

Variables psicosociales y rendimiento académico asociados al optimismo en estudiantes universitarios españoles de nuevo ingreso

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Resumen

El alumnado de nuevo ingreso encuentra dificultades al inicio de sus estudios universitarios debido a que tiene que afrontar situaciones que generan un alto nivel de estrés, así como nuevos desafíos académicos y sociales o expectativas no satisfechas. Todos estos obstáculos pueden repercutir en su adaptación al contexto universitario y en un bajo rendimiento académico, e incluso llevar al abandono prematuro por parte del estudiante. Según la literatura sobre el tema, entre las variables de carácter psicosocial que intervienen en la adaptación y contribuirían a superar la situación estresante se encuentra el *optimismo disposicional*; y es teniendo esto en cuenta que en el presente estudio se plantea como objetivo analizar las variables que contribuyen a explicar el optimismo con el que inicia los estudios el alumnado universitario de nuevo ingreso. Con este fin, mediante procedimientos de encuesta se recogieron datos sobre variables académicas y psicosociales en una muestra de 750 estudiantes de diferentes titulaciones de la Universidad de Sevilla, al inicio del primer curso en sus respectivas titulaciones. A partir de los datos obtenidos se realizó el cálculo de estadísticos descriptivos básicos y se utilizaron técnicas como el análisis factorial para explorar la dimensionalidad del constructo *optimismo* o como la regresión logística binaria para identificar variables relevantes en la diferenciación entre estudiantes optimistas y pesimistas. Los resultados muestran que las variables de rendimiento académico previo, apoyo social percibido, autoestima y autoeficacia percibida se asocian al optimismo de los estudiantes. A partir de estos resultados se derivan recomendaciones de cara a la intervención orientadora sobre el alumnado universitario de nuevo ingreso para favorecer su adaptación al contexto universitario.

Palabras clave: optimismo, variables psicosociales, rendimiento académico previo, educación superior, estudiantes universitarios.

Psychosocial variables and academic performance related to optimism in Spanish first-year university students

Abstract

First-year students find difficulties at the beginning of their university studies, facing situations that generate a high level of stress, new academic and social challenges, or unfulfilled expectations. Among the psychosocial variables that intervene in the adaptation and contribute to overcoming the situation is dispositional optimism. The aim of this study was to analyze which variables contribute to explaining the optimism with which first-year university students start their studies. Through survey procedures data were collected on academic and psychosocial variables for a sample of 750 students of different degrees from the University of Seville at the time they started the first course in their respective degrees. The calculation of basic descriptive statistics was used, along with techniques such as factor analysis, to explore the dimensionality of the optimism construct, and binary logistic regression to identify relevant variables in the differentiation between optimistic and pessimistic students. The results show how previous academic performance, perceived social support, self-esteem and perceived self-efficacy are associated with the students' optimism. Based on these results, recommendations are derived for the orientation intervention concerning first-year university students to favor their adaptation to the university context. *Keywords:* optimism, psychosocial factors, pre-university achievement, higher education, university students.

Variáveis psicossociais e desempenho acadêmico associados ao otimismo em estudantes universitários espanhóis de novo ingresso

Resumo

O alunado de novo ingresso encontra dificuldades no início de seus estudos universitários, pois tem que enfrentar situações que geram alto nível de stress bem como novos desafios acadêmicos e sociais ou expectativas não satisfeitas. Todos esses obstáculos podem repercutir em sua adaptação ao contexto universitário e num baixo desempenho acadêmico, inclusive levar ao abandono precoce do curso. Segundo a literatura sobre o tema, entre as variáveis de caráter psicossocial que intervêm na adaptação e que contribuiriam para superar a situação estressante, encontra-se o otimismo disposicional; nesse sentido, este estudo propõe como objetivo analisar as variáveis que contribuem para explicar o otimismo com o qual o alunado universitário de novo ingresso começa seus estudos. Com esse objetivo, mediante procedimentos de pesquisa, foram coletados dados sobre variáveis acadêmicas e psicossociais numa amostra de 750 estudantes de diferentes cursos. A partir disso, foi realizado o cálculo de estatísticos descritivos básicos e foram utilizadas técnicas como a análise fatorial para explorar a dimensionalidade do constructo otimismo ou como a regressão logística binária para identificar variáveis relevantes na diferenciação entre estudantes otimistas e pessimistas. Os resultados mostram que as variáveis de desempenho acadêmico prévio, apoio social percebido, autoestima e autoeficácia percebida são associados ao otimismo dos estudantes. Com base nesses resultados, foram elaboradas recomendações quanto à intervenção orientadora sobre o alunado universitário de novo ingresso para favorecer sua adaptação ao contexto universitário.

