosity and managed in an organized way to synthesize effective learning style so that they showed higher academic achievement (21,22). Also, Agreeableness and Conscientiousness personality dimensions are positively correlated with self-motivation and student achieve academic success (23,24). Although Extraversion was negatively correlated with school success, it seems that this applies only in primary school, this changed at upper secondary school and university Extraversion located at an average level represents a positive factor in learning (25). Furnham et al (2013) found that high level of Extraversion is negative predictor of performance in achieving academic performance, especially when correlated with neuroticism (low emotional Stability) (26). The correlation between emotional stability and conscientiousness indicates high self-confidence of these students, this combination results in greater efficiency in learning and good academic motivation in the process (27). The Conscientiousness personality dimension, located above the average level contributes to a conscious involvement of the student in academic tasks, teamwork, development of specific skills and practicing individual study in the library. On the other hand, Emotional Stability dimension of an average or above average level provides the student with composure, concentration, lack of anxiety and concerns before and during exams, knowing that a high degree of concern / anxiety affects academic performance (28) (29). Related to the above studies, studies we can say that our results show a high motivation level, low level of concern, determination, focus on the objective and task learning efficiency and dynamism. We note that in the two lots, the personality dimension that is correlated both positive and negative, and negative only in the male group with other dimensions is the Conscientiousness personality dimension. Of all the dimensions of personality, the Conscientiousness dimension can be combined with other dimensions and can be a predictor in terms of academic performance of a student (30-33).

However, the negative correlation obtained in our study, between personality dimensions Extraversion (E =) and Conscientiousness (C +) reveals a personality profile characterized in terms of the two dimensions as conventional, with a high degree of involvement in academic activities, but with high psychological reaction related to

changes in the environment. This reveals that these people actively participate in courses, they are involved in the educational process, but, nevertheless, show a high degree of conservatism and resistance to change.

Conclusions

The results obtained by us show a negative correlation between Extraversion and Conscientiousness, this indicates that when Extraversion decreases, Conscientiousness increases. The data obtained indicate that Extraversion is a dynamic factor and motivator only when it is correlated with the dimension of Conscientiousness. So the personality profile of young people aspiring to a medical career, is represented by the high interest for intellectual activities, dynamism and autonomy, persistence in achieving goals, ambition, high motivation, and interpersonal social intelligence and emotional stability. This psychological profile, approaching that of a medical student, is an asset for these young people in pursuing a medical career, meeting most criteria in terms of the personality.

Conflict of interest

None to declare.

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