P⚡S

Platform for Advancement of Self

Deliverable Form	
Project Reference No.	2018-1-EL01-KA203-047890
Output Identification	O6
Output Title	Data Analysis: first sampling
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Activity Leading Organisation	University of Turin
Participating Organisations	University of Ioannina University of Antwerp
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Deliverable Form IO6	
Output Description	Analysis of the first datasets from all of the three countries will provide (a) indications for transferability (b) innovation in terms of the psycho-educational profiles of students and (c) support to our suggestion about the identification of relations among the particular variables in order to predict students pace of study (delayed studies/dropping out). Impact will also involve the latent structure of the questionnaires in each country sample and also the exploration of a common structure across countries. Innovation in terms of the psycho/educational profiles refers to some faltering steps towards a suggestion for cross-cultural learning patterns although most of the studies report cultural differences. In the context of the particular project, this output will have an impact on the development of the feedback for students and coaching guidelines for teachers. Moreover, it exclusively suggests a methodology for the prediction of retainment in studies or dropping out across countries that can also inform University services for students and contribute to the internationalization of the modern University of the 21st century.
Output Identification	➢ Statistical analysis of the datasets (separately for each country) ➢ Test hypotheses about the latent structure of the questionnaires ➢ Explore the existence of differences among the three different datasets ➢ Conclusions

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IO6: Data Analysis: first sampling

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Consortium:

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  ➢   University of Ioannina

  ➢   University of Antwerp

Acknowledgements

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1.   Adaptation of the Output

In the Intellectual Output 6 entitled: "Data Analysis: 1st Sampling" an analysis of the first datasets provided supported the initial suggestion about the identification of relations among the learning and mental health profiles of students in order to predict students pace of study (delayed studies/dropping out).

Due to the difficulties encountered as regards the data collection on behalf of the University of Antwerp and thus not achieving the requested or a lower number of sample size of the first datasets for the Belgian partner, the PAS Consortium decided to conduct an explanatory factor analysis and a confirmatory factor analysis only from the Italian and the Greek sample. The data results of this report adapted to a scientific article form are going to be sent in one of the high impact academic journals in order to be published.

At the same time, the governments of the three partner countries have temporarily (in February) closed educational institutions in an attempt to contain the spread of the COVID-19 pandemic. These closures have been impacting not only the learning and teaching process, but also are negatively affecting the academic research and to be more specific the PAS project. To be more specific, the COVID-19 outbreak has disrupted the lives of many people across the world. The worldwide rapid increase of infected cases has created a sense of uncertainty and anxiety about what is going to happen. It has also caused a tremendous level of stress among the university fraternity, inclusive of students.

Thus, as the global community fights COVID-19, the productivity and scientific output of PAS researchers are affected, as happened to other academic communities worldwide, leading to major interruptions in teaching and research. These interruptions caused a delay as regards the finalized form of the second academic article to be published since the two last planned online meetings during which the data analysis of the datasets had to be crossed checked and discussed among partners had to be postponed.

Therefore, the PAS Consortium was able to finalise the literature review and the conceptual framework of the second article to be published (follows, see Chapter 2).

1.1   Adapted Sampling

1.1.1   Italian Participants

The Italian sample for the study was composed of a group of students (423; 40.4% males) recruited from the University of Turin (Università di Torino). The average age of the students was 22.19 (SD = 47.629, Min. = 18, Max. = 33). The students were selected through convenience sampling; they were enrolled in eight different faculties:

●   Scienze della formazione primaria (i.e. Education and Pedagogy); 80 students, 18.9%

●   Scienze naturali (i.e. Natural Science); 57 students, 13.5%

●   Scienze biologiche (i.e. Biology); 54 students; 12.8%

●   Dams (i.e. Arts, Music and Entertainment); 25 students, 5.9%

●   Suism (i.e. Sports and Physical Education); 67 students, 15.8%

●   Lingue e letterature straniere (i.e. Foreign Languages and Literatures); 41 students, 9.7%

●   Informatica (i.e. Computer Science); 75 students, 17.7%

●   Economia (i.e. Economics Science); 24 students, 5.7%.

