

Perceived social support as a predictor of academic success in Spanish university students

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Título: El apoyo social percibido como predictor del éxito académico en estudiantes universitarios españoles.

Resumen: El apoyo social percibido se considera un factor esencial para la reducción del estrés psicológico, el fracaso académico y el abandono de los estudios universitarios; sin embargo, la investigación sobre la relación del apoyo social con el rendimiento académico en la universidad es escasa. En el presente estudio se examinó la relación de diferentes recursos y fuentes de apoyo social percibido con el rendimiento académico en estudiantes universitarios españoles. La muestra estaba compuesta por 219 adultos emergentes, 149 mujeres y 70 hombres, con una edad media de 18.01 años ($SD=0.46$), matriculados en distintas titulaciones de una universidad pública española. Los datos fueron recogidos durante el primer curso académico (tiempo 1) y de nuevo durante el tercer curso (tiempo 2). Mediante un análisis de regresión de los datos se encontró que diferentes dimensiones del apoyo social percibido predecían el éxito académico a lo largo de los dos años. Los hallazgos del estudio pueden ayudar a orientadores y administradores a mejorar programas y políticas destinadas a favorecer la adaptación y el rendimiento académico de los estudiantes.

Palabras clave: Rendimiento académico; Estudiantes universitarios; Adultos emergentes; Apoyo social percibido.

Abstract: Perceived social support is considered a key factor for reducing the risk of psychological distress, academic failure and student withdrawal from university; however, research concerning how social support may influence academic performance in undergraduate students is scarce. This study aimed to examine the relation of different provisions and sources of perceived social support with academic achievement of Spanish university students in their first and third year. The sample consisted of 219 emerging adults, 149 women and 70 men, of average age 18.01 years ($SD=0.46$), enrolled on different degree courses at a public Spanish university. Data were collected during the first academic year (time 1) and again during the third academic year (time 2). Regression analysis of the data showed that different dimensions of social support predicted academic success throughout a period of two years. The study findings could be used to help university counsellors and administrators refine programmes and policies aimed at enhancing students' adjustment and academic achievement.

Keywords: Academic achievement; College students; Emerging adulthood; Perceived social support.

Introduction

Higher education represents a period of psychosocial *moratorium* for young people, enabling them to defer assumption of adult roles while involved in identity exploration (Arnett, 2000). During this period of instability and change, young adults entering university must face challenges such as developing study habits for the new academic environment, coping with new evaluation systems, managing finances, and developing new patterns of more mature interpersonal relationships with family members, teachers and classmates (Credé & Niehorster, 2012; Pascarella & Terenzini, 2005).

Prior research has suggested that not all students are able to adapt to the aforementioned demands. Thus, some students may experience difficulties, frequently manifesting feelings of isolation and loneliness, problems with separation from friends and family, increased interpersonal conflicts and psychological distress (Calaguas, 2011; Clinciu, 2013; Lapsley & Edgerton, 2002; Rodgers & Tennison, 2009). Poor adaptation to university is also thought to be the principal cause of academic failure and withdrawal (Calaguas, 2011; Credé & Niehorster, 2012; Wintre & Bowers, 2007; Wintre & Yaffe, 2000). Transition to university may generate considerable distress, affecting well-being in general and academic achievement in particular, even in those students who

persist (Elkins, Braxton, & James, 2000; Noor-Azniza & Hairul-Nizam, 2005; Wynaden, Wichmann, & Murray, 2013). In fact, as Sharp and Theiler (2018) contend, psychological distress is broadly accredited as a relevant, generalized and growing burden for the progress in the university. New university students often obtain lower grades than obtained at secondary school (Duchesne, Ratelle, Larose, & Guay, 2007; Wintre et al., 2011).

Interest in the contribution of individual attributes (such as intellectual ability and motivation) to the variability in student academic performance at university has traditionally prevailed. However, interactional factors have increasingly received attention since the theories proposed by Tinto (1975) and Bean (1980) highlighted their influence on academic involvement. In the context of both models, university grades are conceived as an outcome of the match between the student and the institution, which is conditioned by the dynamic interplay between the individual characteristics of students and their experiences in social and academic environments (Cabrera, Amaury, & Castañeda, 1993; Robbins et al., 2004).

