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Why some Fail and others Succeed: Explaining the Academic Performance of PA Undergraduate Students

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Abstract

The current research explores the influence of multiple factors (such as class attendance, previous academic performance, in-class involvement and attention, class schedule, gender and other control variables) on the academic performance of public-administration undergraduate students. The regression models developed based on the academic literature were tested on a sample of 1st-year students (N = 115) enrolled in the Public Administration bachelor program of Babeş-Bolyai University (Cluj-Napoca) in order to explain their performance (grade) in a final examination. Since none of the variables included in the model are self-reported (i.e. classic self-administered questionnaires) we have reduced the potential that social desirability bias could influence our results, thus strengthening the reliability and robustness of our findings.

Our results show that the main factors which can influence students' academic performance are attendance at seminars and in-class involvement. All other factors which were included in the regression model (age, gender, distance between class site and their home, residence in urban or rural environment, attention and motivation, class schedule and four proxies/measures for previous performance) were either not statistically significant in any of the models or showed an inconsistent/unstable influence on academic performance.

These results can be of interest not only for Public Administration scholars, but also for university decision makers. As such, starting from the aforementioned

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findings and the literature, we also propose and discuss specific measures, which can be adopted by faculty-level decision makers in order to help students improve their academic performance and ensure better educational outcomes, especially in regard to the admission criteria currently in place.

Points for practitioners

The research investigates, among other potential factors, whether class attendance influences performance regardless of other individual characteristics. In doing so, the research tries to provide an answer to the ongoing debate on the usefulness of compulsory attendance at lectures and seminars in higher education. Furthermore, by observing the influence of previous performance (during high school) on current academic performance, the research can identify more adequate admission criteria, which can be used by university decision makers to ensure a better selection of candidates, thus potentially decreasing dropout rates.

Keywords:
academic performance, undergraduate students, grades, regression analysis, PA studies, Romania.

1. Introduction

The relevance of studies examining the factors that can influence students' performance resides in the fact that low performances can have a negative effect on the number of students who graduate and thus increase the attrition rate. The attrition rate is an especially important indicator in systems/contexts in which the funding of higher-education institutions is tied/linked to the number of students enrolled (as it is in Romania) or where the number of students who graduate represent a quality/performance or accreditation indicator. Therefore, the results of such studies can guide the measures taken by university policy makers in order to improve students' results and increase the performance and attractivity of higher-education institutions.

Although various studies (Ayala and Manzano 2018; Jayanthi et al. 2014; Mlambo 2011; Jansen and Bruinsma 2005; Papageorgiou 2017) have been conducted in order to identify the factors that influence students' performance, there are few studies that examine the determinants of public administration students' (PAS from here on) performance. Given the fact that the impact of the factors that could possibly influence students' performance "vary (in terms of extent and direction) with context, for example, culture, institution, course of study" (Mlambo 2011, 81), we argue that it is necessary to examine the factors that influence PAS academic performance, as they can differ from the factors that affect the performance of other categories of students. Moreover, although the culture and the characteristics of the Romanian education system could also influence students' performance, no study

examining the predictors of students' performance in Romania has been conducted yet (to the authors' knowledge).

As such, the present study[3] investigates the predictors of academic performance in the case of 115 PA undergraduates enrolled in an Academic Writing course held in the fall semester (2018–2019 academic year) at the Faculty of Political, Administrative and Communication Sciences, Babeș-Bolyai University, Romania. The study contributes to the literature twofold, as: (a) it examines a group of students that was rarely studied, in the context of a country in which academic performance was never studied, and (b) the research investigates the predictors of academic performance in the case of a course (Academic Writing) that does not merely require students to accumulate information, but it tests the ability to apply the knowledge acquired. Furthermore, the current research does not rely on self-reported measures, one of the main drawbacks observed in previous studies (e.g. Jayanthi et al. 2014; Mlambo 2011; Jansen and Bruinsma 2005; Chen and Lin 2008), thus strengthening the reliability and robustness of the findings. The current work continues previous public-administration education research conducted on Romania, focusing on the relationship between universities and their surrounding local environment (see Macarie and Moldovan 2012), extracurricular academic activities, academic performances and the employability of public-administration master students (see Moldovan 2013), the professional practice/short-term internship experiences of students (see Moldovan and Raboca 2019), the development and future of public-administration schools (Hințea 2013) or on the impact universities have on their surroundings (Chircă and Lazăr 2019).

2. What influences students' performance?

Previous research has identified various factors that influence or predict students' academic performance, ranging from students' learning styles (Jayanthi et al. 2014; Credé et al. 2010), teaching styles and the usage of advanced pedagogical technologies (Kutergina 2017) and demographic variables (Jayanthi et al. 2014; Credé et al. 2010) to psychological factors (see Richardson et al. 2012; Masui et al. 2014) and the location where activities are conducted (Waters et al. 2006). Considering that it is beyond the scope of our research to present the factors that might influence students' performance in an exhaustive way, we will only briefly review them.

2.1 Class attendance

The role class attendance plays in the context of students' academic performance could be argued to have decreased over time, especially starting with the spread

3 A previous version of this research was presented at the 27th NISPAcee Annual Conference held in Prague, 24–26 May 2019. We are grateful to all working group (on Public Administration Education) participants and the two coordinators (Călin Hințea and Roger Hamlin) for their valuable input, which allowed us to considerably improve our research.

of the internet, which has increased the access to information (often via e-learning platforms and Massive Open Online Courses – MOOCs) and thus reduced the dependence students had on physically attending lectures or seminars. Research conducted before the widespread use of the internet concluded that there is a strong link between attendance and performance (attendance alone explained 31 % of students' performance), which persisted even after controlling for motivation or ability (Romer 1993). This does not seem to have changed, as a meta-analytic review (Credé et al. 2010) of the studies examining the relationship between class attendance and performance (grades) concluded that attendance is strongly correlated with performance. Furthermore, the correlation between the year in which the research was published and the strength of the relationship between attendance and performance is negligible (Credé et al. 2010); in other words, as years passed the strength of the attendance-performance relationship did not change. Therefore, we can argue that the influence attendance has on performance did not decrease over time, even if other sources of information have become widely available. The fact that attendance accounts for a significant part of the variation in grades was also concluded when more innovative means of measuring attendance were used (using GPS) in the case of a longitudinal study (2 years) on a large sample of 1000 undergraduate students (Kassarnig et al. 2017); however, the authors point out that the results do not imply a causal effect in this case.

