Supporting Motivational Persistence in the Personality System in Early Academic Stages through Educational Strategies

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Abstract: A first year population of 300 students completed the questionnaire on paper-pencil regarding the main variables regarding educational strategies, motivational persistence personality trait and early academic dropout intentions. We test here the moderating role of educational strategies (i.e. goal setting and pursuit, applicability of knowledge, etc.) in order to support personality trait motivational persistence (MP) for reducing early academic dropout intentions (early ADI). As results show, motivational persistence trait and early academic are negatively and significantly associated, but the relation is weak. Similarly, educational strategies that support motivational persistence trait are also significantly and negatively associated with early academic dropout intentions. Motivational persistence traits and most of educational strategies are positively and significantly associated. When adding the interaction term of motivational persistence and each educational strategy, results show a greater effect of reducing early academic dropout intentions. Results highlight the need to investigate how educational methods for higher education support motivation in the personality system for students, especially persistence as a way of dealing with hardship when faced with obstacles, without increasing their intentions of dropout. We measured educational strategies using specific measures related to motivational persistence and early academic dropout intentions that support the understanding of this phenomena in its depth.

Keywords: *Motivational persistence, personality trait, educational strategies, early academic dropout intentions, professor-student relationship.*

How to cite: Bostan, C.M., Ticu, C., Vrabie, T., Stanciu, T., & Andronic, R.-L. (2021). Supporting Motivational Persistence in the Personality System in Early Academic Stages through Educational Strategies. *Revista Romaneasca pentru Educatie Multidimensionala*, 13(2), 223-242. <https://doi.org/10.18662/rrem/13.2/419>

1.1. Early Academic Dropout Intentions and Motivational Persistence Trait

Early academic dropout intentions represent one of the most pressing challenges that young people face these days because the phenomenon is associated with long-term risk behaviors, such as low self-esteem, substance abuse, financial problems (Larsen et al., 2012; Mensch & Kandel, 1988; Sittichai, 2011; Tidwell, 1988). European indicators show that in Romania the problem is serious and in 2016, 58% of the young people that abandoned academic studies were unemployed or inactive in the work force (Kehm et al., 2019). While in other countries the academic dropout is on a descending slope, in Romania there is an increasing trend, the academic dropout becoming a social, economical and educational problem.

The theoretical and empirical background concerning motivational persistence and early academic background has already been addressed and tested, and most of studies using different types of measures show significant relation between them and confirm earlier research results (Fan & Wolters, 2014; Roland, De Clercq et al., 2015; Roland, Frenay et al., 2018; Schmitz & Frenay, 2013). More important, the significant relation between motivational persistence and early dropout intentions is present across different stages and type of education (i.e. highschool, higher education, and vocational schools) and no matter how identical are the measures for motivational persistence and early dropout intentions across studies. However, as studies show, the level of the significant relation is low to medium - i.e. $r = .23$ (Roland, Frenay et al., 2018), suggesting others factors that can also stimulate or disturb this process, such as moderators and mediators like educational expectancies, social norms and educational strategies). Although motivational persistence as personality trait is pretty much a new concept developed in the last years, similar trait that show the tendency of people to be purposeful, strong-willed and determined is related to academic outcomes - i.e. the relation between conscientiousness and students retention (Hall et al., 2015). Moreover, although these traits favor good academic outcomes, most of studies show that they also depend on the goals and how they study and work in order to promote academic achievement. Similar to this, grit trait also is associated with academic outcomes due to its implication in maintaining substantial effort for goals, perseverance and passion for long-term goals and authors of the study emphasize on the need to explore these factors in relation to academic outcomes (Rimfeld et al., 2016).