Subsequent variations of Bean's proposal (Bean & Metzner, 1985) and further developments by Nora and Cabrera (1996) and Pascarella and Terenzini (1991) highlighted the potential role of significant others on students' attainment. Social support has attracted particular interest in this context, as it is conceived as one of the most important factors protecting against stressors, and thus enhancing adjustment (e.g. Cutrona, Cole, Colangelo, Assouline, & Russell, 1994; Tao, Dong, Pratt, Hunsberger, & Pancer, 2000). It

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is conceived as resources provided through social interaction, leading to the perception that the individual is valued, and will be assisted by others if necessary (Cutrona & Russell, 1987; Sarason, Pierce, & Sarason, 1990 a, b). Perceived social support is thought to moderate the appraisal of situations as threatening and to enhance self-confidence to cope with new challenges (Alemán-Ruiz & Calvo-Francés, 2017; Stallman, 2011; Xerri, Radford & Shacklock, 2017). Perception of the availability of social support also constitutes a source of sense of belonging and security and recognition of self-worth, among other direct, positive effects (Cohen, Gottlieb, & Underwood, 2000; Lau, Chan, & Lam, 2018). Thus, we may expect a beneficial influence of perceived social support on academic performance by decreasing stress in the university environment and enhancing self-efficacy as well as commitment to academic goals; in fact, these dimensions have been previously linked to achievement (Richardson, Abraham, & Bond, 2012; Robbins et al., 2004; Wintre et al., 2011).

Two meta-analytic studies concerning the relation between perceived social support and academic achievement deserve mention here. First, Robbins et al. (2004) gathered correlational data on the relation between university outcome and different indexes of student perception of the availability of support from social networks, obtaining a mean observed correlation of .096, with an estimated operational validity of .096, but a wide variability of correlations coefficients across studies. In a later meta-analytic study, Richardson et al. (2012) explored the association between overall marks of tertiary students and measures of non-intellective constructs. They found a positive, although small, effect of perceived social support; specifically, they registered a mean correlation of .08 with confidence intervals varying between .003 and .12.

Studies on the value of perceived social support in predicting university academic success are, however, limited and inconsistent. The global perception of the availability of social support has been reported as a significant predictor of the grade point average (GPA) of first year undergraduates in some studies (Abdullah, Kong, & Talib, 2014; Aris, Yasin, & Dzulkifli, 2011; De Berard, Spielmans, & Julka, 2004). However, in other studies, global support indexes were not significant predictors of GPA for first-year students (MacKinnon, 2012; Steele, 2011). In studies of undergraduate students at different times during their courses, Spitzer (2000) found that GPA was positively predicted by perceived social support, while Walker and Satterwhite (2002) did not find such a relation. The diversity of measures used to assess the construct may be contributing to these discordant results, since different instruments have been used in line with sources and functions of support. Thus, a multidimensional approach to social support could be more revealing (García-Martín, Hombrados-Mendieta, & Gómez-Jacinto, 2016).

Some studies have separately explored support from various sources, including family and peers. Studies involving peer support consistently report the non-significant effect of

this type of relation on university grades (Bordes, Sand, Kurpius, & Rayle, 2006; Chambel & Curral, 2005; Dennis, Phineay, & Chuateco, 2005; Nicpon et al., 2006). However, Cole, Matheson, and Anisman (2007) observed that greater support from close friends was associated with higher grades among ethnic minority students attending a Canadian university with a predominantly white student population. The authors suggested that support may contribute, in these minority students, to reducing the distress associated with discrimination. Similarly, Dennis et al. (2005) obtained that perceived lack of peer support predicted college adjustment and GPA of ethnic minority first-generation students of an American University. On the other hand, De la Iglesia, Stover, and Fernández-Liporace (2014) obtained with an Argentinean sample, a significant effect of support from classmates and best friend or boyfriend/girlfriend on pass rates and drop out rates. In the same line, a recent study by Brouwer, Jansen, Flache, and Hofman (2016), found that social fellow student' support contributed indirectly through friendship (number of times the student was nominated as friend) to academic achievement.