Even though a causal relationship cannot be inferred from observational studies, such as that of Kassarnig et al. (2017), experimental research (Chen and Lin 2008) concludes that there is a causal relationship between attendance and performance, as there is a 9.4 % to 18 % improvement in students' performance when they attend lectures. As such, the relationship between the two is likely to be causal. It should be noted that the attendance-performance relationship is slightly stronger in the case of science classes than in the case of non-science classes (Credé et al. 2010). As such, the impact attendance has on performance can vary with the subject/course/topic investigated. Given the fact that the course under scrutiny (namely academic writing) tests the ability of students to make use of the knowledge acquired, a significant strong correlation between attendance and performance is hypothesized.

2.2 Attention

Clearly, the mere presence of the students in the classroom can be of little help if they are not paying attention to their instructor and the information being discussed during face-to-face meetings. Even though the relation between attention and academic performance has been investigated in the case of kindergarteners (Sáez et al. 2012) or secondary-school students (Shah and Saleem 2015), relatively few studies investigate this relationship in the case of college students, who are assumed to be more mature and responsible, and thus attention should have a more pronounced influence on their academic performance. In the case of college stu-

dents, academic research is often focused on the impact electronic devices have on attention during classes; for example, Wei et al. (2012, 199) investigated the relationship between the use of text messages, self-regulation, sustained attention and academic performance, concluding that "students with a high level of volitional power were more likely to sustain their attention on classroom learning (to stay on task-oriented behavior), which, in turn led to positive cognitive learning [and academic performance]". As such, attention does seem to improve students' academic performance. Moreover, experimental research (Glass and Kang 2019) suggests a causal link between divided attention (through the use of electronic devices) and long-term academic performance (the grade for the final exam), although short-term performance (measured through tests given at the end of the classes regarding the topics discussed) was not affected. Therefore, this research suggests that the relationship between attention and performance is not merely correlational, but causal.

Thus, it is clear that an accurate assessment of the relationship between class attendance and performance cannot be achieved if attention during lectures/seminars is disregarded. As such, taking into account the level of attention when examining the relationship between class attendance and academic performance could either increase the observed correlation (when attention is high) or decrease it (when attention is low).

2.3 In-class involvement

In-class involvement is another factor that could influence the relationship between class attendance and academic performance, as students who actively participate during classes can assess their knowledge level and can benefit from the clarifications made by the instructor. Previous research seems to confirm this, as Massingham and Herrington (2006) identified a statistically significant association between students' participation (i.e. class-participation grade) and class performance (i.e. final grade). Similar results were obtained by Freeman et al. (2007), who concluded that students' participation does influence performance, especially when it is graded (included in the final evaluation). This seems to be the case not only in traditional settings, as similar results were also obtained in the case of online courses (Coldwell et al. 2008). However, the aforementioned studies failed to take into account students' characteristics (such as previous performance, level of motivation) that could affect both in-class involvement and final results, thus causing a spurious relationship between the two. The study conducted by O'Connor et al. (2017), which did control for previous performance when examining the relationship between participation (number of words students spoke during classes) and learning outcomes, concluded that class participation does not predict learning outcomes when controlling for previous performance and other factors (e.g. gender). As such, it is necessary to control for such students' characteristics (as revealed by the following sub-sections of the paper).

2.4 Students' characteristics

An important category of factors which can influence students' academic performance refers to their individual characteristics. Even though there are a myriad of characteristics that have been shown to influence students' academic performance (see, for example, Richardson et al. 2012), this paper will only focus on the characteristics that can be assessed without having to rely on self-reported measures (that can often be biased). Intuitively, students' levels of motivation, conscientiousness or intelligence are characteristics that affect students' performance, as more motivated or intelligent students are more likely to obtain better results than their less endowed counterparts. Such characteristics can have both a direct and an indirect effect on students' results.

Students' characteristics can indirectly influence their academic results, as more motivated or conscientious students are more likely to attend classes, to be attentive and actively involved during classes or to invest more effort in their tasks (homework and other assignments), which in turn could affect their performance. As such, these characteristics can influence the relationship between the previously mentioned factors and academic performance. Even though the meta-analysis conducted by Credé et al. (2010) concluded that class attendance does not mediate the relationship between students' characteristics (such as motivation or conscientiousness) and grades, students' characteristics can have an influence on the attention level or on the extent to which students actively participate during classes, which (as previously argued) do influence students' performance. Such characteristics (i.e. motivation, conscientiousness) can be measured objectively, as suggested by Credé et al. (2010), by assessing students' consistency in attendance for multiple courses.

Students' previous performance could also be a predictor of their current academic performance, as it can represent a proxy for their intelligence, motivation or the level of knowledge students already possess; as such, it can directly influence students' academic performance. Previous research does confirm this, as various studies (e.g. Jansen and Bruinsma 2005; Plant et al. 2005; Salanova et al. 2009) concluded that previous performance (i.e. GPA in pre-university education) is correlated to students' academic performance (grades); however, the strength of the relationship depends on the measurement used for previous performance. Vieira et al. (2017), for example, concluded that grades obtained during secondary school are a better predictor for performance than the grades obtained at the national examination at the end of secondary school. Moreover, there are authors who argue that using the secondary school exit examination (as is the case in Romania) as the main criterion to admit students to higher education can be detrimental to the quality of the secondary education, as teachers will focus on preparing students for the exit examination, instead of "providing students with a meaningful learning experience" (Haj et al. 2018, 179), but it can also be detrimental to the effectiveness of the higher-education admission process, as the exit examination is not indicative of future

academic performance (Haj et al. 2018). Therefore, multiple measures of previous academic performance should be employed, as differences in their predictive power are expected.

