The Academic Performance Model for Emerging-Adults Students

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Abstract: The purpose of the research was the highlighting of the emerging-adults student's academic performances, regardless of the age. There are researches which offer solutions regarding the way in which academic performance can be increased, thus preventing the unfavourable consequences of failure. The model gives indications regarding when is supportive intervention which can sustain academic performance, necessary. The research took place in the 2017-2018 time period, on 299 students from different specializations of the Hyperion University of Bucharest. The results determined the existence of an academic performance out of which: between 19 and 26 years old, the level is very low, around 27 years old it grows significantly and holds an acceptable level between 28 and 30 years old. The model remains regardless of the specialization/faculty and it is independent of the participant's gender. The model can be explained taking into account the characteristics of the development stage - emerging adult and on account of the theories that define elements which contribute to obtaining the performances and processes that determine its level.

Keywords: *Academic performance; emerging adult; model.*

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1. Introduction

The level of training of the students, implies a complex process which involves an adequate methodology and an analysis of the factors which can influence it. The academic performance can be determined by: a grade at a discipline or the average of the grades obtained at the semestrials examinations, at the evaluations during the said time, at the evaluations of activity-products (papers, projects, etc.), the result at some aptitude-tests, etc.. Gilbert de Landsheere defines the grade as the expression of synthetic appreciations and the score, of a test, as the stating of the result (Landsheere, 1975: 12-13). Sorin Cristea surprises and explains on a wide angle the concept: *“Didactic evaluation represent a complex action, integrated in the didactic activity (of teaching – learning – evaluating) through the correlation of didactic operations of measurement and appreciation – which assures the diagnosis – with the decision – which implies prognosis – cu autoregulating purpose at the process level and of the education system. The reporting of the evaluation to the finalities of the education process, confirm the social and pedagogical complexity of the managerial action with measuring – appreciating – deciding purpose, explaining, on the same time, why this problem is inscribed in the general theory of education (s.n.)”* (Cristea, 1996: 190-191).

The programs concieved to ameliorate academic performance, through enhancing the personality factors from the social-cognitive theory, have also the role to discover competences which can constitute definitory elements for a durable learning. The program applied for this research used the metaphore, under the guise of artistic movies, so the participants can identify models, strategies and resources needed for hollistic approach of the entire academic process.

The academic performance of the students, along with the quality of the educational act, determine the value and utility of the university education system.

2. Problem Statement

Passmore (2004: 60) describes autoeficiency, as a performance factor, through three dimensions: the magnitude, the power and the generality. Power is defined as the confidence of a person on it's own abilities to obtain performance. Magnitudde refers to the difficulty to adopt an attitude and generality to the level on which failure or success influence the person's expectations. Maria Pleșca (2016) finds out that a student with sufficient knowledge and intelligent, but which does not knows it's emotions and feelings and is unable to manage them, will have difficulties in building relations with the others and will have low academic performance. Academic

performance is determined, as the author says, by changes of cultural nature, by accumulating knowledge, and also by changes due to personality development. Weiner (1985) considers that out of the total of possible causal attributions stocked in the memory, a small number can be associated with performance. Out of these, the most important are: ability and effort. A high level of these are means to success and a low one, failure. The perceived stability of a cause, not it's locus, determine changes concerning success expectancy. These associations, with effect in performance, are based on certain causes. The characteristics of said causes are more important the cause itself (Weiner, 2000). The Theory of autodetermination (Deci, Vallerand, Pelletier, & Ryan, 1991, Ryan & Deci, 2000) postulate that performance, motivation and development will tend to maximum in the contexts in which the psychological needs of autonomy, competence and relationing are satisfied. In the studies made by Lawrence and Charbonneau (2009), Lawrence and Crocker (2009), and Crocker, Luhtanen, and Bouvrette (2003), the authors state that self-appreciation based on academic performance is negatively associated with performance and positively appreciated with unadaptive perfectionism. Hall, Hall et al. (2007), Hall, Perry, Chipperfield, Clifton, and Haynes (2006), Hladkyj, Perry, and Ruthig (2014), Haynes, Daniels, Stupnisky, Perry, and Hladkyj (2008), Haynes, Perry, Stupnisky, and Daniels (2009), Pajares (2008) have identified a decrease, especially in the first year, of the motivation once with the passing of a threshold on different stages of schooling, per example the passing from high-school to university. After some researchers (Moenikia & Zahed-Babelan, 2010), the academic motivations refers to: wish, need, compulsion and inclination of the student. If about the first three it can be said that they exist or not, in the fourth's case there can be latent forms, still unexperimented, missing a favourable context of discovery and consciousness of these abilities. For this, there is need of stimulating the interest which has the said consequences: training of the attention, orientation to purposes, raising of academic motivation and performance as it is stated from Hidi and Renninger (2006), Krapp (2002), Wigfield and Cambria (2010) studies.