Palavras-chave: otimismo, variáveis psicossociais, desempenho acadêmico prévio, ensino superior, estudantes universitários.

Introduction

Access to Higher Education means a moment of uncertainty for first-year students when they must face the challenges and new situations involved in studying for a university degree in an unknown environment. Johnston (2013) refers to different types of changes (academic, social and personal) which students experience in their transition to university. In this new scenario, the students who begin their first years of university studies will have to overcome difficulties to successfully achieve their academic goals (Gairín, Muñoz, Feixas, & Guillamón, 2009). Among these difficulties are the high levels of stress that they could feel facing the strong demand of activity that the new challenges generate (García-Ros, Pérez-González, Pérez-Blasco, & Natividad, 2012). Also, the strong initial academic expectations may not be attained (Alfonso et al., 2013), dissatisfaction and frustration then occurring. All in all, these problems can lead to a poor adaptation and even to the students dropping out in their first year (Buote et al., 2007). In fact, first-year university students are the group with the highest drop-out rate in the European context (Comisión Europea/EACEA/Eurydice, 2015).

This situation spurs the proposal of studying the factors that would contribute to reducing the current situation of

university drop-outs. Among these variables, recent studies have identified relations between academic motivation, procrastination, coping styles (Montgomery et al., 2017), satisfaction with life and the meaning of life (Bailey & Phillips, 2016), Mindfulness skills (Ramler, Tennison, Lynch, & Murphy, 2016), engagement and emotional intelligence (Perera & DiGiacomo, 2015) and students' adaptation to the university environment. The review carried out by Credé & Niehorster (2012) groups into eight categories different variables used in previous studies concerning university adjustment. Within this classification a group stands out that revolves around personality features and the students' own self-evaluation, among which one finds self-esteem and self-efficacy or optimism.

In this sense, dispositional optimism has been identified as a relevant variable contributing to students' adjustment to the university environment, as well as to their academic performance (Londoño, 2009). Carver & Scheier (2014) define dispositional optimism as a cognitive construct which encompasses expectations regarding future results. Londoño (2009) adds that these expectations of good future results occur even when facing situations and circumstances of adversity. When they act, optimistic people attribute the negative causes of an event to external origins, whereas those who are not very optimistic will tend to explain them

by blaming themselves (Seligman, 2003). Also, Laranjeira (2008) stresses the benefits of optimism for health, finding a relation between psychological, social and physical well-being.

In the context of Higher Education, previous research has contributed evidence about the benefits of dispositional optimism for university students. It has been noted that this contributes to foreseeing academic drop-outs (Londoño, 2009; Roso-Bas, Jiménez, & García-Buades, 2016), to improving adaptation within the university context (Chemers, Hu, & García, 2001; Montgomery, Haemmerlie, & Ray, 2003; Perera & McIlveen, 2014) and even to increasing the students' academic performance (Guillén, Pérez-Luzardo, & Arnaiz, 2013; Monteiro, Tavares & Pereira, 2008; Solberg, Evans, & Segerstrom, 2009). In this line, Brissette, Scheier & Carver (2002) point out the cushioning power which optimism has when facing situations of stress. Thus, it is indicated that optimism helps to handle new environments, such as university, increasing the use of active coping strategies and reducing stress levels.

Optimism and university context

The scientific literature has identified variables relevant to their relations with optimism within the university context. As to the students' demographic segments, the differences of optimism according to sex have been explored, without the result pointing consistently in one direction or another. Thus, the results of Puskar et al.'s (2010) study evidence less levels of optimism in women than in men, while in other works significant differences have not been found (Huan, Yeo, Ang, & Chong, 2006; Patton, Bartrum, & Creed, 2004). Regarding age, Londoño's (2009) study on university students showed a positive correlation of this variable with optimism. In the same line, the results of Zou et al.'s (2016) study observed a positive linear relation with age. That is to say, the older the subject, the greater the degree of optimism. These results empirically support the proposals of authors such as Seligman (2003) and Martin (2002), who show in their theories that optimism is a characteristic learnt in the adult age.