Studies on family and parental support show clearer trends that suggest more consistent effects of family relations on academic achievement. A study by Cutrona et al. (1994), which reports research on perceived parental provision of social support in undergraduate students at the University of Iowa (US), is widely cited in this context. A source specific version of the Social Provisions Scale (SPS; Cutrona & Russell, 1987) was applied as an indicator of support. Perceived support from parents was shown to predict academic achievement of the students in both studies, accounting respectively for 2.3% and 5% of the variation in GPA. In a later study of the psychometric properties of the Family and Friend Scales of Perceived Social Support (PSS-Fa and PSS-Fr; Procidano & Heller, 1983), Bordes et al. (2006) found that family support accounted for a small but statistically significant, portion of variance (2.7%), in the first semester GPA for white, non-Hispanic participants. However, unexpectedly, family support did not significantly predict achievement in a group of Latin American students. This led the authors to question the reliability and validity of the scale for minority ethnic and/or racial groups.

The influence of family support on academic performance was also examined by Cheng, Ickes, and Verhofstadt (2012) in a longitudinal study of undergraduates at various stages of their courses. Participants were asked about the level of economic (financial assistance) and social (encouragement) support they received from their family through various items developed by the authors. The cumulative GPA scores of the students and the stability of these across semesters were also assessed. Perceived social support predicted cumulative GPA, and the grades of students who perceived a higher level of family support were also more stable across semesters.

Studies centered on parental support suggest some other aspects that should be taken into account when analyzing the

relationship between perceived social support and achievement in university students. Thus, in the study by Cutrona et al. (1994), the Parent Version of the Social Provisions Scale (SPS; Cutrona & Russell, 1987) was used with undergraduates, in order to capture the six types of social support resources identified by Weiss (1974): *reliable alliance* (tangible assistance), *guidance* (advice or information), *attachment* (emotional closeness from which one derives a sense of security), *social integration* (belonging to a group with similar interests and concerns), *reassurance of worth* (recognition of one's skills, competence and worth as seen by others) and *opportunity for nurturance* (others who rely on one for their well-being). Reassurance of worth was the only resource that consistently predicted academic performance (in both studies performed). The global index of the SPS also emerged as a significant predictor in this study. In a later study, as a part of a structural model of college persistence, Nora and Cabrera (1996) assessed parental encouragement and motivational support, among other variables, in a sample of first year students attending a Midwestern United States institution. These authors aimed to analyze how support affected integration of the students at university, their academic and intellectual development and academic performance and commitment. A significant effect of family support was found for all of these dimensions as well as for decisions related to persistence. Encouragement may be interpreted as implicit recognition of a student's capacity to face the challenge of succeeding at university. Together, the results of both studies may indicate a specific influence of parental reassurance of worth on self-esteem and self-efficacy, with a subsequent impact on academic performance. In fact, in the light of the results of a recent study by Li, Han, Wang, and Cheng (2018), global self-esteem could play a mediating role in the relationship between social support and academic achievement.

Acceptance is another facet of social support that potentially influences self-confidence. It is defined as a relationship-specific and relatively stable cognitive appraisal of being valued as we are and is considered the essence of perceived support (Brock, Sarason, Sanghvi, & Gurung, 1998). The relationship between acceptance and academic achievement has not been explored to date, although its relation with university adjustment has been demonstrated (Páramo, Martínez, Tinajero, & Rodríguez, 2014; Turner, Sarason, & Sarason, 2001).

Further research is needed to clarify the relation between perceived social support and academic achievement in university students, taking into account different support provisions and sources. The variability in the relation due to cultural factors must also be considered. In particular, in Spain (and other Mediterranean countries), provision of support when necessary is regarded as the norm (Fernández-Alonso, 2012), and the transition to adulthood is, moreover, characterized by a prolonged stay in the parental home (Fierro & Moreno, 2007). Spanish students may thus be "socially dependent", demonstrating a need to share interests and con-

cerns with others and to receive support from them.