Transition to the emerging adult age closes the age period relatively structured of high-school. Freedom of decision and choice are often liberating and the responsibility of becoming independent and autonomous may be overwhelming (Schulenberg and Zarrett, 2006). The majority of students recognize themselves in this situation and need support to perform in the academic field. The previous researches have focused on the way in which de academic performance is structured, which are the factors and how

to they influence it and have suggested how to ameliorate it. Unlike those, the present research is made to determine: When is the presence of a support to sustain academic performance needed, preventing thus the unfavorable consequences of a failure?

3. Research Questions/Aims of the research

The question of the research was if, for the students going through the development phase of the emerging adult (19-30 years old), we can anticipate a level of academic performance. Regarding this, we have monitored the validation of the next hypotheses:

Hypothesis 1. There is a specific model, depending of the age, of academic performance for emerging-adult students.

Hypothesis 2. The model stays independent from the specialization, the grade of the year of evaluation.

Hypothesis 3. The model stays independent from the gender.

The objective followed was that to select a representative sample from the population of emerging-adult students, to analyse their performance and to assure the necessary and sufficient conditions to verify the researched hypotheses.

4. Research Methods

The research was made in the 2017-2018 time period on a sample of 299 students, emerging adults, with age between 18 and 30 years old, from the Hyperion University of Bucharest.

Figure 1. The distribution of the participand based by specialization/year/year of evaluation and age

The participants were selected from students in first and second years from the following specializations: Law, Economic Sciences and Psychology (Fig. 1). No participand was in the situation of being part of

multiple groups which define specialization, school year or evaluation year. Out of the participants, 86 (28.8%) were male and 213 (71.2%) were female.

The content and purpose of the research was explained to the participand and there were asked to present their grades obtained in the final semestrial exams to be analysed. It was brought to their attention that the participation is voluntary, respecting the confidentiality of ther personal data and of the evaluation results. It was also brought to their attention the fact that they can resign from the research anytime, without having negative repercussions. The research was conducted respecting Articles 7, 8, 10 and 11 from the Deontologic Code of the Free-Practice Psychologist Proffession, adopted through the Decision 4CN/2013 by the College of Psychologists in Romania, and also the provisions from Appendix 2, part 1: Preamble from the Code of Diciplinary Procedure COPSI (2013).

We have used an ex-post facto nonexperimental research plan. The research, of a constatative type, was limited to the evaluation of the construct in the natural academic field of the participants.

5. Findings

The grades obtained, at the end of the semester, were transformed in Z grades, and after that, in Standard T grades ($M=50$, $s=10$) (Urbina, 2009: 151). We have grouped the Standard T grades in five standardized classes (CLS): 1 – very low results, 2 – low results, 3 – medium results, 4 – good results, 5 – very good results.

The operationalization had the objective to eliminate influences coming from: different difficulty of examinations for each year of studies, the difference between classes, depending on the specialization and the differences between evaluators concerning academic performance. The standards obtained (Tab. 1) were realised by dividing into five standardized classes which include: 6.7%, 24.2%, 38.2%, 24.2%, and 6.7% from the normative sample (Vasiliu, 2018).

