

Article

Relationship between Personality and Academic Motivation in Education Degrees Students

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Abstract: The present study aims to understand the relationship between the big five factors of personality and academic motivation. In addition, the following variables are taken into consideration; sex, age and type of educational studies. A quantitative methodology is used, in base to a not experimental, correlational study. The sample is composed of 514 students of the Faculty of Education of Leon's University, between the three education degrees. To gather the information, participants were asked to complete the Learning and Motivation Strategies Questionnaire (CEAM) and the Personality Questionnaire Five Factor Inventory (NEO-FFI). The results show the significant relationship between personality facets and motivation variables. It should be noted that female results were higher in the values of intrinsic motivation, motivation towards teamwork, neuroticism, and kindness, and the male results were higher in self-efficacy. Additionally, it was observed that intrinsic motivation decreases progressively from the first to the fourth year of the degree, the need for recognition decreases in the two last study years, and the openness to experiences is higher in the last year of the degree. Finally, Social Education students are those that show a higher intrinsic motivation, self-efficacy, total motivation, openness to experiences, and neuroticism, while Primary Education students' results were higher in the need for recognition.

Keywords: academic motivation; personality; education degree students

1. Introduction

After decades of study, it appears to be clear that motivation is an internal state that pushes people to perform goal directed actions in such a way that this motivation influences both the type of strategy we use to carry out the action as well as the time and persistence that we invest in its accomplishment (Riveiro, Suárez, Sánchez, and Menéndez, 2016) [1]. When speaking of an internal state, it is understood that it is individual, it depends on the subject and the specific circumstances that the concrete person is living, therefore, could it be said that this motivation depends, to a large extent, on the individual's personality? In fact, Navarro, Utreras, and Ugarte (2019) [2] define the personality as the way of thinking, perceiving, and feeling of an individual which determines their behavior, and among the elements that make it up, they speak of the motivational components.

Personality Psychology recognizes the impact of the situation on behavior, but considers that the behavior will be comparable in functionally similar situations over time (Furr & Funder, 2018) [3], therefore it speaks of relatively permanent characteristics with a general reactive tendency within

which motivation or the cause of behavior is framed, although it does reflect it as a dynamic content, so the importance of the situation or context cannot be ignored.

When we talk about personality, most of the current studies frame it within the model of the Big Five Theory of Personality, which proposes the existence of five basic dimensions of personality which could be described as what the person is like. The most accepted proposal is that of Costa and McCrae (1992) [4] who speak of extraversion such as the quantity and intensity of interactions with others; of kindness referring to the qualitative aspect of interpersonal interactions; responsibility such as the degree of organization, persistence, control, and motivation in goal directed behavior; neuroticism, understood as emotional stability/instability; and openness to experience, which represents receptivity to new experiences

As it is shown in the Costa and McCrae model, the responsibility factor is directly related to motivational behavior. Moreover, according to the review realized by Cupani, Garrido, and Tavella (2013) [5] it is shown that of five factors of personality, the more consistently associated with the academic success is the factor of conscientiousness or responsibility. In addition, other authors such as Bermúdez (2012) [6] also defend the existence of basic units that make up personality. According to Lomelí-Parga, Valenzuela-González, and López-Padilla (2016) [7], Manosalvas, Manosalvas, Yolanda, and Chafla (2017) [8], or Riveiro, Suárez, Sánchez, and Menéndez (2016) [1], these basic units match with elements that make up academic motivation. We are talking about the values, interests, goals, and vital projects of each individual, which allow us to understand the behavioral choices on each occasion and about feelings, emotions, and effective states that function as a tool of the environmental and personal information processing that influence self-knowledge, self-esteem, and perceived self-efficacy, all of them fundamental determinants of academic motivation (Linnenbrink and Pintrich, 2003) [9]. Moreover, Bermúdez (2012) [6] talks about anticipation, like the set of expectations that the person has about the foreseeable consequences associated with the different possible response options in each specific situation. Anticipation is therefore a basic unit directly related to the Expectancy-Value Theory of Achievement Motivation of Atkinson (1964) [10].

Carrying on with the responsibility factor, many studies link it with leadership and how three common factors of leadership styles could be comprises with personality domains and interpreted as “looking for new possibilities”, “hard working”, and “dealing with people” (Konor & Nordwik, 2004) [11]. Additionally, that personality factor has been studied in relation to volunteering and whether there are differences between that social responsibility and the different types of Universities (public vs. private) and University Degrees (Beáta-Berei, 2020) [12].

It is important to remark that the most salient feature of motivation is the power of lead individuals to carry on specific purposes and activate them in the pursuit of these goals (Brophy, 2010) [13], and in that sense, leadership and responsibility seem to be related.