In the last decade, researchers have struggled to identify and describe motivational factors that determine students to form early academic dropout

intentions, because thinking of leaving school is often an impulsive one and related to lack of personal resources in facing difficulties - i.e. adversities, lack of motivation, unstable support system (Fan & Wolters, 2014). In agreement with previous research findings we believe that an important factor that could have an impact in reducing early academic dropout is motivational persistence, a key dimension that can explain patterns of decisions, behaviours and affective states of students (Dweck et al., 2004; Harackiewicz et al., 2002; Holman et al., 2015; Hudy, 2006). Motivational persistence as a resourceful personality trait is defined as a malleable trait that can direct resources towards academic achievement and goals, including long term purposes, such as finishing academic programs (Constantin et al., 2011). More specifically, motivational persistence is defined as a relatively constant tendency of people to adjust their effort and energy in pursuing specific goals even when facing obstacles along the way.

The goal of the current study is to test whether motivational persistence as a personality trait can be fostered through educational process and whether the educational strategies can explain the early academic dropout intentions. We believe that motivational persistence as personality trait alone can decrease early academic dropout intentions, but these intentions can also be more strongly decreased if educational process (i.e. educational strategies for learning or evaluation) are adapted to foster motivational persistence. Concordant with this, motivational persistence can direct efforts of students towards program completion, but we believe that this trait is malleable, meaning that it can be stimulated by dynamic factors specific to the educational and social context where students live (i.e. educational conditions, the type and nature of their interactions with professors and peers and also their social and educational background). Thus, we specifically test educational strategies as moderating factors of the association between motivational persistence and early academic dropout intentions.

1.2. The Professor-Student Relationship as a Relevant Factor for Early Academic Dropout Intentions

The quality of the teacher-student relationship plays an important role and can influence students' early academic dropout intentions. According to an extensive and in-depth review of literature by Hagenauer & Volet (2014), research in the field shows that: 1) the investigation of teacher-student relationship (TSR) is relevant if enhancing the quality of TSR can help to reduce the negative trend of the large student drop-out rates; 2) it is difficult to define TSR in higher education because the field is under-

explored and the existing conceptualizations of TSR are very different; 3) TSR it is not a one-dimensional construct, but a multi-dimensional one; and 4) TSR can be defined, in the context of higher education, by taking in consideration two main dimensions: the support dimension (which focuses on the support that students need need to receive from their teachers to succeed at university, e.g. answering emails promptly or setting clear expectations) and the affective dimension (which includes different aspects of TSR, like honesty, trust and respect; attributes that can have a great influence on building and experiencing positive affective relationships, based on emotional security).

Devlin and O'Shea' (2012) study reveals that students with low socio-economic backgrounds find professors who are engaged in the instructional process and pay attention to students learning needs, supporting them to persist and maintain their interest to continue their studies by setting academic challenges, are the most helpful for helping them to continue.. The results of the study indicate, also, that the most valued aspects of teaching for these students are the characteristics of the teacher in terms of their skills in unpacking and explaining academic requirements and expectations, clarity and transparency in setting the obligations and responsibilities, and also tasks and assignments of the evaluation system.

The approachability of professors is also a concept frequently discussed in the literature regarding PSR-framework in higher education. There are several studies that show the importance of professors approachability and its role in facilitating positive teacher–student interactions (Denzine & Pulos, 2000), in preventing students with low socio-economic background from becoming alienated from the university (Stephen et al., 2008) and in the adaptation process of first-year (Devlin & O'Shea, 2012). Approachable professors support the students in their study progress by promptly answering their questions and by being available for help-seeking students; collaboration and partnership with the professors reflect the quality of PSR (Hagenauer & Volet, 2014).

All this educational strategies, that define the quality of PSR, seems to have a great influence on students' early academic dropout intentions. Palmer et al. (2009) show that providing a more cohesive learning experience in universities, in which professors support students to apply their knowledge, and create a sense of community, based on collaboration and partnership with the professors, contribute to first-year students' retention. Furthermore, if the students experience the feeling of belonging to the university from the first year of study, when the most numerous decisions to drop out of studies are made, they are more likely to continue their studies. Development of

students' feeling of belonging can be increased by the quality of PSR, by the care, trust, connection, respect, honesty, support, openness, encouragement and approachability of the lecturers and tutors from universities. While Oseguera and Rhee' (2009) findings show that institutional educational strategies determine whether a student would persist or not and maintain his interest to continue his studies, there are studies that indicate that also the student-teacher or the student-tutor relationship can have a great influence in students' early academic dropout decisions (Wilcox et al., 2005), beyond the fact that the peer relationships are important for students' sense of belonging (Ramsay et al., 2007; Strauss & Volkwein, 2004).