The relation between optimism and other psychosocial variables measured in students has also been analyzed. It has been found that optimism, in connection with high levels of social support, increased the subjective well-being of university students (Marrero & Carballeira, 2010) and enabled them to successfully face those demands which are characterized as being stressful (Fernández-González, González-Hernández, & Trianes-Torres, 2015). Chapman & Chi's (2017) proposal shows how perceived social support

acts as a mechanism for optimistic people to more actively face the challenges which emerge on a daily basis.

On the other hand, optimistic future expectations in university students are associated with high self-esteem (Montgomery et al., 2003). These relations have been moderately evidenced in different empirical works within the university context (Kapikiran & Acun-Kapikiran, 2016; Liu et al., 2017). A positive correlation between self-esteem and optimism has also been found in samples with secondary education students (Monzani, Steca, & Greco, 2014).

Another variable which has centered the attention of researchers is perceived self-efficacy. Analyzing the adaptation to the university context in first-year students, Morton, Mergler & Boman (2014) note the direct relation between self-efficacy and optimism, as well as both variables being associated with university adaptation. In the same sense, Jovanović & Gavrilov-Jerković (2013) found positive correlations between perceived self-esteem and dispositional optimism in a sample made up of university and secondary school students. Pu, Hou & Ma (2017) support the relation between self-efficacy and dispositional optimism, although they argue that it is self-efficacy which fosters an optimistic view. Inversely, low self-efficacy would explain a person's pessimistic perspective.

The connection between optimism and academic achievements is another study area which has caught the attention of researchers. Monteiro et al. (2008) found a positive and significant relation between both variables, concluding that those students who have high levels of optimism showed a higher academic performance when they finished the academic term. In Chemers et al.'s (2001) study, optimism and self-efficacy were factors taken into account to explain the academic performance of first-year students. The results clearly indicated that both variables influenced academic performance and the students' adjustment to the new context.

The literature has consistently pointed out the power of optimism as a variable which favors first-year students' university adaptation. For this reason, different authors have carried out empirical works on optimism in university students whose results recommend the design and implementation of programs that foster optimism (Fernández-González et al., 2015; Monteiro et al., 2008; Perera & McIlveen, 2014).

With a view to specifying some of the aspects which give substance to intervention programs or strategies in this area, it is interesting to identify the factors that are associated to a greater extent with optimism. This is why, this work has proposed the aim of analyzing the relevance of different psychosocial and academic variables in explaining the optimism with which students face the start of their university studies.

Method

Design

A quantitative ex-post facto study was carried out, adopting a descriptive correlational design according to the typology indicated in Hernández, Fernández & Baptista (2003). As to the time dimension, the design is transversal, given that the data collection has been carried out at a single moment.

Participants

The population considered in this study was located in the Spanish context. Specifically, it was made up of students who accessed a university degree program for the first time in the University of Seville. Through a non-probabilistic sampling procedure and addressing the criteria of accessibility, the sample consisted of 750 first-year university students of five university teaching areas (see Table 1). Neither repeaters of the first course-year, nor those who had finished another university degree or had begun but not completed other degrees were included in the sample. 57.5% were women and 42.5% men. The average age was 18.94 years old (S.D.=2.20).

In accordance with the analysis procedures which are described in a later section, in the initial sample two subsamples of students were identified, characterized by high optimism and by low optimism - groups of 247 and 248 students, respectively.

Table 1.
Sample of first-year university students

University teaching areas	Degrees	Frequency
Arts and Humanities	English Studies	25
	History of Art	34
Social and Legal Sciences	Law	75
	Primary Education	62
	Business Management and Administration	97
Sciences	Biology	25
	Mathematics	47
	Chemistry	50
Health Sciences	Nursing	93
	Psychology	73
Engineering	Aerospace Engineering	118
	Electronic, Robotic and Mechatronic Engineering	51
	Total	750