Other studies have already focused on the characteristics of the students of the Faculty of Education (future teachers), highlighting how performance motivation is closely related to behavior towards citizenship and how commitment problems among students have a negative impact on their feelings of mastery and experience to exercise their future profession (Christophersen, Elstad, Solhaug, and Turmo, 2015) [14]. In the same sense, Senol and Akdag (2018) [15] also demonstrated a significant and negative relationship between the attitudes of future teachers towards uncertainty and their motivation to teach, and that attitude towards to uncertainty was a significant predictor of motivation in teaching. Moreover, a moderate negative significant relationship was observed between prospective teachers' attitudes about uncertainty and their intrinsic and extrinsic motivation, and the attitudes towards uncertainty was a significant predictor of the intrinsic and extrinsic motivation.

Another consideration in the possible close relationship between motivation and personality is found when analyzing the sources of intrinsic motivation of Pintrich and Schunk (2006) [16], where they speak of challenge, curiosity, control, and fantasy, three of them (challenge, curiosity, and fantasy) direct indicators of the factor of openness to experience (Mozelius, Fagerström, and Söderquist, 2016) [17]. In fact, Zhou (2015) [18] was able to relate motivation with neuroticism, openness to experience,

and extroversion in a sample of 249 Primary Education students, while Freund and Holling (2011) [19] demonstrated the same, but in a sample of students from Secondary and high school. These studies are fundamental when it comes to helping and guiding high school students towards their academic and professional future, since they will indicate to what extent they will be more involved in one type of study or another, thus leaning towards academic and professional education, which will inevitably produce personal satisfaction directly related to psychological and emotional wellbeing.

In this sense, there are important studies such as those of Komarraju and Karau (2005) [20], where they show that the openness to experience, and responsibility of the university student, is directly associated with positive aspects of academic motivation, such as thinking, persistence, and achievement, while their relationship is contrary to aversion and discouragement, which indicates that those responsible and open to experiences have a more intrinsic motivation and more adaptive learning strategies. Additionally, the study of Feyter, Caers, Vigna, and Berings (2012) [21] reveals a positive indirect effect of neuroticism on academic performance at higher levels of self-efficacy, complemented by a positive direct effect of neuroticism at lower levels of self-efficacy. Finally, this study showed that conscientiousness positively affected academic performance indirectly through academic motivation, but also that it is a condition for the indirect impact of extraversion, neuroticism, and conscientiousness.

In addition, the different dimensions of intrinsic motivation (for example, achievement or stimulation) are predicted by different personality ranges as shown by the study carried out by Clark and Schroth (2010) [22], where they reflect how extraversion and kindness are related to intrinsic motivation in terms of learning and achieving goals, but with extrinsic motivation in regard to attending the University; responsibility was related to intrinsic motivation to learn, achieve, and self-regulate; and neuroticism was related to extrinsic motivation, attending university by obligation. Similarity, self-efficacy and responsibility predicted the variance of intrinsic motivation, while only self-efficacy predicted the variance of extrinsic motivation (McGeown et al., 2014) [23].

The same way, motivation and personality have been studied as predictors of success in the first term of the degree, so Kaufman, Agars, and López-Wagner (2008) [24] concluded the importance of having high scores in intrinsic motivation and responsibility, while low scores in extrinsic motivation, to obtain a good academic performance based on a sample of 315 university students.

Focusing on gender, some studies show that women score higher in kindness, responsibility, and neuroticism than men (Fortes-Vilaltella et al., 2013) [25], while men have superior scores in self-efficacy (Sousa, 2014) [26], although these differences in self-efficacy were clearer in the first university years, decreasing in the last. Other studies, such as Rubinstein (2005) [27], also highlighted better scores in kindness and responsibility in favor of women, therefore, if responsibility is closely related to motivation (Borroto-Pérez, Santos-Quesada, and Azcuy-Morales, 2015) [28], could it be said that women are the ones who show greater motivation towards learning?

For all these reasons, the current study tries to analyze the relationship between personality traits and the academic motivation of the grade students in the Faculty of Education in the University of León, so that it is possible to know the profile of each type of student with regard to their personality and their type of motivation, which will help to predict their academic success during their degree studies and their future professional performance.

Therefore, as specific objectives, we propose to analyze the gender differences in the motivation and personality of the students, in addition to examining the changes in motivation and personality in relation to the academic year. Finally, we intend to explore the differences between the three degrees taught at the Faculty: Primary Education, Early Childhood Education, and Social Education, in relation to the motivation and personality of its students.