The quality of PSR, reflected in the educational strategies used by teachers, stimulate the motivational persistence of the students as a personality trait, helping them to develop resilient resources that can be used to maintain students' interest for the academic program completion. For example, Strauss and Volkwein' (2004) study reveals that there are some predictors, like – the quality of faculty-student interaction, the intellectual growth experiences regarding goal setting and self-development and the classroom experiences, provided in the context of higher education, - that are powerfully influence students' persistence and, also, their commitment. Trigwell's (2005, p. 249) findings, as well, indicate that the relations between students' interaction with active researchers and their approaches to learning and their interactions with teachers that help them to apply the theoretical knowledge transmitted in school to practical issues are stronger than those experienced by the same students in their interactions with colleagues in the same discipline and facilitate more deep-learning approaches, motivation and engagement (Zepke & Leach, 2010). However, according to Hagenauer and Volet (2014), the causality between TSR and students' learning outcomes remains an under-explored issue because of the lack of longitudinal and experimental studies that are focusing on this regard.

2. Method

2.1. Goal of the study

The current study aims at testing the impact of educational teaching strategies that enhance motivational persistence and implicitly could reduce the drop-out intentions of students. Specifically, we investigate the relationship between motivational persistence as a personality trait and early academic drop-out intention. Consistent with previous findings we believe that motivation is strongly impacted by how professors interact with students and how they maintain and ensure students with a future

perspective related to their academic tasks. The educational strategies measured here reflect the way one's personality traits and commitment to continuing higher studies are supported through how academic tasks are designed by professors, the ways professor have the evaluations and also how they relate and interact with students. Basically, the strategies define the way professors interact with students in the educational process and how relationship with the student are shaped in this process. In order to have a simple description of the scales, the name tags used here are the goals of that strategy. Finally, we believe that these ways of engaging in the educational process should reflect the way theory of educational curriculum could be used to support motivation for continuing higher studies. The educational strategies that are tested here as moderators are the following: academic goal setting and pursuit, self-development for academic purpose, academic resilience, self-discipline fostered by academic settings, self-confidence, applicability of knowledge, clear framework and collaboration with the students. Concordant with analytical strategies, we anticipated that a) motivational persistence and early academic dropout intentions are significantly related and the size of the correlational coefficients would be small, b) the educational teaching strategies are significantly related with early academic dropout intentions and c) educational teaching strategies interact with motivational persistence personality trait and strongly decrease early academic dropout intentions by enabling resilient resources to persist and pursue goals despite difficult obstacles. We also accounted for age and gender as control factors due to either life experience or specific gender motivations.

2.2. Participants and procedure

Our sample consisted of 300 students ($N = 300$, $M_{age} = 20.43$, $SD = 4.87$; 84% female) in their first academic year, recruited from a public university located in the northeast area of Romania.

They answered a questionnaire regarding their personal opinion about the academic teaching factors, their early intentions for academic dropout and their personal characteristics. The students filled the questionnaire at the end of the first semester, before the semester exams. They signed an informed consent form and some general indication about the research. The students participated on a voluntary basis; they received no reward.

2.3. Measures

Motivational persistence personality was assessed using the 15 item measure for Motivational Persistence (Constantin et al., 2011) reflecting the tendency of a person to make effort in order to achieve a selected goal and to find the personal resources to overcome obstacles, fatigue, stress and other distractors. We used of a five point Likert scale (from „very low degree” to „very high degree”). The internal consistency reflects good internal consistency (Alpha Cronbach = .84).