Table 1. The operationalisation of academic performance in standardized classes

Specialization	Study year	Very low results (CLS=1)	Low results (CLS=2)	Medium results (CLS=3)	Good results (CLS=4)	Very good results (CLS=5)
Law 2017	1	$T < 38,74$	38,74 – 47,51	47,52 – 52,88	52,89 – 57,50	$T > 57,50$
	2	$T < 40,29$	40,29 – 46,64	46,65 – 51,74	51,75 – 61,22	$T > 61,22$
Economic science 2017	1	$T < 38,10$	38,10 – 48,35	48,36 – 52,74	52,75 – 58,57	$T > 58,57$
	2	$T < 43,03$	43,03 – 46,43	46,44 – 51,75	51,76 – 60,73	$T > 60,73$

Psychology 2017	1	T< 39,01	39,01 – 46,60	46,61 – 53,67	53,68 – 61,03	T> 61,03
	2	T< 33,85	33,85 – 48,07	48,08 – 53,67	53,68 – 58,36	T> 58,36
Law 2018	1	T<38,28	38,28 – 47,29	47,30 – 53,25	53,26 – 57,10	T> 57,10
Economic science 2018	1	T< 36,32	36,32 – 48,61	48,62 – 54,16	54,17 – 56,04	T> 56,04
Psychology 2018	1	T< 37,23	37,23 – 47,33	47,34 – 54,41	54,42 – 58,88	T> 58,88
	2	T< 107,14	107,14 – 117,14	117,15 – 130,71	130,72 – 142,85	T> 142,85

The first operational hypothesis followed the academic performance analysis of students from the emerging adult category, and the observing of a specific model of the period of development. The graphic representation of the academic performance model, operationalised through standard classes, depending on age, is illustrated in Fig. 2..

We have proceeded to grouping the participants, based on age, based on the constataion regarding self-efficacy model (Stomff & Vasiliu, 2017).

Figure 2. The academic performance model based on age

Previous research has shown that self-efficacy is the best predictor of academic performance (Karademas & Kalantzy, 2004; Van Der Westhuizen, De Beer, & Bekwa, 2011; Di Benedetto & Bembenuitty, 2013; Di Giunta et al., 2013; Sadri, 2011; Bin Hasan, Bin Hossain, & Islam, 2014; Lane, Lane, & Kyprianou, 2004; Afari, Ward, & Khine, 2012).

The participants were grouped in three categories: Category 1 (18 years old), Category 2 (19-26 years old) and Category 3 (27-30 years old). Because both variables, age and academic performances (CLS) are ordinal, we have chosen the application of nonparametric statistic tests.

Table 2. The standard class grades rank difference between the age categories

	CLS
Chi-Square	14,156
df	2
Asymp. Sig.	,001
a. Kruskal Wallis Test	
b. Grouping Variable: Age Category	

We have applied the Kruskal-Wallis test to verify the differences between categories. We have found that for academic performance, there are significant differences statistically ($\chi^2(2) = 14.156$, $p=0.001$) between the three age categories. (Tab. 2).

We have analysed the differences found by applying the statistic test Mann – Whitney_U.

The descriptive characteristics for Category 1 (18 years old) and Category 2 (19-26 years old) are represented in Table 3. The number of participants in Category 1 is very low compared to the one in Category 2. Because of this, the results were accepted with the needed reserve.

Table 3. The standard class grades rank average for Categories 1 and 2

Age Category	N	Mean Rank	Sum of Ranks
18 years old	4	164,88	659,50
CLS19-26 years old	214	108,46	23211,50
Total	218		

We have not found significant statistical differences between the rank averages of the standard grades obtained by the participant in Category 1 compared to those in Category 2 (Tab. 4). The magnitude of the effect is low ($r=0.13$) so this has appeared by chance or the result is due to the low sample of the participant from Category 1.

Table 4. The differences between the standard class grades rank average of the Category 1 and Category 2.