As a result of the revised theoretical framework, the fundamental starting hypotheses are relative to four questions: (1) The relationship between personality traits and motivational factors, so that we hope that students with a responsible personality and openness to experience will have a greater intrinsic motivation towards learning; (2) the influence of gender in personality and motivational variables,

where we expect that women score higher in responsibility, kindness, neuroticism, and internal attributions than men, but that men will do better in terms of perceived self-efficacy and need of recognition; (3) the influence of the academic course in personality and motivational variables, so that we hope that extroversion progressively increases as the acquisition of knowledge of the degree progresses regardless of what it is; in the same way, it is expected that first year students have greater intrinsic motivation, while fourth year students have gained in perceived self-efficacy beliefs; (4) finally we want to probe the influence of the type of educational studies that students choose over the personality traits and the motivational factors, so that we expect that students of the degree in Social Education will have more outgoing personalities, scoring higher in openness to experiences, while the students of the degree in Early Childhood Education would obtain higher scores in kindness. In addition, students of the degree in Primary Education will score higher in need of recognition and perceived self-efficacy, while students of the degree in Social Education would have a higher intrinsic motivation.

2. Materials and Methods

2.1. Participants

The sample is made up of a total of 514 students from the four courses of the three Degrees (Early Childhood, Primary, and Social Education) of the Faculty of Education of the University of León. They were from 18 to 48 years old, being the mean age 21.48 years old. They have been accessed through an accidental sampling, contacting the professors before proceeding with the data collection, to know their availability and the degree of agreement with the study's purpose. Table 1 below shows the characteristics of the participants of the study.

Table 1. Participants of the study according to gender, course, and degree.

Gender/Course	Primary E.			Early Childhood E			Social E.			
	1°	2°	3°	1°	3°	4°	1°	2°	3°	4°
Men	17	32	13	9	3	4	9	4	1	5
Women	54	58	11	48	73	56	31	24	41	21
Total	71	90	24	57	76	60	40	28	42	26

2.2. Instruments

For data collection, the "Cuestionario de Personalidad Five Factor Inventory (NEO-FFI)" (Personality Questionnaire Five Factor Inventory) and the "Cuestionario de Estrategias de Aprendizaje y Motivación (CEAM)" (Learning and Motivation Strategies Questionnaire) were used. Five Factor Inventory is a questionnaire for adolescents over 16 years of age, and adults, designed by Paul T. Costa and Robert. R. McCrae (1992) [4], which assesses the main personality factors: Neuroticism, extroversion, openness, agreeableness, and responsibility. It is answered using a Likert type scale with five options (A: Totally disagree; B: Disagree; C: Neutral; D: Agree; E: Totally agree). The Spanish version was used as it is highly valued by the experts, with an internal consistency (reliability) among 0.86 and 0.95 depending on the factor. It is made up of 60 items (12 per factor) forming part of the Neo PI-R (Revised Neo Personality Inventory), which consists of a total of 240 statements. Table 2 shows an example item for each factor.

Table 2. Dimensions and examples of the Personality Questionnaire Five Factor Inventory (NEO-FFI).

Dimension	Example	A	B	C	D	E
Neuroticism	A menudo me siento inferior a los demás (I often feel inferior to others)	A	B	C	D	E
Extraversion	Disfruto mucho hablando con las gente (I really enjoy talking to people)	A	B	C	D	E
Open to experiences	Tengo una gran variedad de intereses intelectuales (I have a wide variety of intellectual interests)	A	B	C	D	E
Kindness	Tiendo a pensar lo mejor de la gente (I tend to think the best of people)	A	B	C	D	E
Responsibility	Tengo unos objetivos claros y me esfuerzo por alcanzarlos de forma ordenada (I have clear goals and strive to achieve them in an orderly manner)	A	B	C	D	E

Regarding the CEAM, it is a questionnaire composed of 100 items for adolescents and young people from 12 years, prepared by Carlos L. Ayala, Rosario Martínez, and Carlos Yuste (2004) [29], which assesses learning strategies and motivation with a total of 100 statements. In this study, we have only used the motivational part of the questionnaire, which assesses task value, intrinsic motivation, motivation for group work, need for recognition, self-efficacy, and internal attribution of success. It consists of 60 items (10 per factor) and it is answered through a Likert type scale, with five options: 1 = strongly disagree, 2 = disagree, 3 = indifferent, 4 = agreement, and 5 = strongly agree. Regarding the reliability of the test, depending on the factor we are talking about, it has an internal consistency (Cronbach's Alpha) of between 0.70 and 0.82. Table 3 shows an example of items for each factor.

Table 3. Dimensions and examples of the Learning and Motivation Strategies Questionnaire (CEAM).