Instruments

Dispositional optimism was considered as the dependent variable, measured through the *Life Orientation Test (LOT-R)*, in its revised version (Scheier, Carver, & Bridges, 1994). This test is made up of 10 items with a Likert-type answer scale, of which three refer to optimism, three to pessimism and four items are included that serve to make the content of the test less evident and are not taken into account for scoring purposes. The answers range between *totally disagree* (1) and *totally agree* (5). For this instrument, Scheier, Carver & Bridges (1994) obtained a reliability estimated by a Cronbach alpha of .78. In this work, the instrument showed an alpha value of .75 for the total sample. This value can be considered acceptable, taking into account that the measure obtained with the LOT-R test is supported only in six items. Scheier, Carver & Bridges (1994) proposed a mono-factorial structure, considering the optimism-pessimism construct to be a sole feature with two poles. The adaptation to Spanish used in this study is that employed by Ferrando, Chico & Tous (2002). Contrary to the unidimensional structure attributed originally to the LOT-R, the authors cited bring together different studies which propose the instrument's bidimensionality and note the existence of two factors which correspond to optimism and pessimism. With a view to clarifying this issue, this study carried out an exploratory factor analysis (EFA) to identify the number of dimensions underlying the scale, followed by a confirmatory factor analysis (CFA). 50% of the sample was randomly selected to carry out the EFA and the CFA was done with the other half. The suitability

of the matrix of correlations to perform this analysis has been confirmed by Bartlett's sphericity test ($\chi^2=502.49$; $p=.000$) and by Kaiser-Meyer-Olkin's measure of sampling adequacy ($KMO=.80$). Following the recommendations of Lloret-Segura, Ferreres-Traver, Hernández-Baeza & Tomás-Marco (2014), for the extraction of factors the maximum likelihood method was used, previously checking that the values of asymmetry (included in absolute values between .09 and .90) enable trusting the normality of the variables. In the factorial solution a single dimension was retained, taking into account that the distance between the self-value of the first factor (2.757) and of the second (.957) is considerably greater than that registered between this and the self-values for the successive factors (.770 in the third, .566 in the fourth). The retaining of a sole factor is also a result compatible with the initial theoretical criterion and, moreover, the six items present high saturations (see Table 2).

Table 2.
Factor loadings of items of the Life Orientation Test (LOT-R)

Items	Factor loading
I'm always optimistic about my future	.646
Overall, I expect more good things to happen to me than bad	.680
I rarely count on good things happening to me	.631
In uncertain times, I usually expect the best	.598
I hardly ever expect things to go my way	.593
If something can go wrong for me, it will	.388

The CFA corroborated that the single factor model satisfactorily fit the data, confirming the unidimensional structure of the scale. The goodness of fit indexes showed acceptable values ($\chi^2 = 53.263$, $p < .000$, $\chi^2/df = 9$, $GFI = .954$, $CFI = .916$) or very close ($RMR = .063$) to the values which would permit stating the goodness of the model (Byrne, 2001). Consequently, the dispositional optimism feature was used in this analysis as a single score.

As independent variables, self-esteem, self-efficacy, perceived social support, previous academic support and the demographic features of sex and age were included. Self-esteem was measured through *Rosenberg's Self-Esteem Scale* (Rosenberg, 1965), adapted to Spanish by Martín-Albo, Núñez, Navarro & Grijalvo (2007). These authors used the instrument twice with a sample of university students, confirming its unidimensional structure and obtaining Cronbach alpha reliability measures of .85 and .88 in them. For this study, the instrument gave an alpha value of .87. This instrument has 10 items, where five are enunciated positively and five negatively. The answers of the subjects are expressed through a 4-point Likert scale ranging from *totally disagree* (1) to *totally agree* (4).

To measure the self-efficacy variable, the *General Self-Efficacy Scale* (Baessler & Schwarzer, 1996) was used. This instrument measures a single construct through 10 items which adopt the format of a Likert-type scale with four degrees of agreement ranging from *totally disagree* (1) to *totally agree* (4). The Spanish adaptation of this instrument, used in this study, is that proposed by Sanjuán, Pérez & Bermúdez (2000), which obtained a reliability of $\alpha=.87$, close to the value shown in this study: $\alpha=.84$.

The measurement of the variable perceived social support was carried out with the *Scale of Family and Friends Support (AFA-R)*, by González-Ramírez & Landero-Hernández (2014). This is made up of 14 items referring to the support which is received from the family or friends. The items are answered using a frequency scale with five levels, where 1 corresponds to *never* and 5 to *always*. Applying it to university students, its authors found a reliability of .92 for the instrument. Like the results of internal consistence, this study showed an alpha value that was also high: $\alpha=.89$.