The aim of the present study was to approach these issues taking at the same time into account the possible variation of the relation between social support and achievement through college. First year is specially challenging and social support is thought to have a crucial role in the adjustment process during this period (Clinciu, 2013); starting with the analysis of the relation among different facets of social support and academic achievement at this initial stage, the study also examined whether changes in perceived social support were related to achievement oscillation *through the third year of college*. An increase was expected both with regard to academic achievement and support, in line with the progress in the adjustment process of the students to university life. The following hypotheses were developed on the basis of the literature reviewed: (1) perceived support is correlated with academic achievement; (2) global perceived support predicts academic achievement; (3) among support provisions, reassurance of worth is expected to predict achievement; and (4) perceived support from family (parental acceptance) is expected to predict academic achievement.

Method

Participants

Participants were selected from the population of first year undergraduate students enrolled in a Spanish public university ($N = 855$), by applying the following academic and family-related criteria: first-time, first-year attendance at university undertaking full-time courses (60 credits), age less than or equal to 20 years, undertaking courses that were their first or second choices, single, and not employed (i.e., they were economically dependent on their parents). Data were collected from several faculties at a Spanish public university during the first academic year and again during the third academic year. Out of a total of 300 students, 73 % remained at the end of this study (i.e., participated twice and completed all questionnaires). The rest of the students had withdrawn from university or shifted to another courses. Respondents who participated in their third year did not differ from non-responders on any of the study variables at time 1.

The study sample included 219 undergraduates, 149 (68 %) women and 70 (32 %) men and it was the same in the first and third year. Participants were average age of 18.01 ($SD = 0.46$) and were enrolled on various courses within the five areas of study offered at the university: Science (34.1 %), Health Sciences (23.6 %), Social Sciences and Law (21.4 %), Humanities (16.8 %) and Engineering (4.1 %). Most were from intact families (92.2 %), and the 79.0 % belonged to middle socioeconomic status. Parents' level of education varied from less than high school (mother 40.6 % and father 41.1 %) to university education (mother 27.9 % and father 26 %) of students. During the academic year, approximately 75 % of students lived away from the family home; of these students, over two thirds shared a flat with other undergrad-

uate students and the other third lived in halls of residence. The distributions of grades and gender in this sample are representative of those in the overall student population of the university.

Procedure

All first-year students enrolled in the 16 EEES-adapted degree courses in the five areas of study offered at the University participated voluntarily and anonymously in the first stage of the study. Data were collected by trained researchers, twice within a 2-year interval, with the prior consent of students and teachers, according to the deontological code of the Official School of Psychology. The first evaluation was carried out during the first academic year (time 1). Students completed, voluntarily and confidentially, a self-report questionnaire that included a survey on personal and family data and three scales of social support, to assess perceived level of different dimensions of social support. Those subjects who agreed to participate in a second phase of the study were asked to provide a contact email or phone. The second evaluation took place in the third academic year (time 2). The participants ($N = 219$) completed a questionnaire that included the three perceived social support measures. Participants were paid 15 € after completing the second evaluation. They also signed an informed consent allowing the research group access to their official academic grades, through the Academic Management Service of the university.

Measures

Perceived Social Support

In order to encompass different dimensions, sources and functions of perceived social support the Spanish versions of three complementary measures were used: Social Provisions Scale (SPS; Cutrona & Russell, 1987), Social Support Questionnaire-Short Form (SSQ6; Sarason, Sarason, Shearin, & Pierce, 1987) and Perceived Acceptance Scale (PAS; Brock et al., 1998).

The Social Support Questionnaire-Short Form (SSQ6; Sarason et al., 1987), adapted for the Spanish population by Martínez-López, Páramo, Guisande, Tinajero, and Rodríguez (2014), is a six-item measure designed to assess two conceptually distinct aspects of perceived social support: availability and satisfaction. For each of the 6 items, the respondent lists the people on whom he/she can count in a given situation (Example: "Whom can you really count on to be dependable when you need help?") and expresses his/her satisfaction regarding the support (on a scale between 1 and 6). Two total scores are calculated: N (availability or number of people), the average number of persons listed for the items, and S (satisfaction), the average satisfaction score. N varies from 0 to 9 and S from 1 to 6. In the present study, the internal consistency of the scale scores ranged from .87 to .90 for perceived availability, and from .94 to .85 for perceived satisfac-

tion.