Dimension	Example	1	2	3	4	5
Task value	Me interesa más encontrar un trabajo que terminar mis estudios (I am more interested in finding a job than in finishing my studies)	1	2	3	4	5
Intrinsic motivation	Estudio por el gusto de aprender cosas nuevas (I study for the joy of learning new things)	1	2	3	4	5
Group work	Me gustan las actividades en las que puedo trabajar en equipo (I like tasks that allow me to relate to others)	1	2	3	4	5
Need of recognition	Intento que el/la profesor/a piense que soy inteligente (I try to make the teacher think I am intelligent)	1	2	3	4	5
Self-efficacy	Me resulta difícil obtener las notas que yo quiero (It is difficult for me to get the marks I want)	1	2	3	4	5
Internal attributions	Si a alguien le va bien en los estudios es porque trabaja duro (If someone does well in studies, it is because he works hard)	1	2	3	4	5

2.3. Design

Research has a quantitative orientation, being a non-experimental study, empirical, analytical, and correlational, since the personality and motivation variables are related without further manipulation. It is an extensive project since little information is collected, but it is obtained from many people. It is also a cross-sectional study, administering the tests to people of different ages and grades at the same time. This is an evaluation investigation, as the survey will be used, specifically with the questionnaire as a method. It may lead to the application of an intervention as a future practice.

2.4. Procedure

As a result of the implicit interest of the study topic, a bibliographic search was started in different databases to check the status of the issue, for which different databases were consulted: Dialnet, Scopus, World Wide Science, ScienceDirec, which led to the selection of the instruments to be applied to achieve the proposed objectives.

Once the objectives of the research were clear, researchers contacted professors who taught at the Faculty of Education of León to request an hour of their classes in order to apply the instruments to the students. This way, it was decided that the days and hours to collect the data were within the first two weeks of April, 2015.

The agreed day and time, the researcher went to the classroom and explained the purposes of the study to the students in order to request their voluntary and confidential participation. As they were adults, it wasn't necessary to ask for their parents' consent, so the students who didn't want to participate just left the classroom. In order to safeguard confidentiality, the name and surname of the student was not requested, just their sex, course, and grade in which they studied. This way we look for the ethical aspects of the research.

As said, a professional from the research team carried out the application of the instruments to the whole classroom at the same time, so that there were between 40 and 60 students for classroom. Homogeneity of the study was insured as the same person was always in charge of applying the tests. In addition, the application of the test was made in the same time range, between 10:00 and 14:00 to ensure similar arrangement of students. The average time to carry out the tests in each classroom ranged from 45 to 60 minutes.

After that, the data was registered, coded, and analyzed with the IBM SPSS Statistics, version 23. First of all, we used the Kolmogorov–Smirnov test with Lilliefors correction in order to find normality of the sample. As the p was less than 0.05 in ten of the eleven variables (six of motivation and five of personality), we had to reject the null hypothesis of normality, establishing that the sample does not follow a normal distribution, so that it implies the use nonparametric procedures. Secondly, we analyzed Spearman correlations to verify the relationship between motivational and personality variables; and then we carried out Kruskal–Wallis analysis in order to see possible significant differences among more than two independent groups (courses and grade) and Mann Whitney analysis to find significant differences between two independent groups (gender).

3. Results

3.1. First Hypothesis: Relationship between Personality and Motivation

Table 4 indicates that there are strong relationships between the value that students assign to tasks with the extroversion, kindness, and responsibility, but also of intrinsic motivation with openness to experience, kindness, and responsibility. There are relationships between group work with extroversion, openness to experience, kindness, and responsibility, and the need for recognition is related with neuroticism. Self-efficacy beliefs are also related with neuroticism, but also with extraversion and openness to experiences. Finally, intrinsic motivation is related to kindness and responsibility. All these relationships are very strong since the results show 99% of confidence ($p < 0.001$). Furthermore, total motivation was related to all facets of personality. Additionally, all these relationships are directly proportional, with the exception of neuroticism with self-efficacy beliefs and total motivation, which is inversely proportional, that is, the higher the neuroticism, the lower the perceived self-efficacy and the lower the total motivation.

Table 4. Spearman's Correlation between motivational dimensions and personality traits.

		N	E	O	A	C
Task value	rho	0.004	0.194 **	0.107 *	0.162 **	0.342 **
	p	0.929	0.000	0.015	0.000	0.000
Intrinsic motivation	rho	−0.060	0.038	0.368 **	0.248 **	0.297 **
	p	0.177	0.390	0.000	0.000	0.000
Work group	rho	−0.089*	0.394 **	0.229 **	0.278 **	0.150 **
	p	0.043	0.000	0.000	0.000	0.001
Need or recognition	rho	0.155 **	0.069	−0.032	−0.080	0.032
	p	0.000	0.118	0.470	0.069	0.465
Self–efficacy	rho	−0.452 **	0.189 **	0.230 **	0.000	0.114 **
	p	0.000	0.000	0.000	1.000	0.010
Internal attributions	rho	−0.049	0.138 **	0.111 *	0.177 **	0.176 **
	p	0.271	0.002	0.012	0.000	0.000
Total motivation	rho	−0.189 **	0.332 **	0.319 **	0.233 **	0.341 **
	p	0.000	0.000	0.000	0.000	0.000

*Significance at 95%; **Significance at 99%. Rho = Spearman's correlation; p = Bilateral significance. N = Neuroticism; E = Extraversion; O = Openness to experience; A = Kindness; C = Responsibility.