The variables age, sex and previous academic performance were obtained from questions the respondents were asked when filling out the measurement instruments. In the case of academic performance, they were asked to record the grade obtained in the University entrance test with which they accessed the degree program that they were pursuing.

Procedure

The data collection took place in the second four-month term of the 2016/2017 academic year, specifically during April 2017. The teachers who were teaching subjects of the first year of university in different degree programs were contacted via e-mail. The questionnaires were applied in the classroom and lasted approximately 15 minutes, including the presentation of the study, the explanation about the data collection instruments and the filling out of the questionnaires by the students. In accordance with the Code of Good Practices in Research of the University of Seville (<https://investigacion.us.es/investigacion/apoyo>), the anonymity of the participants was guaranteed. They answered the questions voluntarily after having received information about the study's proposal and nature. The students did not receive any academic benefits from participating in the study. It was also guaranteed that those who declined to take part in the study would not suffer adverse consequences due to this. The data collection was carried out by the researchers themselves.

Data Analysis

For the analysis, the answers to the items used in the scales of self-esteem and self-efficacy were codified from

1 to 4, while the five modalities of answers for the items related to perceived social support and optimism were codified from 1 to 5. In the case of items in a negative sense, these values were inverted, so that a high score always corresponds to a high level in the feature measured. A very low incidence of lost values was registered (less than 1% in all the variables), so as a general procedure it was opted for working with the cases for which complete information was obtained for the variables involved in each analysis (case-wise procedure). The analysis began with the calculation of the descriptive statistics and internal consistency indices, both for the measure of dispositional optimism and for the rest of the variables considered in the study. The sample was divided into three groups using the factorial scores in optimism, derived from an EFA similar to that applied to examine the instrument's unidimensionality, although this time applied to all the participants. To do so, the terciles distribution was used, enabling the differentiation of optimistic students, students who did not opt for optimistic or pessimistic positions and clearly pessimistic students. Retaining those who were in the group of greater and lesser optimism, the binary logistic regression analysis allowed an exploration of the extent to which the psychosocial and academic variables studied contribute to the differentiation between the optimists and the pessimists. The SPSS v.23 and AMOS v.24 statistical softwares were used.

Results

The following section presents the results of the data analysis, beginning with the descriptive statistics of the study variables. Later, the associations between the different variables and optimism through a logistic regression analysis are shown.

Descriptive study of the variables

Just like the demographic variables of age and sex, already described when presenting the participants in the study, information was gathered about the mark obtained in the university entrance tests. The average was 10.9 (SD=1.69) on a score scale with a maximum of 14. In the case of the variables optimism, self-esteem, self-efficacy and social support, the total scores in each of the instruments used for their measurement were divided by the number of items, so that values between 1 and 5 were expressed for the variables optimism and social support, and values from 1 to 4 for self-esteem and self-efficacy. Table 3 shows that the university students perceive strong support from their family and friends, reflected in an average score of 4.22. They tend to show themselves as being optimistic,

with a score of 3.39, slightly above the value 3 which is the central point of the scale, and have high levels of self-efficacy and self-esteem, with values above 3 on a scale which goes from 1 to 4.

Table 3.

Descriptive statistics

Variables	Mean	S.D.
Dispositional optimism	3.39	.72
Self-esteem	3.17	.54
Self-efficacy	3.05	.42
Social Support	4.22	.66

Explanation of optimism from psychosocial and academic variables

Binary logistic regression analysis was used to value to what extent students' optimism is associated with the psychosocial and academic variables considered in this study. The binary dependent variable is optimism, differentiating between optimistic students (value 1) and pessimistic students (value 0). As independent variables, sex, age, prior academic performance, self-esteem, self-efficacy and perceived social support were included. According to Hosmer & Lemeshow's test, the model constructed with these variables adequately fits the values observed, as the chi-squared contrast statistic =6.837 is associated with a degree of significance of $p=.554$. This permits the maintenance of the null hypothesis of equality between the values observed and the values expected according to the model. The model's goodness has also been estimated from the R squared of Cox & Sell ($R^2=.384$) and that of Nagelkerke ($R^2=.512$), whose values indicate a good explanation of the dependent variable by the independent variables. Furthermore, its explanatory power is supported by the high percentage of students correctly classified as optimistic and pessimistic. This correspond to 81.5% and 73.3%, respectively, with a global percentage of successful prognostics for 77.5% of the students.