Educational strategies that foster motivational persistence were assessed using three-items scales for each strategy. The methodology was previously tested and validated (Holman et al., 2016) for the high school environment. The items to be used in higher education in order to evaluate the extent to which students consider that school, especially the academics, helped them to develop by themselves certain attitudes, abilities, and traits: a) goal setting and purpose - the extent students consider academic-related goals as part of their development (i.e. „The subject that I study contribute to my personal growth”), b) self-development - the extent to which students consider school-related goals as part of their development process (i.e. „The subjects that I study contribute to my personal growth”), c) self-discipline - the extent to which students perceive that their college of higher education equips them with the self-regulatory strategies needed in order to organize and manage their academic activity /work and any task in general (i.e. „The faculty has taught me to be disciplined”), d) self-confidence - the way in which schools develop students confidence in their skills (i.e. „My academic courses experiences increased my confidence in my ability to solve the problems I am facing”), e) clear framework - the perceived transparency and clarity of obligations and responsibilities, tasks and assignments of the evaluation system (i.e. „We always know why we received a certain grade”), f) independent work-style - the presence of opportunities and encouragements offered by the faculty and professors to develop and maintain independent work habits in their students (i.e. „We are often assessed based on the projects we carry out independently”), g) applicability of knowledge reflecting the degree to which the theoretical knowledge transmitted in faculty is applied to practical issues (i.e. „We are often required to apply the theoretical knowledge to various practical situations”), h) professors involvement - the degree of professors engagement in the instructional process (i.e. „I believe that professors are not involved enough in our education”), i) collaboration and partnership with the professor reflecting the general evaluation of the quality of the professor-student relationship (i.e. „Professors are a real support for me”) and j) resilience - the

implicit and explicit support received for dealing with challenges and the difficulties inherent in any learning process (i.e. „The way our work tasks are organized helps me to successfully overcome my difficulties in learning”). We computed Alpha Cronbach and also the means of the inter-item correlations (Clark & Watson, 1995) and all of the Alpha Cronbach coefficients were above .70, indicating good internal consistency, while MIIC were all above .20, indicating acceptable scale reliability).

To assess academic dropout intentions and early persistence for academic schooling intentions we used the Hardre and Reeve (2003) model. The five items are: „I sometimes think to dropout studies”, „I intent to dropout studies”, „I sometimes think if it is worth continuing my studies”, „Every month I seriously think to dropout studies”, and „I am not sure if I will continue my studies”. Cronbach’s Alpha of .82 indicates a good reliability.

3. Results

We used IBM SPSS Statistics version 21 and the Process macro v.3.1. We displayed zero-order correlations and their significance between main variables of the study. As results show, small to medium correlation coefficients are significant in the main results.

Table 1. Zero-order correlation between the main variables

Source: Authors’ own conception

	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Motivational persistence	3.32	.47											
2. Goal setting and pursuit	3.02	.67	.14*										
3. Self-development	3.80	.73	.24**	.59**									
4. Self-discipline	3.38	.83	.29**	.46**	.43**								
5. Self-confidence	3.41	.87	.27**	.42**	.62**	.54**							
6. Clear framework	3.64	.91	-.07	.37**	.46**	.25**	.22**						
7. Work style	3.38	.75	.11	.33**	.38**	.23**	.47**	.17**					
8. Applicability of knowledge	3.46	.67	.33**	.54**	.63**	.37**	.61**	.24**	.58**				
9. Professors involvement	3.60	.73	.02	.31**	.47**	.26**	.37**	.34**	.38**	.44**			
10. Collaboration with the professor	3.56	.71	.19**	.57**	.57**	.47**	.53**	.33**	.48**	.64**	.48**		
11. Resilience	3.33	.72	.16*	.59**	.59**	.57**	.51**	.45**	.38**	.54**	.49**	.58**	
12. Early academic dropout intention	1.89	.70	-	-	-	-	-	-	-.09	-	-.04	-	-
			.23**	.18**	.32**	.22**	.29**	.18**		.21**		.22**	.27**

** p < .001

Specifically, results indicate that motivational persistence trait is significantly and negatively associated with early academic dropout intentions, but the size of the coefficient is small. Furthermore, goal setting and pursuit, self-discipline, self-confidence, applicability knowledge, as well as collaboration and resilience are positive and significantly associated with motivational persistence, while clarity of framework, work style and professor's involvement are significantly associated. Finally, the correlational matrix show that early academic dropout intentions are significantly and negatively associated with most of the educational teaching strategies, except work style and teachers involvement. The correlation coefficients are significant, but low.