There are also significant relationships between the task value and openness to experience; intrinsic motivation and openness to experience; group work with neuroticism (inversely proportional); self-efficacy with responsibility; and internal attributions with extraversion and openness to experience. All of these with a minimum confidence of 95% ($p < 0.005$).

This data corroborate previous studies such as those by Komarraju and Karau (2005) [20], Feyter, Caers, Vigna, and Berings (2012) [21], Clark and Schroth (2010) [22], or McGeown et al. (2014) [23], since our results confirm direct and significant relationships between openness to experience and responsibility with motivation and its different determinants, according to Lomeli-Parga, Valenzuela-González, and López-Padilla (2016) [7], Manosalvas, Manosalvas, Yolanda, and Chafra (2017) [8]. However, we have only partially corroborated studies of Zhou (2015) [18], and Freund and Holling (2011) [19], since we have not found a direct relationship between neuroticism and achievement motivation, but rather an inverse relationship with self-efficacy and total motivation so that the higher the scores obtained by the neuroticism education students, the lower the self-efficacy believes and the total motivation score. This result can explain, in part, the findings of Christophersen, Elstad, Solhaug, and Turmo, (2015) [14], and Senol and Akdag (2018) [15], since they find a negative relationship between motivation for teaching and problems of commitment and attitudes towards uncertainty, respectively, characteristics related to the typical anxiety of neuroticism (Costa and McCrae, 1992) [4].

3.2. Second Question: Differences in Personality and Motivation between Men and Women

Once the relationships between the personality and motivation variables were found, we focused on looking for significant differences between men and female students of the Faculty of Education. To do this, the Kolmogorov–Smirnov test with a correction of Lilliefors was first performed, in order to check the normality of the data to be able to use the most relevant analyses.

Since in ten of the eleven variables of both personality and motivation we have found significance lower than 0.05, the null hypothesis of normality was rejected, understanding that the data do not follow a normal distribution, so non-parametric analyses were carried out.

For our purposes of comparison between men and women, the Mann Whitney U test was performed, aimed at analyzing the differences between the two independent groups (men and women) at an alpha value of 5%. The results are shown in Table 5.

Table 5. Significant differences between men and women in relation to personality and motivation.

Variable	Male Range	Female Range	p	r of Rosenthal
Task Value	179.18	270.55	0.000	−0.243
Intrinsic Motivation	221.89	260.40	0.019	−0.098
Group Work	223.24	260.08	0.025	−0.101
Self-efficacy	319.69	237.15	0.000	−0.222
Neuroticism	192.42	267.40	0.000	−0.207
Kindness	217.92	261.34	0.008	−0.108

This way, significant differences were found in favor of women in both the motivational variables of task value, intrinsic motivation, and group work, as in the personality traits of neuroticism and agreeableness, while men scored significantly higher in perceived self-efficacy. The effect strengths calculated through the r of Rosenthal show a negative r in all variables, which means that the second group (women) is larger than the first one (men), which it is usual talking about educational studies. Because of the r of Rosenthal, we can interpret that effect sizes are small as they aren't higher than 0.25, which means that the effect explains 1% of the total variance. Figure 1 shows these results in a more visual way.