Table 4 indicates the results of the logistic regression analysis, showing that the variables with a greater degree of association with dispositional optimism are self-esteem and self-efficacy ($p<.001$). The effect of the variables perceived social support ($p=.020$) and, to a lesser extent, previous academic performance ($p=.047$) is also significant. As to the remaining variables, the demographic features of sex and age have not turned out to be relevant in the explanation of optimism ($p>.05$).

Addressing the odds ratios, the importance of each of the variables in the differentiation of optimistic and pessimistic university students can be quantified. Its value indicates how much more likely it is to have an optimistic

Table 4.
Coefficients, odds ratios and Wald for the effects on optimism

Variables	B	Wald	Sig.	Odds ratio	95% C.I. for odds ratio	
					Lower	Upper
Age 1	.488	1.782	3.255	1.629	.959	2.770
Gender 2	.086	2.682	1.145	1.090	.931	1.275
Previous academic performance 1	.161	6.941	3.951	1.175	1.002	1.378
Self-esteem 1	2.572	58.746	62.385	13.093	6.916	24.787
Self-efficacy 1	1.551	16.228	18.188	4.714	2.312	9.613
Social Support 1	.514	4.558	5.437	1.672	1.085	2.576
Constant	-18.799	48.168	47.745	.000		

¹ Odds ratio associated with the increase of one unit in the independent variable.

² Reference category: man.

disposition for each unit in which the score registered in the independent variable considered increases. Thus, the unit increase of the score in self-esteem means approximately multiplying by thirteen the probability of being an optimist (odds ratio 13.093), while augmenting a point in self-efficacy multiplies almost fivefold the likelihood of the student being optimistic (odds ratio 4.714). Less important are the effects of prior performance or social support (odds ratios of 1.175 and 1.672, respectively).

Discussion

The students who begin their studies at the University of Sevilla do so with an optimistic disposition. The levels of optimism shown by first-year students are above the average point of the scale used to measure it. Taking into account the way in which dispositional optimism is defined, this first result leads to consider that first-year students access university with expectations of achieving positive academic results. Adopting a transcultural perspective, the levels of optimism expressed by the students taking part in this study are close to those noted in previous works carried out in the Anglo-Saxon context with students who study their first academic year in university (Chemers et al., 2001; Solberg et al., 2009; Perera & McIlveen, 2014). On the other hand, they are far from the low levels of optimism found for first-year students in Latin American university systems (Gustems-Carnicer, Calderón, & Forn, 2017; Laranjeira, 2008).

Facing the controversy aroused by the dimensionality of the dispositional optimism factor, measured through the LOT-R scale, the results corroborate the existence of a single bipolar dimension, as proposed by the authors of the instrument (Scheier et al., 1994). Setting out from the measures obtained for the dispositional optimism construct,

the fundamental aim of this work has been to establish which variables contribute to explaining optimism. According to the findings obtained, the main factors linked to the optimism expressed by first-year students are self-esteem and self-efficacy. These results converge with those contributed by the previous literature, where it has been noted that optimistic students have a greater self-esteem, registering significant low-level (Mustaca, Kamenetzka, & Vera-Villaruel, 2010) or moderate correlations (Montgomery et al., 2003). Self-esteem has been an important variable in the study of adaptation to the university context (Friedlander, Reid, Shupak, & Cribbie, 2007; Salami, 2011). Thus, it is argued that those students who show high levels of self-esteem will feel more confident and will handle better those challenges that they come across beginning Higher Education. Hickman, Bartholomae & McKenry (2000) underline the importance of self-esteem in university students with a view to achieving a satisfactory transition.

As to perceived self-efficacy, the connection with optimism found in this study confirms that the more aware the person is of having their own skills to carry out any action, the more their expectations of results will increase. This result reinforces the findings of previous studies in which positive correlations between self-efficacy and optimism were obtained (Jovanović & Gavrilov-Jerković, 2013; Morton et al., 2014). According to them, students with high levels of self-efficacy will observe entering university more as a challenge than as a threat, acting with more confidence and optimism when handling the new challenges and using more effective strategies.