The Social Provisions Scale (SPS; Cutrona & Russell, 1987), adapted for the Spanish population by Martínez-López et al. (2014), contains 24 items (in a 4-point Likert-type format) that assess the following provisions of perceived social support: reliable alliance, guidance, attachment, social integration, reassurance of worth, and opportunity for nurturance. Half of the items describe the presence of one of the provisions of social support, and the others describe the absence of any social support provision. Sample items include "There are people who enjoy the same social activities I do" and "There is no one I feel comfortable talking about problems with" (reverse scored). Subscale scores can range from 4 to 16, and the full score from 24 to 96, with higher scores indicating higher levels of perceived social support. In the present study, Cronbach alpha coefficients for total scale scores were higher than .85, and for the subscale scores they ranged from .60 to .74.

The Perceived Acceptance Scale (PAS; Brock et al., 1998), adapted for the Spanish population by Rodríguez, Martínez-López, Tinajero, Guisande, and Páramo (2012) is a 44-item self-report measure designed to assess perceptions of acceptance within four specific categories of relationships: friends (12 items), family (12 items), mother (10 items) and father (10 items). Sample items include "My parents objected to a number of things I did" or "I am a very important part of the lives of my friends". Responses are made on a 5-point Likert-type scale ranging from 1 "strongly disagree" to 5 "strongly agree". In the present study, only the perceived acceptance by friends and family was measured. Internal consistency was satisfactory for both subscales scores; with alpha coefficients ranging from .86 to .88.

Reliability values of support measures in the present study are similar to those reported for the original questionnaires as well as for the adapted versions. Evidences of the convergent and discriminate validity of the three measures of perceived social support were established by the correlations among them and their respective subscales. Their construct validity was also established by confirmatory factor analyses (Martínez-López et al., 2014; Rodríguez et al., 2012).

Academic achievement

Grades are supposed to represent the interplay between background, personal and contextual variables and they are important for the students, since they condition the academic trajectory. GPA is the most commonly used measure of academic success; it is commonly equated with student success in current policy discourses and research on higher education. In order to facilitate comparability of the findings of the present study, first and third year GPAs of the students in the sample were obtained from official university records. Official grades in Spanish universities are scored from 0 to 10, with a pass mark of 5.

Data analysis

Data were analyzed using IBM SPSS version 20 for Windows. Descriptive statistics were first obtained for all measures. Paired Student's *t*-tests were carried out to compare mean values of time 1 and time 2 in all variables. Independent sample Student's *t*-tests were used to analyze differences between men and women on the perceived social support and academic achievement. Cohen's *d* was used as effect size index, where values lower or equal $|\leq .50|$ were considered low. In order to determine which dimensions of perceived social support were the best predictors of the academic achievement, correlational and linear regression analyses were performed to examine the relationships among the variables considered. The role of gender in the relation between social support and achievement was controlled, given that differences between men and women college students have been previously registered both in relation with perceived support and achievement (Richardson et al., 2012; Tinajero, Martínez-López, Rodríguez, Guisande, & Páramo, 2015).

Results

Descriptive statistic and correlations

Mean values and standard deviations for predictor and outcome variables are shown in Table 1 for the first (time 1) and third year (time 2) of the university students participating in the study. All variables were included at both times of data collection.

Table 1. Descriptive statistics for all study variables at time 1 and time 2.

	Time 1	Time 2
	<i>M (SD)</i>	<i>M (SD)</i>
SSQ6		
Availability	5.11 (1.62)	5.31 (1.78)
Satisfaction	5.39 (0.71)	5.39 (0.56)
SPS		
Reliable alliance	3.87 (0.27)	3.86 (0.28)
Guidance	3.79 (0.38)	3.81 (0.32)
Attachment	3.53 (0.52)	3.59 (0.55)
Social integration	3.58 (0.45)	3.56 (0.46)
Reassurance of worth	3.27 (0.49)	3.25 (0.54)
Opportunity for nurturance	3.36 (0.48)	3.35 (0.51)
PAS		
Friends	4.11 (0.59)	4.01 (0.62)
Family	4.25 (0.60)	4.31 (0.52)
Academic achievement (GPA)	6.01 (1.49)	6.74 (1.18)

The PAS scores and academic achievement varied significantly over time, whereas the SSQ6 and SPS scores did not. While perceived acceptance of friends decreased from first to third year ($t(218) = 2.459, p < .01$, Cohen's $d = .16$), acceptance by family and academic achievement increased ($t(218) = -2.036, p < .05$, Cohen's $d = -.11$; $t(218) = -9.719, p < .001$, Cohen's $d = -.54$, respectively). Thus, in order to take into account the changes in acceptance and achievement in subsequent analyses, new variables for PAS and GPA were calculated. By subtracting the time 1 value from the time 2 value, scores representing the change over time were obtained.