2.5 Other control factors

There are other factors that could influence students' performance, such as age, gender, place of residence (rural/urban), distance between the city in which students study and their hometown and the schedule of courses and seminars. In the case of these factors previous research did not provide conclusive results, but we included them in our models/analyses in order to further contribute to the academic literature by corroborating or infirming the results of previous studies. The literature includes other aspects which might influence the academic quality of programs and the performance of students, such as international accreditation (see Katsamunska and Rosenbaum 2019), capstone courses (Ahmed 2015), the professional competencies that must be developed by the program (see Stare and Kun 2018), university transparency and democratic governance at the university level (Rădulescu et al. 2018), identifying and adapting to student learning styles (Naylor et al. 2014) or the usage of computer-based simulation games as advanced pedagogical technologies (Kutergina 2017); but most of these factors refer to comparative contexts and program comparisons (see, for example, Pevcin et al. 2019) and are not applicable in our case (since we refer to a single program).

Age is often considered to influence students' performance, but the direction of the relationship is unclear, as some authors (Jansen and Bruinsma 2005) argue that there is a positive age-performance relationship, as older students are more experienced, which is expected to translate to better grades; however, there are authors (see Mlambo 2011) who argue that there is a negative age-performance relationship, as older students can face multiple learning difficulties (or might be encumbered by other duties and responsibilities). Research results are inconclusive, as some authors (Jayanthi et al. 2014; Mlambo 2011; Coldwell et al. 2008) concluded that age is not significantly correlated to performance, while there are authors (Jansen and Bruinsma 2005; Richardson et al. 2012) who identified a positive relationship between the two variables, older students having better results than their younger peers.

Regarding the influence of gender on academic performance, there are no substantive reasons to expect that gender will have a significant impact, although some authors (Coldwell et al. 2008; Macarie and Moldovan 2015) argue that female students invest more time in their studies/education. Even though some studies support this assumption (Papageorgiou 2017; Jayanthi et al. 2014; Jansen and Bruinsma 2005; Richardson et al. 2012; Coldwell et al. 2008), concluding that female students have significantly higher results than male students, other studies present evidence for the reverse (Vieira et al. 2017), while others did not identified a statisti-

cally significant difference between the two genders (Mlambo 2011). The mixed results obtained for both age and gender emphasize the need for more research to be conducted regarding the influence of these two variables on academic performance.

The influence of the distance between the students' hometown and the city where they study on academic performance has only recently been studied, in the context of other phenomena such as homesickness and place attachment. Considering the fact that homesickness is associated both with bigger distances to one's hometown and with cognitive failures and poor concentration (Stroebe et al. 2002), a negative relationship between distance and performance can be expected. The results obtained by Vieira et al. (2017) support this hypothesis, as distance negatively correlated to performance. However, given the novelty of the studies examining the distance-performance relationship, we believe that more research is warranted in order to reach a conclusion.

The role of students' place of residence (rural/urban) on performance has not been investigated by any of the aforementioned studies. We consider this to be a limitation of the previous research, as it has been shown that the place of residence influences high-school students' performance (Young 1998), students from rural areas having lower achievement. We assume that these high-school differences determined by the place of residence can persist and thus influence students' college results.

The last factor considered which could influence students' performance is class schedule, or more precisely the time of the day the classes take place. The time of the day the class is held can affect students' level of concentration, thus influencing attention, which, as has been argued previously, does influence performance. This factor has mostly been disregarded by previous research, although research on the students of the US Air Force Academy (Carrell et al. 2011) concluded that there is a causal relationship between the time of the day studies start and academic achievement, with students who start classes earlier (07:00 AM) having significantly lower results that the students who start classes later (07:50 AM). As such, it is expected that students attending the seminar earlier will have lower performance levels than their peers. Cankar et al. (2015) also included socio-economic status (local wages and unemployment), education structure and the age dependency ratio as explanatory variables for academic performance at a national evaluation; however, these types of variables were not included in our sample, considering that we did not make comparisons between cities/regions as the aforementioned authors did.

3. Data and methodology

3.1 Participants

The data used for this study was collected from Public Administration undergraduate students who took the Academic Writing course held in the fall semester of the 2018–2019 academic year at the Faculty of Political, Administrative and Communication Sciences (Babeș-Bolyai University, Cluj-Napoca, Romania). The course is designed following the structure proposed by Ellison (2006, 29), teaching students about the introduction of a research paper, the literature review, the methodology, the findings and the conclusions (a separate research/methods class focuses more on data collection and statistical analysis). 153 students were initially enrolled in the course, out of which 38 dropped out, leaving 115 students who completed the course and who were included in the final analysis. It should be noted that the majority of students (with 2 exceptions) who dropped out of this course are students who dropped out of university altogether (due to different reasons); as such, there are no reasons to believe that the students who dropped out are ones who anticipated/expected to obtain poor results, a fact that could have biased the results.

3.2 Variables

Attendance

Seminar attendance was recorded at the end of each seminar by the instructor. It should be mentioned that the policy of Babeș-Bolyai University demands compulsory attendance to at a minimum of 75 % of the seminars. However, during the re-examination session the compulsory attendance was dropped closer to 50 % so as to reduce the chance that it would bias the results. Therefore, given the fact that a semester consists of 14 weeks, students were required to attend at least 9 seminars for the initial evaluation and 7 for the re-examination.

Attention and in-class involvement

Attention was measured through the grades obtained by students at online tests given at the end of seminar meetings. The tests consisted of multiple-choice questions regarding topics that were discussed during the seminar. The average of the grades thus obtained was used as a proxy for attention.

A record of the times students actively participated (e.g. asked/answered questions, made relevant observations) during the seminar was held, based on which a grade was offered, which represents the measurement used for in-class involvement.

The study examined students' attendance, attention and in-class involvement in the case of the seminar, not the lecture. This decision was based on the fact that the seminar focuses on applying the knowledge acquired (through various exercises) during lectures, which is what the final exam also tested. Thus it was considered

that the chances of identifying a relationship between the previous mentioned elements will be higher in the case of the seminar.