In the next stage, we tested whether educational strategies moderate the relation between motivational persistence and early academic drop-out intentions. The Process macro v.3.1. automatically mean centers the variables and creates an interaction term between main predictors in order to avoid multicollinearity with the interaction term. Gender and age were accounted for as covariate variables in each model. The results are presented in Table 2.

Table 2 Moderation effects of motivational persistence and higher educational teaching strategies on early academic dropout intentions
Source: Authors' own conception

	B (SD)	t	p
Model 1			
Constant	.97 (.12)	7.72	< .001
Motivational persistence trait	-.34 (.09)	-3.46	< .001
Goal setting and pursuit	-.29 (.07)	-4.06	< .001
Motivational persistence trait X Goal setting and pursuit	.53 (.16)	3.16	<.001
Gender	.34 (.11)	2.94	.003
Age	.02 (.005)	3.12	.002
Model 2			
Constant	.89(.11)	7.48	<.001
Motivational persistence	-.27 (.09)	-2.80	.005
Self-development	-.28 (.06)	-4.79	< .001
Motivational persistence X Self-development	.32 (.12)	2.61	.009
Gender	.29 (.11)	2.63	.009

Age	.01(.005)	3.86	< .001
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Model 3

Constant	1.02 (.12)	8.52	<.001
Motivational persistence trait	-.36 (.10)	-3.60	< .001
Self-discipline	-.17 (.11)	-3.20	<.001
Motivational persistence trait X Self-discipline	.43 (.11)	3.39	< .001
Gender	.47 (.11)	4.05	< .001
Age	.011 (.005)	2.35	.019

Model 4

Constant	1.01 (.11)	8.56	<.001
Motivational persistence trait	-.39 (.10)	-3.88	<.001
Self-confidence	-.18 (.04)	-3.95	<.001
Motivational persistence trait X Self-confidence	.31 (.10)	2.98	.003
Gender	.44 (.11)	3.88	<.001
Age	.01 (.004)	2.67	.008

Model 5

Constant	.77 (.13)	5.76	<.001
Motivational persistence trait	-.53 (.09)	-5.35	<.001
Clear framework	-.27 (.05)	-5.31	<.001
Motivational persistence trait X Clear framework	.09 (.12)	.77	.43
Gender	.27 (.11)	2.42	.01
Age	.02 (.005)	4.67	<.001

Model 6

Constant	1.03 (.12)	8.33	<.001
Motivational persistence trait	-.47 (.10)	-4.60	<.001
Work style	-.04 (.06)	-.67	.49
Motivational persistence trait X Work-style	.33 (.13)	2.49	.01
Gender	.41 (.12)	3.41	.008
Age	.013(.005)	2.59	.01

Model 7

Constant	.95 (.12)	7.69	<.001
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Motivational persistence trait	-.33(.10)	-3.15	<.001
Applicability of knowledge	-.15 (.05)	-2.99	.003
Motivational persistence trait X Applicability of knowledge	.27 (.10)	2.67	.008
Gender	.38(.11)	3.31	<.001
Age	.01(.005)	3.05	.002

Model 8

Constant	1.008 (.12)	7.82	<.001
Motivational persistence trait	-.40 (.10)	-3.92	<.001
Professors involvement	-.07 (.05)	-1.28	.19
Motivational persistence trait X Professors involvement	.17 (.11)	1.61	.10
Gender	.34 (.12)	2.81	.005
Age	.01 (.005)	2.84	.004

Model 9

Constant	.93 (.12)	7.47	<.001
Motivational persistence trait	-.34 (.10)	-3.43	<.001
Collaboration with the professor	-.17 (.05)	-3.51	.005
Motivational persistence trait X Collaboration with the professor	.19 (.09)	1.98	.04
Gender Collaboration with the professor	.33 (.11)	2.85	.004
Age	.018	.005	3.47