Although they have a lesser explanatory power, the variables social support and previous academic performance have also turned out to be relevant in relation to the students' optimism. The fact of students perceiving sufficient social support positively influences their levels of optimism. This result is compatible with those obtained

in Brissette, Scheier & Carver's (2002) study. This showed that optimistic students report more social support from their colleagues than those with pessimistic expectations and present a better adjustment to the university context as they develop social support from their networks of friends.

Along the line of previous works (Chemers et al., 2001; Monteiro et al., 2008), in which a direct relation has been found between optimism and academic performance, the results obtained here show the connection between the two variables. According to the results of this study, the prior academic performance is a factor with a certain capacity of explaining the optimism with which the students face their new stage of university studies.

As to the psychosocial and academic variables, the demographic features such as gender or age do not turn out to be relevant when differentiating between optimistic and pessimistic students. These results are in line with those antecedents found in the literature, which note a weak correlation between this type of demographic variables and optimism (Londoño, 2009; Moreno & Marrero, 2015) or a null correlation (Huan et al., 2006; Patton et al., 2004; Solberg et al., 2009).

The work carried out is approached from an unusual perspective in the study of students' dispositional optimism. In previous works, optimism has generally been used as an independent variable capable of predicting aspects such as adaptation to the university environment, remaining in the university, the academic results, and personal, social and physical well-being. Taking into account the importance of optimism for the success of first-year students, their adaptation to the university environment and their remaining in it, our study has focused attention on the variables which would contribute to explaining optimism and that, therefore, are relevant when favoring the development of an optimistic view and disposition in first-year university students.

Taking into account the results obtained in this study, a first recommendation derived from them is the need to pay special attention to those first-year university students who have a poor previous academic performance. This is due to the relevance of this variable to identify students susceptible of showing pessimism facing a new educational stage and which, consequently, can present problems with a view to their integration in the university context. On the other hand, the literature explains that there are programs which manage to foster and increase the degree of optimism in university students (Remor & Amorós-Gómez, 2012; Remor, Amorós-Gómez, & Carrobles, 2010). In this sense, another recommendation of this study alludes to the areas in which one could intervene in order to favor optimism in first-year students, enhancing the development of the variables which

have demonstrated to be relevant here. A clear area of intervention, therefore, has to do with self-esteem, which would have to be strengthened in those students. In this vein, mentor programs among peers can have an influence on the self-esteem of both the mentor and the mentorees, as they favor and strengthen the personal development of both of them (Valverde, Ruíz, García, & Romero, 2004). On the other hand, for students who access the university context with poor levels of self-efficacy, Ramos-Sánchez & Nichols (2007) actions based on Bandura's (1986) theory, such as vicarious learning or the control of emotions are proposed. The role of mentors can also be relevant here, training them to assume the teaching of relaxation techniques with the aim of reducing emotional arousal in situations that the student perceives as threatening. To share knowledge and skills developed during their experience in the university could propitiate vicarious learning in mentored students. Given the importance of perceived social support, the intervention from the university context would have to also influence the improvement in the relational climate between the students, favoring the establishment of new links of friends that propitiate a reciprocal support. To the extent to which this type of actions favors the students' optimism, this study will be contributing to improving their adjustment to the university environment, favoring academic achievements and avoiding premature drop-outs.

The work carried out presents as a strength, the breadth of the sample used and its heterogeneity, aspects that contribute to its representativeness in spite of not having been selected via random procedures. Furthermore, it incorporates in the same model different multivariable factors, studying their relations with optimism. The main limitations are inherent to the very nature of the research design and to the data collection techniques used. The correlational approach adopted allowed to identify variables which are associated with optimism and are capable of explaining their presence or absence in university students. However, it is not possible to establish cause-effect relationships that provide a solid empirical basis for stating the influence of factors such as self-esteem, self-efficacy and social support on optimism. In this respect, future works could be oriented toward the design and implementation of interventions aimed at enhancing the factors mentioned to value, via quasi-experimental methodological approaches, their efficacy to favor the students' optimism in the first year of their university studies. Another interesting line of work is the consideration of a greater number of variables potentially associated with optimism (psychological well-being, stress levels, introversion-extroversion, etc.) in order to construct structural equation models that illustrate the relations between them.

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