Table 1. Corso di studi (Course of studies)

		Frequenza	*Percentuale*	*Percentuale valida*	*Percentuale cumulativa*
Valido	*S.F.P. scienze formazione primaria*	80	18,9	18,9	18,9
	S.N. scienze naturali	57	13,5	13,5	32,4
	S.B. scienze biologiche	54	12,8	12,8	45,2
	D. dams	25	5,9	5,9	51,1
	S. suism	67	15,8	15,8	66,9
	L. lingue	41	9,7	9,7	76,6
	I. informatica	75	17,7	17,7	94,3
	E. economia	24	5,7	5,7	100,0
	Totale	423	100,0	100,0	

1.1.2   Greek Participants

For the 1st Sampling of the study, the total sample of 487 first-year students came from two Greek Universities. 244 students studied in the University of Ioannina enrolled in the School of Social Science participated in the main pilot collection phase of study. More specifically, they were studying in 3 departments, namely Philosophy department (N=67, 13%), Speech and Language Therapy department (N=70, 14%), Early Childhood Education department (N=107, 22%). The remaining 243 students studied in the Panteion University in Athens and were enrolled in Sociology department (N=117, 24%), and Psychology department (N=126, 26%). Their average age was 19,1 (SD = 5.2, Min. = 18, Max. = 63). The participants were 56 male students (12%) and 431 female counterparts (88%).

2.   Draft of the article to be submitted

2.1   Abstract

Given the large number of dropouts in the 1st year at university, it is important to identify early predictors of 1st-year academic success. The present study (n = 423 first-year students from the Italian sample and n=487 from the Greek sample) contributes to literature on the transition from secondary to higher education by investigating how the non-cognitive factors influence 1st-year retention at university. With exploratory factor analysis and confirmatory factor analysis, we identified six psychometrical reasons for succeeding in the university life: career perspective (job-oriented students), personal interest, resilience with the social and academic environment, goals, and awareness. Implications for research and practice are discussed.

2.2 Introduction

The transition from secondary education to higher education (HE) is often experienced as challenging and difficult by students (Gale & Parker, 2014), which results in relative low retention rates in the first year compared to following years in HE (Tinto, 2012). For example, in The Netherlands, 33% of the university students drop out or switch after the first year (Inspectie van het Onderwijs [Dutch Inspectorate of Education], 2016). Accordingly, in Australia, New Zealand, and the United Kingdom, approximately 7% to 19% of the bachelor students drop out after their first year (Australian Government, 2014; Education Counts, 2016; Higher Education Funding Council for England, 2016). Not all countries systematically document first-year retention, but also in France and in Belgium approximately 21% to 24% of the students leave HE without a qualification (Organisation for Economic Co-operation and Development, 2010), and inGermany 33% drop out of a bachelor degree (Heublein, 2014).

These dropout and retention rates have noteworthy consequences for HE finances; for example, in Italy universities are state funded by number of graduates per year. Italian HE institutions hence have a clear interest in identifying early, preuniversity predictors of first-year academic success to support students towards a successful transition to HE.

2.3   An exploration of psychological and contextual factors affecting student satisfaction

For many students, entering higher education necessitates significant adjustment (Yorke, 2000) and may be perceived as a noteworthy challenge (Murtagh, 2012). Compared to the 'controlled' environment of further education institutions, students in higher education are responsible for their own achievement (Yorke, 2000). This experience can be overwhelming and contribute to heightened levels of anxiety and stress (Lowe & Cook, 2003). During the transition period, students therefore need to fconstruct a sense of their student identity (Leese, 2010) and learn to act independently as autonomous learners (Fazey & Fazey, 2001). Establishing a positive learner identity has thus been identified as an essential factor in the persistence and success of a university student (Briggs, Clark & Hall, 2012).

In order to attract and retain students, universities must identify and meet student expectations (Elliot & Healy, 2001). However, students' pre-transfer aspirations and expectations have been shown to diverge from the reality of their first year at university, which may translate into difficulty adapting to higher education (Reay, Crozier, & Clayton, 2010). Research suggests that students receive inadequate information prior to entering university, resulting in them making inappropriate decisions regarding their choice of institution and course (Yorke, 2000). Many students also report feeling underprepared for university, with this being a key indicator of withdrawal (Forrester, Motteram, Parkinson, & Slaouti, 2004; Richardson, 2003; Thomas, 2012; Quinn et al., 2005). For example, Thomas (2012) found that "courserelated issues" were the most commonly stated reason for students thinking about leaving higher education, with 74% reporting that they felt underprepared for university.