Students' characteristics

Students' motivation and conscientiousness was measured, as Credé et al. (2010) recommended, by assessing students' consistency in attendance for multiple courses. More precisely, the consistency in attendance for 4 courses (Academic Writing, Research Methods, Introduction to Public Administration and Sociology) students had to take was used as a proxy for motivation and conscientiousness. Therefore, it is assumed that students who have good attendance records for all classes are more motivated than their counterparts who systematically miss classes. In order to assess the consistency, a factor analysis was conducted that reduced the number of variables to one latent variable, which explains 62.24% of the variance of the variables used in the case of attendance.

Students' previous performance was assessed using students' baccalaureate grade, which is also used by the majority of higher/education institutions from Romania (with a few exceptions) as the main admission criterion for the bachelor/undergraduate level. However, given the fact that differences in the predictive power of various measures of previous performance have been previously documented (Vieira et al. 2017), this was not the sole measure of previous performance used in this study. Students' average high-school grade, the average grade for the last year of high school, and (taking into account the type of subject/course being investigated) the grade students obtained at the baccalaureate written examination of Romanian Language and Literature (RLL) were also used.

Other factors

The data regarding age, gender, place of residence and distance between the city students study and their hometown were provided by the secretary of the faculty, while the data regarding the time of the day students attended the seminar were retrieved from the faculty's website. It should be noted that only the data regarding the hometown of the students were provided by the secretariat, which was then used to calculate the distance using Google Maps.

Students' performance

Students' performance, the dependent variable, was represented by the grade students obtained for the paper they had to deliver as part of the final examination of the Academic Writing course. For the final examination students were required to write a research proposal for a topic of their own choice. The final paper was divided into 3 parts (introduction, literature review and methodology), which students delivered during the semester, based on which they individually received feedback, which could have been used to improve each paper; the final paper was delivered at the end of the semester.

4. Results and discussion

The majority of the students included in the analysis were female (19 male; 96 female) and the variability in terms of age was low (mean = 20.39; SD = 1.45). Most of the students lived in the urban area (58.3 %), and the average distance they lived from the city was 143.6 kilometers (SD = 132.98). The average grade for the final paper was 5.66 (out of 10.00, the maximum), but there were large differences between the students (SD = 2.91). The same trend was registered for involvement (mean = 6.30; SD = 2.38) and attention (mean = 5.97; SD = 1.59), while for the other measures/variables used in the analysis the distribution was more homogenous.

However, in the case of measurements used for previous performance we did not find any considerable differences. The average for the baccalaureate exam was 7.95[4] (SD = 0.85), while the average for the RLL exam was similar, but the differences between students were larger (mean = 7.90; SD = 1.19). The average for the last year of high school was higher, but the variation lower (mean = 8.87; SD = 0.57)

Regarding class schedule, the students were divided into 5 groups, and the classes were held at three different times of the day, on Monday and Wednesday. The first session was held from 08:00 to 10:00 (37.4 % students attended it), the second was held from 10:00 to 12:00 (38.3 %) and the last from 12:00 to 14:00 (24.3 % students attended it). It should be noted that none of the students had other classes before the Academic Writing seminar. As such, potential differences in students' performance between the three sessions cannot be attributed to the fact that students were tired from other classes they had.

4.1 Attendance, attention, in-class involvement and motivation

As presented in the theoretical section, it is expected that factors such as attention, in-class involvement, motivation and previous performance will influence the observed relationship between attendance and grades. As such, multiple regression models were conducted in order to identify the changes registered in the attendance-performance relationship when these variables were introduced in the analysis. Table 3 (at the end of the paper) presents the results of the analyses conducted. All six models are statistically significant (Sig. = 0.000), and their explanatory power is medium to strong, ranging in terms of R^2 from 0.278 to 0.438.

The first model includes only attendance as a predictor, while the following models include multiple other predictors of performance (see Table 3). As expected, attendance and performance are positively correlated (R^2 = 0.278; Sig. = 0.000), a one-unit increase in attendance is predicted to translate into a one-point increase in the final grade students obtained (B = 1.015). This, as already mentioned, was expected to change when other predictors are included in the analysis.

4 Measured on a scale from 1.00 (minimum) to 10.00 (maximum).

The second model (see Table 3), which also includes attention, involvement, motivation and previous performance, confirms our assumption, as when these factors are taken into consideration, a one-unit increase in attendance results in only a 0.62 increase in grade (B = 0.627). Moreover, the predictive power on the model considerably increases when these factors are included, from 27.8 % of the variation of the dependent variable explained by the independent variables to 43.8 % (Sig. = 0.000).

Although attention was expected to be significantly correlated with performance, this is not the case. It should be mentioned that when only class attendance and attention are included in the model, the latter is a significant predictor of performance, but this changes when involvement is also included in the analysis. Therefore, it can be argued that involvement is more important for performance than attention. This can be explained by the type of course for which performance is measured, as it does not test memory but ability. Attention, as it is measured in this case, can be considered a proxy for students' capacity to remember what has been discussed, while involvement requires students to understand the topics discussed; as the capacity to understand is more important than the capacity to memorize/remember, involvement is a better predictor for performance.

Although motivation is not a significant predictor for performance in this case, this does not necessarily mean that the students' level of motivation is not relevant, but rather that the proxy used is not an appropriate measure or that the university's compulsory attendance policy has biased the results. As already mentioned, the university requires students to attend at least 75 % of the seminars in order to participate in the final evaluation, which has forced those less motivated student to attend classes, thus reducing the variability of the measure used. As such, the utility of this measure should be assessed in contexts where attendance is not compulsory.

4.2 Previous performance

Previous research (Jansen and Bruinsma 2005; Plant et al. 2005; Salanova et al. 2009) concluded that Previous Performance (PP from here on) correlates with academic performance, although the measurement used for PP can make a difference in the strength of the relationship (see Vieira et al. 2017). Models 2–5 present the results of the analysis using 4 different proxies for PP, in order to identify the measure that best predicts academic performance. The four different proxies for PP are the baccalaureate grade (PP(B)), the grade students obtained at the baccalaureate written examination of Romanian Language and Literature (PP(RLL)), the average grade of their last year of high school (PP(A_HS)) and the average grade from all four high-school years (PP(A_LY_HS)).