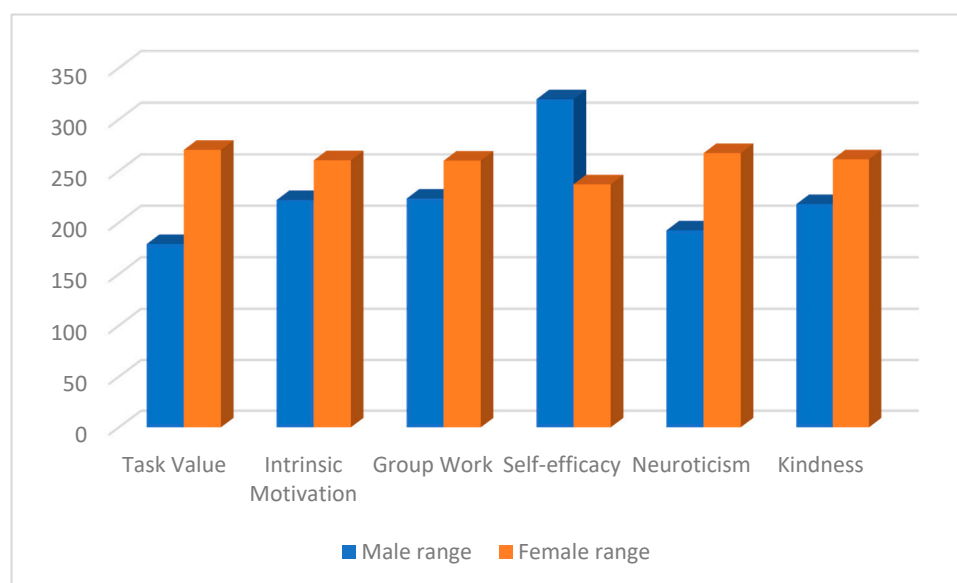


Figure 1. Gender differences

The hypothesis that women would obtain higher scores in responsibility, kindness, and neuroticism than men has only been partially confirmed, since no significant differences were found between men and women regarding responsibility, so that the studies by Fortes-Vilaltella et al. (2013) [25] and Rubinstein (2005) [27] were not fully corroborated because they found higher scores in this variable in favor of women, in addition to the variables of kindness and neuroticism. This difference in the results of our research with respect of the other authors may be due precisely to the characteristics of the population under study in this work, since our participants are students of the Faculty of Education, a career historically associated with the female gender, as can be seen in the composition of the study sample, where 417 are women compared to the 97 men, most of them studying Primary Education.

It is therefore likely that male students who enroll in Education studies have similar characteristics to women, that is, they have more developed their feminine side.

In addition, the study by Sousa (2014) [26] is confirmed, since men score higher in perceived self-efficacy beliefs than women, but significant differences have also been found in favor of women in the value given to learning, intrinsic motivation, and group work, which are indicators of good academic motivation. As in the study by Cerezo and Casanova (2004) [30], no significant differences were found regarding the attributions of their successes and failures, which contradicts our initial hypothesis.

3.3. Third Question: Differences in Personality and Motivation in Relation to the Academic Year of Study

To analyze the differences regarding the academic year of the students, the non-parametric Kruskal–Wallis test was used, since it compares more than two independent groups, four in this case, corresponding to the four courses of the degrees: First (1°), second (2°), third (3°), and fourth (4°). Results are shown in Table 6.

Table 6. Significant differences among courses related to personality and motivation.

Variable	Range 1°	Range 2°	Range 3°	Range 4°	p
Intrinsic Motivation	265.75	265.46	263.87	219.95	0.005
Need of recognition	274.59	275.77	240.25	227.53	0.024
Total Motivation	273.28	270.44	247.97	224.65	0.055
Openness to experience	280.26	252.63	227.03	270.04	0.014
Kindness	244.72	239.11	292.89	249.26	0.010
Responsibility	233.64	256.72	275.47	275.51	0.053

The data show how intrinsic motivation progressively decreases from first to fourth grade, as does the need for recognition, although this last one increases slightly in second grade; perhaps due to this fact, total motivation also decreases significantly with the academic courses taken. Regarding the personality traits, the openness to experience descends from first to third progressively, but increases again in fourth year, although not at the level of first year, which means that they are not as open minded in fourth as they were in first. In relation to friendliness, it decreases from first to second grade, but increases exponentially and significantly in third and fourth year, although in the fourth it drops again, reaching first year levels. Finally, responsibility progressively increases from first to fourth year, which can be an indicator of maturity, related to age and academic development. These results are shown in Figure 2.

This way, it has not been possible to confirm that extraversion increased progressively with academic courses, which may be due again to the characteristics of the sample, since when studying a career in social sciences they are predisposed to the amount of interrelationships that the profession requires, so they were all able to access studies with a high level of extraversion and, as it is well known, this fact is difficult to modify and requires more than four years and a great diversity or contextual and circumstantial experiences to be able to modify it. Anyway, it is confirmed that the openness to experience decreases in second and third year of studies, but it increases again in the fourth year, which could be explained due to the proximity of the completion of the career and the insertion into the labor market, so that students must consider multiples choices, without closing themselves off to any opportunity.

On the other hand, kindness increases exponentially in 3rd year, coinciding with the beginning of the internships at the León Faculty of Education, which is the first direct contact with the world of work they have chosen, which is usually a reason for satisfaction and the desire to do it well, which implies cordial and friendly relationships both with the students and with the teachers within the educational center where they are doing the internships.