At time 1, the female students reported higher levels of perceived availability of support ($t(217) = -2.358, p < .05$, Cohen's $d = -.34$), attachment ($t(107.8) = -4.047, p < .001$, Cohen's $d = -.61$) and opportunity for nurturance ($t(110.7) = -3.707, p < .001$, Cohen's $d = -.55$) than the male students ($M_{SSQ6 N female} = 5.29, M_{SSQ6 N male} = 4.74$; $M_{SPS A female} = 3.63, M_{SPS A male} = 3.32$; $M_{SPS On female} = 3.45, M_{SPS On male} = 3.18$). Two years later, the female students reported higher levels of family acceptance ($t(217) = -2.171, p < .05$, Cohen's $d = -.32$), guidance ($t(217) = 2.106, p < .05$, Cohen's $d = -.29$), social integration ($t(217) = -1.980, p < .05$, Cohen's $d = -.28$) and opportunity for nurturance ($t(217) = -3.350, p < .001$, Cohen's $d = -.47$) and showed a higher academic achievement ($t(217) = -2.012, p < .05$, Cohen's $d = -.28$) than the male students ($M_{PAS Fa female} = 4.37, M_{PAS Fa male} = 4.20$; $M_{SPS G female} = 3.85, M_{SPS G male} = 3.75$; $M_{SPS Si female} = 3.60, M_{SPS Si male} = 3.47$; $M_{GPA female} = 6.85, M_{GPA male} = 6.50$).

The bivariate correlations between perceived social support measures and academic performance scores are shown in Table 2. SSQ6 satisfaction (time 1) and PAS family (time 1) were significantly correlated with students' achievement in the first year at university and SPS attachment (time 2) with university achievement in the third year. Of all perceived social support dimensions, only the reassurance of worth measure (time 1) was positively and significantly associated with academic achievement of the students in both first and third year (r s range from $.16$ to $.21$).

Regarding the variables that represent the change over time, correlational analysis shows that satisfaction with social support (time 1) was positively related to increased academic achievement; however, change in the perceived acceptance by friends and family was not related to the outcome variable.

Table 2. Correlations between perceived social support and academic achievement scores.

	Time 1										Time 2
	SSQ6 N	SSQ6 S	SPS Ra	SPS G	SPS A	SPS Si	SPS Rw	SPS On	PAS Fr	PAS Fa	GPA
Time 1											
GPA	-.001	.214**	.065	.088	.029	.048	.157*	.121	.037	.185**	.676**
Time 2											
GPA	-.028	.043	.098	.110	.101	.033	.206**	.115	-.051	.119	
SSQ6 N	.527**	.008	.232**	.231**	.239**	.164*	.100	.209**	.311**	.166*	.017
SSQ6 S	.090	.101	.138*	.134*	.240**	.163*	.177**	.178**	.166*	.135*	.117
SPS Ra	.257**	.184**	.401**	.378**	.350**	.315**	.252**	.275**	.326**	.221**	.013
SPS G	.343**	.144*	.475**	.452**	.450**	.252**	.200**	.352**	.310**	.208**	.019
SPS A	.221**	.108	.256**	.268**	.482**	.186**	.204**	.211**	.205**	.097	.136*
SPS Si	.318**	.114	.312**	.282**	.263**	.490**	.190**	.320**	.257**	.192**	-.015
SPS Rw	.231**	.069	.248**	.192**	.258**	.333**	.370**	.309**	.310**	.248**	.081
SPS On	.222**	.161*	.260**	.275**	.323**	.163*	.171*	.545**	.207**	.162*	.115
PAS Fr	.171*	.120	.280**	.308**	.347**	.259**	.220**	.306**	.524**	.140*	-.038
PAS Fa	.177**	.067	.239**	.203**	.253**	.130	.202**	.219**	.211**	.660**	.095
Change											
GPA	.029	.240**	-.017	.001	-.069	.029	-.009	.040	.104	.121	-.159*
PAS Fr	.131	.054	.161*	.146*	.066	.193**	.198**	.035	.451**	.133*	-.011
PAS Fa	.064	.082	.166*	.170*	-.025	.094	.255**	.052	.125	.548**	.046