Previous Performance, measured using the baccalaureate grade (see Model 2, Table 3), is not a significant predictor of performance. This raises questions regard-

ing the adequacy of using it as the main admission criterion for higher education. One possible explanation is that the baccalaureate grade is not a good predictor of students' performance in the case of this particular course, as it tests abilities and not the capacity to memorize information. As such, it could be argued that the baccalaureate grade is a predictor of students' capacity to memorize and not an ability, which would explain the results obtained. On the other hand, it could also be argued that the baccalaureate grade fails to predict performance because of the type of examination, which is different from the classical written examination with which students are more familiar.

In order to distinguish between these two explanations, the predictive power of this proxy for PP was tested using the final grade students obtained for other courses they were enrolled in, namely Introduction to Public Administration (IPA); Sociology (SOC); Political Science (PS) and Research Methods (RM).

These courses differ both in terms of what they test and in the way the tests/evaluations are conducted. As such, the first three courses test mostly memory, as they require students to remember the concepts, classifications, theories or definitions discussed, while the RM course requires students to understand the information discussed, in order to be able to solve the exercises that comprise the exam. Regarding the examination type, three courses (IPA; SOC, RM) make use of the classical written examination, while the final examination of the PS course consists of an oral evaluation.

Therefore, if PP is a significant predictor of performance in the case of Introduction to Public Administration, Sociology and Political Science, but not in the case of the Research Methods course, it could be argued that by using the baccalaureate grade as the main admission criterion, higher-education institutions select students who have a good memory, but not necessarily the ability to use what they have studied. However, if PP is a significant predictor of performance in the case of IPA, SOC and RM but fails to predict performance for the PS course, it could be argued that by using the baccalaureate grade as the main admission criterion, higher-education institutions select students who can achieve performance in the case of classical written examinations, but not necessarily in the case of other types of examinations/evaluations. Table 1 presents the results obtained when the baccalaureate grade is used as a predictor for current performance in the case of the aforementioned courses. The baccalaureate grade is a significant predictor in the case of Introduction to Public Administration, Sociology and Research Methods, but it fails to predict performance in the case of the Political Science course. Consequently, the results support the second explanation provided, namely that the baccalaureate grade fails at predicting current performance for the Academic Writing course because it does not use the classical written examination. For further discussions regarding differences between academic disciplines in the PA curricula, how they

should be taught and evaluated please see Ongaro (2019), Engbers (2016), Glennon et al. (2019), Thom (2019) and Mallinson (2018).

Table 1
Academic performance (predictor: baccalaureate grade)

	B	Beta	Sig	R^2	Memory/Ability	Exam type
IPA	0.895	0.359	0.000	0.129	Memory	Written
PS	0.461	0.169	0.073	0.028	Memory	Oral
SOC	0.858	0.474	0.000	0.224	Memory	Written
RM	0.808	0.002	0.002	0.086	Ability	Written

Given the abilities required to successfully complete the course under investigation, it was considered that the grade students obtained for the Romanian language and literature baccalaureate examination could be an appropriate proxy for students' performance in this particular course. However, as the results show (see Model 3, Table 3), the RLL grade is not a significant predictor of current performance. These results can be understood in the light of the findings of Vieira et al. (2017), who conclude that the continuous assessment (i.e. average secondary school grades) of students is a better predictor of academic performance than the secondary school final examinations (a one-time evaluation). This could be due to the fact that measuring performance at one point in time can result in an unrealistic assessment, especially in the case of exams considered to be important, such as the baccalaureate in Romania. Students can invest more effort into preparing for this type of exams than they would usually, thus resulting in a higher performance than the students' baseline actual/average performance. This seems to be the case, as the mean for the baccalaureate exam is 7.95, while the mean for the Academic Writing exam was only 5.66. As a consequence, the decision to use the average grade students obtained for all the years of high school as a proxy for PP was made, as it could be a better measure of students' average performance. Nevertheless, the results (see Model 4, Table 3) do not support this assumption as the high-school average grade is not a significant predictor of academic performance in the case of the academic writing course.

The average grade for the last year of high school was also used as a proxy for PP, as it was considered that this indicator would be more relevant for current performance than the students' performance in previous years due to its proximity to the current time (situation). Even though this measure is not a significant predictor of academic performance at the conventional level of 0.05 (see Model 5; Table 3), out of all the measures for previous performance used in this research, it is the best possible predictor for academic performance. Given these results, the predictive power of the average grade for the last year of high school was also investigated in

the case of the performance students achieved for other classes in which they were enrolled, in order to determine whether this is a better predictor of performance in general or only in the case of this particular course (academic writing). Table 2 presents the results obtained; as can be seen, the students' average grade for the last year of high school is better correlated to students' grades than the baccalaureate grade in the case of the RM course and it is a significant predictor for performance in the case of the PS course.

As such, the results obtained (see Table 2) suggest that the average grade for the last year of high school is a better predictor of performance compared to the baccalaureate grade, both when ability is tested and when different types of examinations are considered. Therefore, it suggests that the average grade of the last year of high school might be a better admission criterion for higher education when compared to the baccalaureate grade (which Romanian universities currently use).