2.4   Predictors of academic success

Extensive research has been conducted to detect why students successfully complete the first year of HE or not (Harvey, Drew, & Smith, 2006). Robbins et al.'s review (2004) and Richardson et al.'s meta-analysis (2012) offer a comprehensive overview of predictors of academic success. These studies differentiate between traditional or cognitive factors, and non-traditional, non-intellective, or non-cognitive factors. Cognitive factors refer to intellectual abilities and are usually measured with SAT scores and GPA. Non-cognitive factors refer to psychosocial and study skill factors and include self-regulated learning factors and motivation (Allen, Robbins, & Sawyer, 2009). The studies of Robbins et al. (2004) and Richardson et al. (2012) have confirmed the influence of prior academic attainment (SAT and GPA). These studies also show that several non-cognitive factors have a significant influence on academic success at university, additional to the influence of prior academic attainment. For example, Richardson et al. found that effort regulation and academic self-efficacy are two of the strongest predictors of academic success, controlled for prior academic attainment. We therefore include effort and individual self-efficacy in the present study to further investigate these constructs as possible predictors of first-year academic success.

In addition to effort and self-efficacy, another relevant non-cognitive concept is reasons for attending university (Kember et al., 2008). Students' reasons for attending university can be understood as a form of academic motivation (Ryan & Deci, 2000): Students can go to university for self-determined, intrinsic reasons like "I like to learn more about this domain" and/or for less self-determined, extrinsic reasons like "I go to university because all the companies are asking for employees with a university degree". Previous research underlines that academic motivation is related to academic performance (test-oriented) (e.g., Fortier, Vallerand, & Guay, 1995).

Moreover, successful transition into higher education is regarded more as a complete phase, rather than a single event (Bhujade, 2017). This transition may become a stressful period for many freshman students, while they have to deal with a number of serious challenges, such as the need for developing novel learning patterns and also the adaptation of the already existing learning strategies in the new academic environment (Vermunt 2005). Students show

difficulties in academic adjustment that mainly are due to ineffective learning strategies and unsatisfactory self-regulation (lack of ability to monitor learning progress, difficulty to adapt behavior to the demands of the new learning situations; Zimmerman & Schunk, 2008). Also, students have a difficulty to understand the difference between studying at University and studying at an upper secondary school or the demands of the university level teaching-learning environment (Struyven et al., 2016).

Current research emphasizes the need for further investigation of the variables contributing to students' well-being, learning and persistence in studies as for some students' transition phase may be challenging and for others full of stress (Bhujade, 2017). Some of these factors are: motivation (Ryan & Deci, 2000), executive functioning (Gioia et al., 2002), individual characteristics (self-efficacy; Bandura, 2010), personality dimensions (resilience; Cassidy 2015), sense of coherence (Antonovsky, 1993), anxiety (Spielberger, Gorush, & Lushene, 1970), other factors as academic emotions (Schutz & Pekrun, 2007), explicit and implicit emotion regulation (Gyurak, Gross, & Etkin, 2011) and mental-health factors.

The present study seeks to extend the existing research by exploring how psychological factors (measured during the first year at the university) may predict first-year retention.

2.5   Effort

Effort is a significant non-cognitive predictor of academic success and can be understood as a marker of energy or as active student behaviour in the student motivation process (Reschly & Christenson, 2012; Skinner & Pitzer, 2012). Effort designates how engaged students do their academic tasks; it refers to trying hard, working hard, paying attention, and showing persistence when faced with challenging academic work (Pintrich, 2004; Richardson et al., 2012). It is seen as a student characteristic that can be controlled and changed by students (Skinner, Chapman, & Baltes, 1988), which makes it a relevant factor for our study on the transition from secondary education to HE and increasing first-year retention. From previous studies, it is known that effort impacts academic performance (see meta-analysis of Richardson et al., 2012 and Robbins et al., 2004) and is used by students as an explanation for success or failure (Graham & Williams, 2009). An explanation for success is, for example, "I tried hard" and for failure "I did not put forth all my effort". Effort therefore influences (perceptions of individuals on their) past and future academic performance. Several academics underlined that it is not known whether the relationship between effort and academic success can be generalised to university applicants (cf. Richardson et al., 2012).

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