***p* < .01; **p* < .05

Note. SSQ6 N = availability of global support; SSQ6 S = satisfaction with support; SPS Ra = reliable alliance; SPS G = guidance; SPS A = attachment; SPS Si = social integration; SPS Rw = reassurance of worth; SPS On = opportunity for nurturance; PAS Fr = acceptance by friends; PAS Fa = acceptance by family; GPA = academic achievement.

Multiple regression analysis

Hierarchical regression analysis was used to test the proposed hypotheses. Three models were tested in order to identify the most important dimensions of perceived social support as predictors of university achievement. In order to avoid artificial inflation of the explained variance only those dimensions that were significantly correlated with achieve-

ment were included. All three indicators of academic achievement were considered dependent variables: GPA for first year at university, GPA for third year and change in GPA over time. Gender was included in the first step as a control variable, followed in the second step by dimensions of perceived social support in order to analyze and monitor the effects on each dependent variable. The results are shown in Table 3.

Table 3. Hierarchical regression analysis for perceived social support as a predictor of students' academic achievement in the first and third years of university and the change in achievement over time.

	First year GPA		Third year GPA		Change in GPA over time	
	β Step 1	β Step 2	β Step 1	β Step 2	β Step 1	β Step 2
Gender	-.118	-.097	-.135*	-.131*	-.014	.010
S (t1)		.176**				.241***
Rw (t1)		.084		.190**		
Fa (t1)		.128				
At (t2)				.086		
F	3.046	5.034***	4.049*	5.274**	0.040	6.623**
ΔR^2	.014	.072***	.018*	.050**	.000	.058***
R ²	.009	.086***	.018*	.069**	.004	.058***

****p* < .001; ***p* < .01; **p* < .05

Note. S (t1) = satisfaction with support; Rw (t1) = reassurance of worth (time 1); Fa (t1) = acceptance by family (time 1); At (t2) = attachment (time 2)

The regression analyses yielded significant results. First, the model examining the effect of perceived social support on academic achievement of students in the first year explained 8.6 % of the variance ($F(4, 218) = 5.034, p < .001$). The only dimension of social support that had a statistically significant standardized beta weight was satisfaction with support (time 1) ($\beta = .176, p < .01$), and neither reassurance of worth (time 1) nor family acceptance (time 1) yielded a statistically significant standardized beta weight ($\beta = .084, p > .05$ and $\beta = .128, p > .05$, respectively). The model exam-

ining the predictive role of perceived social support on academic achievement in third year of college accounted for 6.9 % of the total variance ($F(3, 218) = 5.274, p < .01$). Reassurance of worth (time 1) yielded a statistically significant standardized beta weight ($\beta = .190, p < .01$), but attachment (time 2) did not. Finally, the model examining the impact of perceived social support on change in GPA between the first to third year at university explained 4.9 % of the variance ($F(2, 218) = 6.623, p < .01$). Satisfaction with social support (time1) yielded a statistically significant standardized beta

weight ($\beta=.241, p < .001$).