Table 2
Academic performance (predictor: last year of high school)

	B	Beta	Sig	R^2	Memory/Ability	Exam type
IAP	0.799	0.222	0.018	0.049	Memory	Written
PS	1.633	0.407	0.018	0.166	Memory	Oral
SOC	1.316	0.493	0.000	0.243	Memory	Written
RM	1.495	**0.367**	0.000	0.135	Ability	Written

4.3 Other factors

The other determinants of academic performance identified in the literature, namely age, gender, distance, place of residence and schedule, are not significantly correlated to academic performance (see Model 6; Table 3). As already mentioned, the results of previous research were inconclusive regarding the influence of age and gender on academic performance, various authors (e.g. Jayanthi et al. 2014; Mlambo 2011; Coldwell et al. 2008) concluding that they do not influence performance. Therefore, the results obtained are in accordance with the findings of the aforementioned studies. Even though previous research has identified significant correlations between the distance from students' hometowns to the city in which they study, their place of residence, schedule and academic performance, this study did not identify any significant relationships between them. It could be argued that the differences in performance between students who reside in rural and urban areas are already accounted in students' previous performance and that the inclusion of previous performance in the model does not allow us to observe the influence of residence on academic performance. However, this is not the case, as residence is not significantly correlated to academic performance even when previous performance is excluded from the analysis. As such, it has to be concluded that distance,

place of residence and the schedule of classes simply do not influence academic performance.

5. Conclusions

Although the determinants of students' performance have been extensively investigated (Ayala and Manzano 2018; Jayanthi et al. 2014; Mlambo 2011; Jansen and Bruinsma 2005), few attempts have been made to determine the factors that influence the academic performance in the case of public administration students (PAS), and no such attempts have been made in the case of Romania. As such, this study investigated the determinants of academic performance of PAS from the Faculty of Political, Administrative and Communication Sciences (Babeș-Bolyai University, Cluj-Napoca, Romania) in the case of an Academic Writing course. Although these results should not be extrapolated ad litteram to other contexts, as PA education in CEE countries can be considered to be path-dependent as well as influenced by unique context-based factors and legal provisions (Pevcin et al. 2019), we believe that they can constitute a solid starting point for further inquiry regarding the factors which can influence the academic performance of PAS.

The results show that attendance does influence academic performance; a one-unit increase in attendance is predicted to result in a one-point increase in the final grade students obtain for the course. However, the influence that attendance has on academic performance decreases when other factors, such as attention, involvement and motivation, are taken into account. Therefore, it can be concluded that attendance alone can help, but it is not sufficient to achieve performance. Attention during seminars, measured through tests given at the end of the seminar, does influence academic performance, but it loses its significance when involvement is introduced in the analysis. Thus, how attentive students are during seminars can be of little importance for their performance if they do not understand and are not able to critically analyze what they discuss and learn during classes.

Motivation, as measured here, does not seem to influence academic performance. Nonetheless, these results can be biased by the policy of the university in which the study was conducted, as it requires compulsory attendance at a minimum of 75 % of the seminars. It is thus recommended to also test the effectiveness of this measure in contexts in which attendance is not mandatory.

Previous performance is significantly correlated to academic performance, but as previous research concluded, the measurements and proxies used influences the strength of the observed relationship. The baccalaureate grade, which is currently used by Romanian universities as the main admission criterion, fails to predict the academic performance for courses that do not make use of the classical written examination, such as the Academic Writing course. Nevertheless, it is a significant predictor of academic performance for courses which use the classical written exam

(i.e. Introduction to Public Administration, Research Methods and Sociology). The average for the last year of high school on the other hand is more strongly correlated to students' performance in classical exams, but also in other types of examinations (i.e. oral examinations). These results provide empirical support to the argument made by Haj et al. (2018), who argue that using the secondary-school exit examination (e.g. the baccalaureate grade) as the main criterion to admit students in higher education can be detrimental, as it does not indicate the future academic performance of students. As such, these results are not only relevant for Romania, but also for other countries which rely on secondary-school exit examinations in order to admit students to higher education, such as Hungary, Poland or Slovenia. This classical admission criterion could be replaced by a specialized admission test and interviews (which could be tailored by program decision-makers to better fit their needs) or the average for the last year of high school (which was shown to be a better predictor for academic performance).

Based on this research it can be concluded that universities should reconsider their admission policy, as the criterion currently used does not seem to be the best one available (for more details on potential admission criteria, see Dickson and Carr 1993). Given the importance of admitting the right students into higher education, more research is needed in order to identify the most appropriate criterion for selection, as the results show that the high-school exit examination is not entirely suitable for a PA undergraduate program.

Table 3
Performance predictors

	Model 1					Model 2					Model 3				
	B	**Std. Error**	**Beta**	**T**	**Sig**	**B**	**Std. Error**	**Beta**	**t**	**Sig**	**B**	**Std. Error**	**Beta**	**t**	**Sig**
Constant	−5.156	1.659		−3.109	0.002	−7.339	3.324		−2.208	0.029	−5.804	3.250		−1.786	0.077
Attendance	1.015	0.154	0.527	6.588	0.000***	0.627	0.265	0.317	2.370	0.020**	0.645	0.263	0.330	2.452	0.016**
Attention						0.160	0.153	0.087	1.041	0.300	0.205	0.148	0.113	1.390	0.167
In-class involvement						0.445	0.118	0.358	3.781	0.000***	0.458	0.117	0.375	3.918	0.000***
Motivation						0.033	0.408	0.011	0.081	0.936	−0.022	0.406	−0.008	−0.054	0.957
PP (B)						0.318	0.272	0.092	1.169	0.245					
PP (RLL)											0.061	0.181	0.025	0.334	0.739
Model Summary															
R	0.527					0.662					0.654				
R^2	0.278					0.438					0.428				
F	43.406					16.809					15.995				
Sig.	0.000					0.000					0.000				
N	115					114					113				