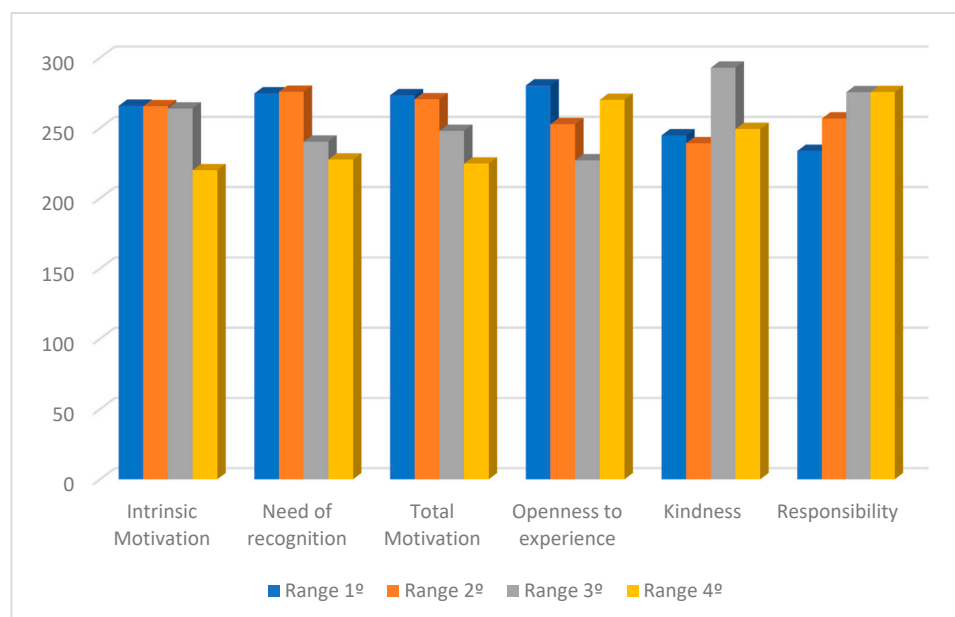


Figure 2. Course differences.

Another of the study hypotheses predicted that 1st grade students would have greater perceived self-efficacy, which we have only partially corroborated, since if intrinsic motivation decreases from 1st to 4th grade, then there are no significant differences in terms of perceived self-efficacy. If, however, a decrease in the need for recognition has been found in 3rd and 4th, then the decline in total motivation through academic courses may be the consequence of the enthusiasm and desire with which students begin their university studies, a very different stage in which they have high expectations and a lot of curiosity, but as the years go by, curiosity is satisfied, the novelty disappears, and the routine is established, the challenges decrease, and this also causes total motivation to decline. This conclusion is essential to modify the teaching methodologies throughout the courses, so that new and significant activities must be planned so that students continue to maintain the illusion and high expectations of learning.

3.4. Fourth Question: Differences in Personality and Motivation between Different Education Degrees

A Kruskal–Wallis test was carried out again to analyze the differences by academic qualification, so that in this case we had three independent groups: Primary Education (PE), Early Childhood Education (ECE), and Social Education (SE). Table 7 shows the results obtained.

Table 7. Significant differences between education degrees regarding personality and motivation. PE: Primary Education; ECE: Early Childhood Education; SE: Social Education.

	Range PE	Rango ECE	Rango SE	p
Intrinsic Motivation	248.90	232.03	305.35	0.000
Group Work	253.10	243.74	283.02	0.053
Need of recognition	286.42	259.75	214.97	0.000
Self efficacy	266.84	217.41	301.69	0.000
Total Motivation	272.19	227.22	280.49	0.001
Neuroticism	234.18	269.67	271.95	0.028
Openness to experience	255.08	231.94	297.06	0.000
Kindness	239.11	250.50	292.44	0.004

In this case, the data show significant differences in intrinsic motivation, group work, self-efficacy, total motivation, neuroticism, openness to experience, and friendliness in favor of students of the

degree in Social Education, the students of the degree in Early Childhood Education being the ones with the lowest score in all variables except neuroticism and kindness, where the lowest score corresponds to the students of the degree in Primary Education. This pattern is broken only in the determinant of need for recognition, where the students of Primary Education get the highest score and the students of Social Education show the lowest score. In Figure 3, the data are shown in a more visual way.