Model 10

Constant	.91 (.12)	7.51	< .001
Motivational persistence trait	-.39 (.09)	-4.11	< .001
Resilience	-.28 (.05)	-5.21	< .001
Motivational persistence trait X Resilience	.23 (.14)	1.62	.10
Gender	.40 (.11)	3.58	.004
Age	.01 (.005)	3.66	< .001

It has to be mentioned that the factor goal setting and pursuit was included in the analysis as explanatory factors for early academic dropout intentions. All the variables accounted for a significant amount of variance in early academic dropout intentions ($R^2 = .22$, $F(5, 295) = 12.50$, $p < .001$).

and all of the predictors showed significant explanatory power (Table 2, Model 1). The interaction term also accounted for a significant proportion of the variance in early academic dropout intentions ($R^2 = .04$, $F(1, 295) = 10.02$, $p = .002$). The conditional effects of the focal predictor at values of the moderator revealed an enhanced significant effect on the upper level of goal setting and pursuit ($b = -.65$, $se = .12$, $p < .001$), and also at the average level of goal setting and pursuit ($b = -.34$, $se = .09$, $p = .006$), compared to the nonsignificant lower level of goal setting and pursuit ($b = -.03$, $se = .15$, $p = .82$). Results indicated that early academic dropout intentions decreased when motivational persistence and goal setting and pursuit increased.

When self-development was included in the analysis as explanatory factor for early academic dropout intentions and all the variables accounted for a significant amount of variance in early academic dropout intentions ($R^2 = .25$, $F(5, 295) = 12.50$, $p < .001$) and all of the predictors showed significant explanatory power (Table 2, Model 2). The interaction term also accounted for a significant proportion of the variance in early academic dropout intentions ($R^2 = .03$, $F(1, 295) = 6.83$, $p = .009$). The conditional effects of the focal predictor at values of the moderator revealed an enhanced significant effect on the upper level of self-development ($b = -.51$, $se = .13$, $p < .001$), and also at the average level of self-development ($b = -.27$, $se = .09$, $p = .005$), compared to the nonsignificant lower level of self-development ($b = -.04$, $se = .13$, $p = .73$). Results indicated that early academic dropout intentions decreased when motivational persistence and self-development increased.

When self-discipline was included in the analysis as explanatory factor for early academic dropout intentions and while gender and age were accounted for as covariate variables in this model, all the variables accounted for a significant amount of variance in early academic dropout intentions ($R^2 = .22$, $F(5, 295) = 12.32$, $p < .001$) and all of the predictors showed significant explanatory power (Table 2, Model 3). The interaction term also accounted for a significant proportion of the variance in early academic dropout intentions ($R^2 = .04$, $F(1, 295) = 11.55$, $p = .0008$). The conditional effects of the focal predictor at values of the moderator revealed an enhanced significant effect on the upper level of self-discipline ($b = -.70$, $se = .14$, $p < .001$), and also at the average level of self-discipline ($b = -.36$, $se = .10$, $p = .0004$), compared to the nonsignificant lower level of self-discipline ($b = -.02$, $se = .13$, $p = .88$). Results indicated that early academic dropout intentions decreased when motivational persistence and self-discipline increased.

When self-confidence was included in the analysis as explanatory factor for early academic dropout intentions and all the variables accounted for a significant amount of variance in early academic dropout intentions ($R^2 = .23$, $F(5, 295) = 13.29$, $p < .001$) and all of the predictors showed significant explanatory power (Table 2, Model 4). The interaction term also accounted for a significant proportion of the variance in early academic dropout intentions ($R^2 = .03$, $F(1, 295) = 8.89$, $p = .003$). The conditional effects of the focal predictor at values of the moderator revealed an enhanced significant effect on the upper level of self-confidence ($b = -.68$, $se = .15$, $p < .001$), and also at the average level of self-confidence ($b = -.39$, $se = .10$, $p < .001$), compared to the nonsignificant lower level of self-confidence ($b = -.11$, $se = .12$, $p = .12$). Results indicated that early academic dropout intentions decreased when motivational persistence and self-confidence increased.