	Model 4					Model 5					Model 6				
	B	Std. Error	Beta	T	Sig	B	Std. Error	Beta	t	Sig	B	Std. Error	Beta	t	Sig
Constant	−5.209	3.040		−1.713	0.090	−11.107	4.429		−2.508	0.014	−13.950	6.315		−2.209	0.030
Attendance	0.633	0.273	0.325	2.320	0.022**	0.637	0.269	0.327	2.372	0.020**	0.527	0.283	.275	1.860	0.066*
Attention	0.479	0.120	0.397	3.984	0.000***	0.167	0.146	0.094	1.144	0.255	0.173	0.158	0.096	1.094	0.277
In-class involvement	0.203	0.147	0.114	1.377	0.171	0.439	0.118	0.363	3.728	0.000***	0.397	0.125	0.332	3.167	0.002**
Motivation	−0.093	0.426	−0.032	−0.218	0.828	−0.152	0.420	−0.052	−0.362	0.718	0.136	0.455	0.047	0.300	0.765
PP (A_HS)	−0.006	0.008	−0.059	−0.777	0.439										
PP (A_LY_HS)						0.707	0.382	0.148	1.849	0.067*	0.795	0.443	0.167	1.793	0.076*
Age											0.167	0.166	0.086	1.000	0.320
Gender											0.140	0.635	0.018	0.221	0.826
Distance											0.001	0.002	0.045	0.551	0.583
Residence											0.097	0.468	0.016	0.207	0.836
S(10:00–12:00)											−0.588	0.528	−0.099	−1.113	0.269
S(12:00–14:00)											−0.217	0.584	−0.032	−0.373	0.710
Model Summary															
R	0.422					0.661					0.466				
R^2	0.394					0.437					0.402				
F	15.168					16.136					7.231				
Sig.	0.000					0.000					0.000				
N	110					110					104				

Note: *Significant at the 0.10 level; **Significant at the 0.05 level; and ***Significant at the 0.01 level.
Source: Authorial computation.

References

Ahmed, Shamima. 2015. "The MPA Capstone Course: Multifaceted Uses and Potentialities in Program Assessment." *Teaching Public Administration* 33, 152–174.

Ayala, Juan Carlos and Guadalupe Manzano. 2018. "Academic Performance of First-Year University Students: The Influence of Resilience and Engagement." *Higher Education Research & Development* 37(7), 1321–1335.

Cankar, Setnikar Stanka, Frank Cankar, Tomi Deutsch and Veronika Petkovšek. 2015. "The Impact of Social and Economic Factors on the Academic Performance of Youth in Slovenia." *Lex Localis – Journal of Local Self-Government* 13, 661–679.

Carrell, Scott E., Teny Maghakian and James E. West. 2011. "A's from Zzzz's? The Causal Effect of School Start Time on the Academic Achievement of Adolescents." *American Economic Journal: Economic Policy* 3, 62–81.

Chen, Jennjou and Tsui-Fang Lin. 2008. "Class Attendance and Exam Performance: A Randomized Experiment." *The Journal of Economic Education* 39, 213–227.

Chircă, Andrei and Dan Lazăr. 2019. "Students's Visitors – Among the Unexplored Types of Local Tourism?" *Transylvanian Review of Administrative Sciences* 58E, 52–64.

Coldwell, Jo, Annemieke Craig, Tayla Paterson and Jamie Mustard. 2008. "Online Students: Relationships between Participation, Demographics and Academic Performance." *The Electronic Journal of e-Learning* 6, 19–30.

Credé, Marcus, Sylvia Roch and Urszula Kieszczynka. 2010. "Class Attendance in College: A Meta-Analytic Review of the Relationship of Class Attendance with Grades and Student Characteristics." *Review of Educational Research* 80, 272–295.

Dickson, Stewart and Frank Carr. 1993. "An Investigation into the Relationship between Student 'A' Level Grades and Final Degree Results on a Public Administration Full-time Sandwich Degree." *Teaching Public Administration* 13, 10–18.

Ellison, Brian A. 2006. "Teaching Writing in Public Administration Education." *Teaching Public Administration* 26, 25–31.

Engbers, A. Trent. 2016. "Comparative Research: An Approach to Teaching Research Methods in Political Science and Public Administration." *Teaching Public Administration* 34, 270–283.

Freeman, Scott, Eileen O'Connor, John W. Parks, Matthew Cunningham, David Hurley, David Haak, Clarissa Dirks and Mary Pat Wenderoth. 2007. "Prescribed Active Learning Increases Performance in Introductory Biology." *CBE – Life Sciences Education* 6, 132–139.

Glass, Arnold L. and Mengxue Kang. 2019. "Dividing Attention in the Classroom Reduces Exam Performance." *Educational Psychology* 39, 395–408.

Glennon, Russ, Ian Hodgkinson and Joanne Knowles. 2019. "Learning to Manage Public Service Organisations Better: A Scenario for Teaching Public Administration." *Teaching Public Administration* 37, 31–45.

Haj, Cezar Mihai, Irina Mihaela Geanta and Dominic Orr. 2018. "A Typology of Admission Systems across Europe and Their Impact on the Equity of Access, Progression and Completion in Higher Education." In Adrian Curaj, Ligia Deca, Remus Pricopie (eds). *European Higher Education Area: The Impact of Past and Future Policies*. Cham: Springer, 171–187.

Hințea, Călin Emilian. 2013. "Public Administration Schools in Romania: Strategic Choices for the Future." *Revista de Cercetare si Intervenție Socială* 42, 294–309.

Jansen, Ellen P. W. A. and Marjon Bruinsma. 2005. "Explaining Achievement in Higher Education." *Educational Research and Evaluation: An International Journal on Theory and Practice* 11, 235–252.

Jayanthi, Valli, Santhi Balakrishnan, Angela Lim, Santhi Balakrishnan and Noor Aaqilah Abdul Latiff. 2014. "Factors Contributing to Academic Performance of Students in a Tertiary Institution in Singapore." *American Journal of Educational Research* 2, 752–758.

Kassarnig, Valentin, Andreas Bjerre-Nielsen, Enys Mones, Sune Lehmann and David Dreyer Lassen. 2017. "Class Attendance, Peer Similarity, and Academic Performance in a Large Field Study." *PLoS ONE* 12(11). Available at https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0187078 (last accessed 5 May 2019).

Katsamunska, Polya and Allan Rosenbaum. 2019. "Strengthening Governmental Effectiveness through Improved Public Administration Education and Training: The United Nations/IASIA Task Force and the Creation of the International Commission on Public Administration Education and Training (ICAPA)." *Transylvanian Review of Administrative Sciences* 57E, 21–33.

Kutergina, Evgeniia. 2017. "Computer-Based Simulation Games in Public Administration Education." *NISPAcee Journal of Public Administration and Policy* 10(2), 119–133.