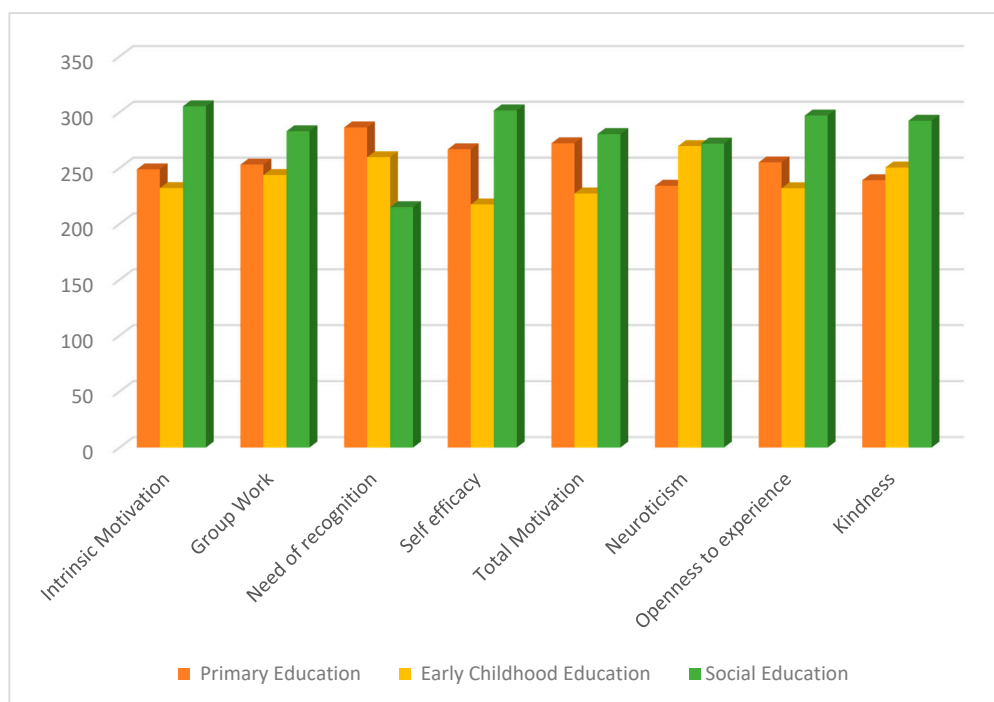


Figure 3. Differences according to the degrees.

Regarding the results related to the differences between degrees, the Social Education students scored higher than their peers in Early Childhood Education or Primary Education both in neuroticism and in friendliness and openness to experience, although the differences in neuroticism are probably not significant with respect to Early Childhood Education students, since the scores were very similar. This finding may be due to the fact that both in social and in Kindergarten, planning must be more flexible, since both the youngest and the oldest socially vulnerable are more unpredictable and more heterogeneous, not knowing how they are going to act at any given time and having to change activity more frequently than with the primary students (who are in a range of interest in learning 86 to 12 years), in which the groups are more homogeneous and the subjects are clearly differentiated with abundant material that helps the teacher.

In the same way, it is the students of the degree in Social Education who score significantly higher in intrinsic motivation, group work, and self-efficacy compared to their classmates from the other two degrees, which leaves no doubt as to the greater motivation for learning, especially when they are the ones with the least need for recognition, an aspect inversely proportional to intrinsic motivation. These later results may be due to the reason for choosing the career, so that, while the professions of teacher in early childhood or teacher in primary education are clearly regulated and recognized, the profession of social educator is still in the process of being developed in Spain, especially in Castilla and León, so that the students of the degree in Social Education are likely to choose these studies because of vocation and personal satisfaction rather than recognition, a good salary, or job stability.

4. Discussion

In short, we can conclude that the objectives have been met, most of our results agreeing with those of other investigations carried out and corroborating the personality and motivation characteristics of students in educational careers. These findings are very important if we want to optimize students' characteristics, helping them to choose the most appropriate studies to their personality traits, and ensuring their success due to their motivation. However, we cannot forget the importance of the professor in enhancing a student's motivation, as Alonso, Ruiz, and Huertas (2020) [31] found in their study with 2223 students and their 95 teachers, their results showing that teachers' motivational quality has a significant indirect effect on differences between classroom motivational climate, and on students' attribution of perceived improvement in motivational variables.

This can be one of the limitations of our study, as we didn't take into account the roll of the professors, we only asked them to allow us to carry our study, but they didn't take part of it. Another limitation is the fact that we only applied the research instruments to those students who really wanted to do it after explaining the purposes of our investigation, so the ones that didn't want to participate in the study may show a different personality trait which isn't taken into account in the results we show, as we don't have those data. We are also conscious of the limitations of our sample, as we only evaluated students from the University of León, which influences the capacity of the generalization results.

Finally, we have to consider the future perspectives of this line of research, so that the subject can continue to be addressed by expanding the research sample in two ways: On the one hand, the study can be replicated taking into account students from Educational Faculties of other Spanish and foreign universities, in order to generalize the findings; but on the other hand, the study can also be replicated by including students from other fields (engineering, health sciences, economics, etc.) so that we can establish the differential profiles that will lead to success academic and professional, being able to guide in a more adequate and reliable way to our students, thus improving the psychological wellbeing of people.

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