Discussion

The results of this study both confirm and expand on earlier findings regarding the effect of perceived social support to academic achievement in university students. On the basis of the stress-buffering value of support, its potential enhancing influence relative to self-efficacy and academic engagement (Stallman, 2011; Xerri et al., 2017) and features of emerging adulthood in Mediterranean countries, perceived social support was expected to be associated with academic achievement in Spanish university students. Four hypotheses were proposed in accordance with this view. The study findings confirmed the hypothesized association between support and academic achievement, although GPA was only significantly correlated with satisfaction with support, perceived family acceptance and reassurance of worth. The findings are consistent with trends observed in previous studies and also with the assumption that the various sources and facets of support cover different needs and may have different consequences (Cutrona & Russell, 1987; Sarason, Pierce, & Sarason, 1994). The remaining hypotheses were aimed at establishing the predictor importance of the above-mentioned different facets of support on academic achievement. The percentages of explained variance by the models proposed in the present study are similar to those obtained in previous research on psychosocial predictors of achievement for college students (Rodríguez & Coello, 2008; Spitzer, 2000) and, in particular, in those studies reviewed in the present work. Of course, the models reflect only a part of the multiple determinants of achievement.

Our second hypothesis was partly confirmed, as perceived availability of global support was not found to be a significant predictor of achievement, although satisfaction with support predicted GPA of students in the first year and change in GPA (in this case improvement). Sarason, Levine, Basham, and Sarason (1983) aimed to distinguish these two distinct basic elements when designing the SSQ. Availability represents a quantitative, descriptive judgment, more similar to estimates of social network measures, while satisfaction is the perceived adequacy between the support received and our expectations and needs (a quality appraisal) (Rasche, Bruchon-Schweitzer, & Sarason, 2005). The first component is thought to be more stable and the second more closely related to stressful life events (Asberg, Bowers, Renk, & McKinney, 2008; Wills & Shinar, 2000). To our knowledge the present study is the first to consider the satisfaction component when examining the relation between support and academic achievement. Our findings suggest that this seems to have a specific weight on academic achievement during transition to university, which is in line with previous results on the relation of this dimension with academic adjustment, drawing attention to the relevance of perceived adequacy of support in transitional periods (Páramo et al., 2014).

With regard to support provisions, as expected (third hy-

pothesis), reassurance of worth was a significant predictor of GPA, although this effect was only observed in the third year. This may indicate that recognition of one's own competence, skills and value emerge throughout the university experience and is not as influential at the entry stage. Data from the study by Cutrona et al. (1994) with two samples including students from all years indicate similar findings. These researchers proposed a model in which parental social support was expected to influence interpersonal anxiety, which in turn would predict academic self-efficacy and thus condition GPA. All proposed paths were significant, and reassurance of worth was the only component that significantly predicted grade point average for both samples. These results were interpreted in accordance with both buffering and enhancing effects of social support. On the one hand, students whose competence is recognized would be less vulnerable to stress; on the other hand, reassurance of worth would increase self-efficacy, affecting the student's initial attitude and persistence when facing challenging academic tasks.

Our fourth hypothesis was not confirmed. Perceived parental acceptance was not found to be a significant predictor of academic achievement. Probably Spanish university students in general don't feel their parent's acceptance depends on their academic performance. This dimension of support may be more consistent with feelings of personal confidence in forming new relationships and strengthening pre-existing social ties, as suggested by Sarason et al. (Brock et al., 1998; Sarason et al., 1990 a, b). In the view of these researchers, perceived acceptance would influence expectations and attributions concerning relationships, thus fostering positive risk-taking behavior in this field. Moreover, the most evident source of new social relations in the transition to college is student-peer interactions. As Howell et al. (2014) noted, they may be both beneficial and detrimental to student learning.

The present findings help improve our knowledge of how perceived social support may condition the academic success of college students. They suggest that satisfaction with social support and reassurance of worth measures could be used by university counselors and administrators to identify at entry those students at risk of poor academic achievement. In the same way, intervention programmes designed to enhance academic performance, in relation to the specific effects of social support dimensions, may include activities aimed at the creation and management of new, emotionally meaningful and trusting support networks, as well as the maintenance of previous social ties that feed recognition of students' skills, competence and worth.

Nevertheless, the limitations of the study must be taken into account in interpreting the findings. First, the participants attended a single public institution, and it is therefore difficult to generalize the findings to other university populations in other countries. Second, the sample did not include students who dropped out of university, which may have affected the results obtained. Comparison between students who remain and those who leave university would be valuable for identifying any possible differences in their perceived

social support profiles. Finally, although self-reported data is a reliable source of information, future studies should use qualitative methods, such as semi-structured interviews and focus groups, to increase our understanding of how emerging adults perceive their university experience.

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