Macarie, Felicia Cornelia and Octavian Moldovan. 2012. "Are Universities Role Models for Communities? A Gender Perspective." *Transylvanian Review of Administrative Sciences* 8, 81–97.

Macarie, Felicia Cornelia and Octavian Moldovan. 2015. "Horizontal and Vertical Gender Segregation in Higher Education: EU 28 under Scrutiny." *Managerial Challenges of the Contemporary Society* 8, 162–169.

Mallinson, J. Daniel. 2018. "Teaching Public Budgeting in the Age of Austerity Using Simulations." *Teaching Public Administration* 36, 110–125.

Massingham, Peter and Tony Herrington. 2006. "Does Attendance Matter? An Examination of Student Attitudes, Participation, Performance and Attendance." *Journal of University Teaching & Learning Practice* 3, 82–103.

Masui, Chris, Jan Broeckmans, Sarah Doumen, Anne Groenen and Geert Molenberghs. 2014. "Do Diligent Students Perform Better? Complex Relations between Student and Course Characteristics, Study Time, and Academic Performance in Higher Education." *Studies in Higher Education* 39, 621–643.

Mlambo, Victor. 2011. "An Analysis of Some Factors Affecting Student Academic Performance in an Introductory Biochemistry Course at the University of the West Indies." *Caribbean Teaching Scholar* 1, 79–92.

Moldovan, Octavian. 2013. "Activitățile Academice Extracurriculare, Performanțele Școlare și Angajabilitatea Masteranzilor" [Extracurricular Academic Activities, Academic Performances and the Employability of M. A. Students]. *Revista Transilvană de Științe Administrative* 33, 89–118.

Moldovan, Octavian and Horia M. Raboca. 2019. "Public Administration Education and Professional Practice in Romania: Exploring Students' Perceptions." *Transylvanian Review of Administrative Sciences* 57E, 67–85.

Naylor, Lorenda A., Blue Wooldridge and Alan Lyles. 2014. "U.S. Public Administration Programs: Increasing Academic Achievement by Identifying and Utilizing Student Learning Styles." *Teaching Public Administration* 32, 68–79.

O'Connor, Catherine, Sarah Michaels, Suzanne Chapin and Allen G. Harbaugh. 2017. "The Silent and the Vocal: Participation and Learning in Whole-class Discussion." *Learning and Instruction* 48, 5–13.

Ongaro, Edoardo. 2019. "The Teaching of Philosophy in Public Administration Programmes." *Teaching Public Administration* 37, 135–146.

Papageorgiou, Elmarie. 2017. "Accounting Students' Profile versus Academic Performance: A Five-year Analysis." *South African Journal of Higher Education* 33(6), 209–229.

Pevcin, Primož, David Špaček and Daniel Klimovský. 2019. "Public Administration Education in the CEE Countries: How Has It Developed during the Recent Decades?" *NISPAcee Journal of Public Administration and Policy* 12(2), 217–232.

Plant, Ashby E., Anders K. Ericsson, Len Hill and Kia Asberg. 2005. "Why Study Time Does Not Predict Grade Point Average across College Students: Implications of Deliberate Practice for Academic Performance." *Contemporary Educational Psychology* 30, 96–116.

Rădulescu, Corina, Oana S. (Caraman) Hudea and Răzvan Mihail Papuc. 2018. "Analysis of Websites Belonging to Public Universities from the Perspective of the Democratic Governance Exigencies: A Marketing Research Approach." *Transylvanian Review of Administrative Sciences* 54E, 90–106.

Richardson, Michelle, Rod Bond and Charles Abraham. 2012. "Psychological Correlates of University Students' Academic Performance: A Systematic Review and Meta-Analysis." *Psychological Bulletin* 138, 353–387.

Romer, David. 1993. "Do Students Go to Class? Should They?" *Journal of Economic Perspectives* 7, 167–174.

Sáez, Leilani, Jessica Sidler Folsom, Stephanie Al Otaiba and Christopher Schatschneider. 2012. "Relations among Student Attention Behaviors, Teacher Practices, and Beginning Word Reading Skill." *Journal of Learning Disabilities* 45, 418–432.

Salanovaa, Marisa, Wilmar Schaufeli, Isabel Martınez and Edgar Breso. 2009. "How Obstacles and Facilitators Predict Academic Performance: The Mediating Role of Study Burnout and Engagement." *Anxiety, Stress & Coping* 23, 53–70.

Shah, Syed Manzoor Hussain and Saadia Saleem. 2015. "Level of Attention of Secondary School Students and its Relationship with their Academic Achievement." *Journal of Arts & Humanities* 4, 92–106.

Stare, Janes and Maja Kun. 2018. "Required Competencies in Public Administration Study Programs." *Transylvanian Review of Administrative Sciences* 55E, 80–97.

Stroebe, Margaret, Tony van Vliet, Miles Hewstone and Hazel Willis. 2002. "Homesickness among Students in Two Cultures: Antecedents and Consequences." *British Journal of Psychology* 93, 147–168.

Thom, Michael. 2019. "Teaching Public Financial Management: An Integrated Approach to a Critical Subject." *Teaching Public Administration* 37, 92–106.

Vieira, Carlos, Isabel Vieira and Luis Raposo. 2017. "Distance and Academic Performance in Higher Education." *Spatial Economic Analysis* 13, 60–79.

Waters, Barb, John Hughes, Kevin Forbes and David Wilkinson. 2006. "Comparative Academic Performance of Medical Students in Rural and Urban Clinical Settings." *Medical Education* 40, 117–120.

Wei, Fang-Yi Flora, Y. Ken Wang and Michael Klausner. 2012. "Rethinking College Students' Self-Regulation and Sustained Attention: Does Text Messaging During Class Influence Cognitive Learning?" *Communication Education* 61, 185–204.

Young, Deidra J. 1998. "Rural and Urban Differences in Student Achievement in Science and Mathematics: A Multilevel Analysis." *School Effectiveness and School Improvement: An International Journal of Research, Policy and Practice* 9, 386–418.