	CLS
Mann-Whitney U	206,500
Wilcoxon W	23211,500
Z	-1,866
Asymp. Sig. (2-tailed)	,062
a. Grouping Variable: Age Category	

The descriptive characteristics for Category 2 (19-26 years old) and Category 3 (27-30 years old) are represented in Table 5.

Table 5. Standard class grades rank average for Category 2 and Category 3

Age Category	N	Mean Rank	Sum of Ranks
19-26 years old	214	138,22	29580,00
CLS27-30 years old	81	173,83	14080,00
Total	295		

Between the standard class grades (CLS) rank average obtained by participants we have found significant differences between Category 2 and Category 3 ($U=6575.000$, $z=-3.363$, $p=0.001$). So, the participants from Category 3 ($m_{\text{rank}}=173.83$, $n=81$) have obtained better results than the ones from Category 2 ($m_{\text{rank}}=138.22$, $n=214$). The magnitude of the effect is medium ($r=0.20$). The obtained effect is very unlikely to have appeared randomly and is quite important practically. (Tab. 6).

Table 6. The standard class grades rank average differences between Category 2 and Category 3

	CLS
Mann-Whitney U	6575,000
Wilcoxon W	29580,000
Z	-3,363
Asymp. Sig. (2-tailed)	,001

a. Grouping Variable: Age Category

The descriptive characteristics for Category 1 (18 years old) and Category 3 (27-30 years old) have been illustrated in Table 7.

Table 7. The standard class grades rank average for Categories 1 and 3

Age Category	N	Mean Rank	Sum of Ranks
18 years old	4	58,63	234,50
CLS27-30 years old	81	42,23	3420,50
Total	85		

The number of participants in Category 1 is very low compared to the number of participants in Category 3. Because of this, the statistic test results have been accepted with the needed reserves.

Table 8. The differences between standard class grades rank average of Category 1 and Category 3

	CLS
Mann-Whitney U	99,500
Wilcoxon W	3420,500
Z	-1,359
Asymp. Sig. (2-tailed)	,174
a. Grouping Variable: Age Category	

We have not found statistically significant differences between the standard class grades rank averages obtained by the Category 1 participants and the Category 3 participants (Tab. 8). The magnitude of the effect is low ($r=0.15$) this appearing randomly or the result is due to the low sample of participants in the first age category.

We have found the existence of an academic performance model, during the development phase of the emerging adult, with a maximum around 27 years old.

To verify the second null hypothesis, we have applied the nonparametric statistic test Kruskal-Wallis. The independent variable, Specialization, obtained 10 categories: *Law year 1/2017*, *Economic Sciences year 1/2017*, *Psychology year 1/2017*, *Law year 2/2017*, *Economic Sciences year 2/2017*, *Psychology year 2/2017*, *Law year 1/2018*, *Economic Sciences year 1/2018*, *Psychology year 1/2018*, *Psychology year 2/2018*. We have not found statistically significant differences ($p=0.979$) between the rank averages concerning academic performance, based on specialization, year of study and year of evaluation (Tab. 9). We have retained the hypothesis null.

Table 9. Compares between the rank averages of academic performance based on Specialization/ Year of study/ Year of evaluation

	CLS
Chi-Square	2,558
df	9
Asymp. Sig.	,979
a. Kruskal Wallis Test	
b. Grouping Variable: Specialization/ Year of study/ Year of evaluation	

To verify the third null hypothesis, we have applied the nonparametric statistic test Mann – Whitney U. In this case, the independent variable was the gender of the participants with two categories: Male and Female. We have not found statistically significant differences ($p=0.923$)

between the rank averages regarding academic performance, based on gender (Tab. 10). We have retained the hypothesis null.