When clarity of framework was included in the analysis as explanatory factor for early academic dropout intentions and all the variables accounted for a significant amount of variance in early academic dropout intentions ($R^2 = .24$, $F(5, 295) = 13.65$, $p < .001$) and all of the predictors showed significant explanatory power (Table 2, Model 5). The interaction term did not account for a significant proportion of the variance in early academic dropout intentions ($R^2 = .002$, $F(1, 295) = 5.59$, $p = .43$), indicating no moderating effects.

When work style was included in the analysis as explanatory factors for early academic dropout intentions and all the variables accounted for a significant amount of variance in early academic dropout intentions ($R^2 = .16$, $F(5, 295) = 8.35$, $p < .001$) and motivational persistence along with gender and age showed significant explanatory power, while no significant explanatory power was registered for work style (Table 2, Model 6). The interaction term also accounted for a significant proportion of the variance in early academic dropout intentions ($R^2 = .02$, $F(1, 295) = 6.21$, $p = .013$). The conditional effects of the focal predictor at values of the moderator revealed an enhanced significant effect on the upper level of work style ($b = -.72$, $se = .15$, $p < .001$), and also at the average level of work style ($b = -.47$, $se = .09$, $p = .005$), compared to the nonsignificant lower level of work style ($b = .23$, $se = .12$, $p = .06$). Results indicated that early academic dropout intentions decreased when motivational persistence and work style increased.

When applicability of knowledge was included in the analysis as explanatory factors for early academic dropout intentions and all the variables accounted for a significant amount of variance in early academic dropout intentions ($R^2 = .20$, $F(5, 295) = 10.81$, $p < .001$) and all of the

predictors showed significant explanatory power (Table 2, Model 7). The interaction term also accounted for a significant proportion of the variance in early academic dropout intentions ($R^2 = .03$, $F(1, 295) = 7.153$, $p = .008$). The conditional effects of the focal predictor at values of the moderator revealed an enhanced significant effect on the upper level of applicability of knowledge ($b = -.58$, $se = .14$, $p < .001$), and also at the average level of applicability of knowledge ($b = -.33$, $se = .10$, $p = .002$), compared to the nonsignificant lower level of applicability of knowledge ($b = .07$, $se = .14$, $p = .56$). Results indicated that early academic dropout intentions decreased when motivational persistence and applicability of knowledge increased.

When professor's involvement was included in the analysis as explanatory factors for early academic dropout intentions and all the variables accounted for a significant amount of variance in early academic dropout intentions ($R^2 = .14$, $F(5, 295) = 7.38$, $p < .001$) and motivational persistence, gender and age showed significant explanatory power, while professors' involvement did not show significant explanatory power (Table 2, Model 8). The interaction term did not account for a significant proportion of the variance in early academic dropout intentions ($R^2 = .01$, $F(1, 295) = 2.59$, $p = .10$).

When collaboration with the professor was included in the analysis as explanatory factors for early academic dropout intentions and all the variables accounted for a significant amount of variance in early academic dropout intentions ($R^2 = .19$, $F(5, 295) = 10.67$, $p < .001$) and all of the predictors showed significant explanatory power (Table 2, Model 9). The interaction term also accounted for a significant proportion of the variance in early academic dropout intentions ($R^2 = .01$, $F(1, 295) = 3.95$, $p = .04$). The conditional effects of the focal predictor at values of the moderator revealed an enhanced significant effect on the upper level of collaboration with the professor ($b = -.51$, $se = .12$, $p < .001$), and also at the average level of collaboration with the professor ($b = -.34$, $se = .10$, $p = .002$), compared to the nonsignificant lower level of collaboration with the professor ($b = .10$, $se = .14$, $p = .18$). Results indicated that early academic dropout intentions.

When resilience was included in the analysis as explanatory factors for early academic dropout intentions and all the variables accounted for a significant amount of variance in early academic dropout intentions ($R^2 = .24$, $F(5, 295) = 14.10$, $p < .001$) and all of the predictors showed significant explanatory power (Table 2, Model 10). The interaction term also accounted for a nonsignificant proportion of the variance in early academic dropout intentions ($R^2 = .009$, $F(1, 295) = 2.62$, $p = .10$), indicating no moderating effects.