Table 10. Compares between rank averages of academic performance based on gender

	CLS
Mann-Whitney U	9097,000
Wilcoxon W	31888,000
Z	-,096
Asymp. Sig. (2-tailed)	,923
a. Grouping Variable: Gender	

6. Discussions

We have found the existence of an academic performance evolution model in the interior of the development phase of the emerging adult. We have found a low performance level in the 19-26 years old period and a maximum level around 27 years old. Until the final of the period (28-30 years old) performance presented fluctuations but with higher values than between 20 and 26 years old. The performance level differences between age categories were statistically significant with a medium magnitude of the effect. These are explained by the fact persons don't react only to stimulants from inside the field. They act on them, keeping in mind the significations and consequences of the events, while they acknowledge them and they gain experience. The need of significations is fundamental for everyone (Kreitler & Kreitler, 1993).

The fact that there weren't recorded any differences regarding academic performance, between the specialization can be explained with the help of the Attribution Theory (Weiner, 1985). Even if the purposes were different, that of becoming a magistrate, an economist, or a psychologist, academic motivatin, a generator of performance, was sustained on the same factors (Moenikia & Zahed-Babelan, 2010), regardless of it's nature: intrinsic or extrinsic. The accent was put on controllability and on the inference of responsibility which generated the motivational force for performance (Weiner, 2000) regardless of the specialization or the year of study.

The inexistence of gender differences may have the following explanations. Regardless of the gender, intervened the motivation for self-satisfaction, the wish to have a career, the wish to have a superior social status, the proudness to show other that they "can do it" or to be liked by important persons in their lifes (parents, relatives, partner, etc.). This process, academic motivation, was sustained by four factors: wish, need,

compulsion and inclination of the student (Moenikia & Zahed-Babelan, 2010), regardless if it was of intrinsic or extrinsic nature. For all of them, the impact with the academic field was liberating but on the same time a generator of confusion and anxiety, raised through experiencing inability. Choosing the coping type was determined by the abilities perceived, with the attributed significancies (Kreitler & Kreitler, 1993) and by the acquisitions made in the previous development phases. The students, emerging adults, have tried to obtain performance, based on interests and significance, regardless of the gender, but most probably with different efforts, emotions and stress. There have been researches which reported gender differences regarding performance in general, and academic performance, in particular (Di Bendetto & Bembenuitty, 2013; Diseth, Meland, & Breidablik, 2014; Patton, Bartrum, & Creed, 2004; Tan & Tan, 2014; Yilmaz, 2014). There have been researches which, on the contrary, signaled diminuation or even elimination of gender differences regarding performance or the abilities for performance (Feingold, 1988, 1994; Feng, Spence, & Pratt, 2007; Gneezy, Niederle, & Rustichini, 2003; Shulman & Ben-Artzi, 2003). Taking into consideration the attribution of new roles concerning the male and female behavior, instead of taking into consideration the specific attribution of the genders in traditional cultures, explains the lack of differences regarding performance. The emerging adult age is the one that signifies a new beginning and offers a chance to experiment new roles and more interesting social contexts (Schulenberg & Zarrett, 2006).

The statistic significance of the results was big at a statistic power of 95% and the size of the effect was, in general, medium. The obtained effect is less likely to have appeared randomly and seems to be quite important from a practical point of view. Also, the effect is statistically significant.

The limits of the research were: students from the first and second year of university, between 18 and 30 years old, from the Hyperion University of Bucharest. The research was made in the 2017-2018 period. The research was made respecting the stipulation from the volunteering contract no. 102 from 10.01.2017 signed between The Hyperion University of Bucharest and the author of the research, for a period of three years.

7. Conclusions

The research highlighted a stable model, depending on the specialization, year of study and gender, of academic performance. The existence necessity of a support, to ameliorate and sustain performance, is needed for the students with age between 18 and 26 years old. By the end of

the period, with the structuring of the self and the acknowledgement of the responsibilities that implicate the adult role, this support is no longer necessary, academic performance reaching a maximum level around 27 years old.

The results of the study are useful in the range that the complete the strategies concerning the way in which we can ameliorate and maintain a more adequate level of academic performance. The research shows when is the most opportune period to intervene on these strategies.

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