4. Discussions and Practical Implications

The study investigated the impact of educational strategies and professor–student relationship over the relation between motivational persistence and early academic dropout intentions. More specifically, we tested ten different types of educational strategies and professor–student relationship that can support motivational persistence as a trait to decrease early academic dropout intentions; in its turn, motivational persistence enhance personal resources to focus attention to long-term purposes and meaningful ways of handling academic tasks. We found a significant negative correlation between motivational persistence and early academic dropout intentions, as previous authors did. The correlation between educational strategies and professor-student relationship, on the one hand, and early academic dropout intentions, on the other hand, are also significant. Almost all of the moderation models are significant and show a decrease in early dropout intentions of students. Still, the magnitude of the predictive power of the model is somewhat low, indicating that these variables are also independent predictors and part of the motivational process on the long-term. We believe that these kinds of strategies should be tested on different time points in the academic journey of the student and also considering the difficulty of the academic task or the nature of the tasks (i.e. theoretical competencies or practical competencies).

Strategies to overcome early academic dropout can be classified at individual level, organizational level, national, and international level (Stanciu & Iliescu, 2012). The current research brings more insight about how individual personality traits are affected by educational strategies in order to decrease the dropout rate. Concordant with other research findings and theoretical guidelines, we believe that the use of educational strategies that are focused on persistent tendencies for academic task achievement and overcoming obstacles in universities must be carefully considered with individual motivation and that different parts of universities may require entirely different strategies to be most effective (Gellatly et al., 2019, Linnenbrink-Garcia, et al., 2018).

In accordance with previous research, persistence for academic achievement is enhanced by different components of motivation mostly as mediating factors when analysing their role on the long-term effects, but they also can play a moderating role in explaining early academic dropout intentions when associated with motivational persistence. For example, Crain-Dorough (2003) showed throughout findings that dropouts students show a lack of self-determined motivation when compared to students who persisted in the university. Our findings show, similarly, that goal setting,

self-discipline, and the way in which academia settings help students to develop confidence in their skills highly correlates with motivational persistence for academic achievement. Further research should address this issue longitudinally, in order to also test the mediating role of these strategies for a better understanding of the motivation process in the academia settings.

In the same time our results showed that collaboration with the professor is positive associated with the motivational persistence trait. Motivation, seen as a process through which students are driven toward thriving and also to maintain their interest for achieving their personal purposes, has a very important role in the activity of each student. The perception of being valued by professors are considered factors that determine motivation (Desforjes, 2003; Panisoara et al., 2015; Sheldrake, 2016; Sriratanaviriyakul, 2017). Similarly, McClelland (2001) and Murray (1938) suggest motivation for achievement is based on three types of needs: the need for achievement (i.e. desire to learn to perform), the need for association (i.e. creating a relationship with the professor) and on the need for power (i.e. the need for being appreciated). In this context, McClelland (2001) noticed that, according to each student experiences and cultural background, individuals with a strong achievement factor (i.e. desire to learn to perform) are stimulated by factors that appear in a relational context (i.e. perception of being valued). More specific, the ones that are motivated have the following characteristics: the need for permanent achievement, looking for tasks where to take responsibility, preference for tasks susceptible of competition with oneself, actively looking for feedback on their own results, and limited concern with social needs (i.e. affiliation).

Our results show that motivational persistence trait is significantly and negatively associated with early academic dropout intentions. That means that personality traits have to be supported by educational settings for a greater impact. This is why the quality of the university, the professor collaboration with the students, the classroom management, clear objectives, the climate and the culture of the university, the cooperation and competition between students, social support, perceived relevance of education for their future, relation with colleagues, the wellbeing of the student are factors that can make the difference in a smaller or higher drop out intention. An important influence on students' motivation for achievement is the recognition of results by others and perception of being valued by the professor. Recognition of merits by the professor and recognition of results among peers (e.g. peer acceptance), are important for academic performance.

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