

Perceived parenting and social support: can they predict academic achievement in Argentinean college students?

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Abstract: The aim of this study was to test the ability to predict academic achievement through the perception of parenting and social support in a sample of 354 Argentinean college students. Their mean age was 23.50 years (standard deviation = 2.62 years) and most of them (83.3%) were females. As a prerequisite for admission to college, students are required to pass a series of mandatory core classes and are expected to complete them in two semesters. Delay in completing the curriculum is considered low academic achievement. Parenting was assessed taking into account the mother and the father and considering two dimensions: responsiveness and demandingness. Perceived social support was analyzed considering four sources: parents, teachers, classmates, and best friend or boyfriend/girlfriend. Path analysis showed that, as hypothesized, responsiveness had a positive indirect effect on the perception of social support and enhanced achievement. Demandingness had a different effect in the case of the mother as compared to the father. In the mother model, demandingness had a positive direct effect on achievement. In the case of the father, however, the effect of demandingness had a negative and indirect impact on the perception of social support. Teachers were the only source of perceived social support that significantly predicted achievement. The pathway that belongs to teachers as a source of support was positive and direct. Implications for possible interventions are discussed.

Keywords: academic achievement, parenting, social support, college

Introduction

Academic achievement in Argentinean colleges is currently characterized by low performance.¹⁻⁴ Passing classes and getting a degree are challenging for many students. Local researchers have started to analyze factors associated with academic achievement in order to provide an answer to this complex issue. The ultimate goal is designing and implementing tailored interventions to improve students' performance.

Traditionally, the study of factors related to academic achievement was mainly focused on the analysis of cognitive variables. Currently, the consideration of non-intellectual factors has taken the lead.^{5,6} Variables related to the students' environment, such as the role played by their parents and the students' perception of social support, have been linked to achievement. Notwithstanding, they are not usually analyzed on the whole, but using univariate statistics.⁷ This approach, despite its interest, is partial when considering that those variables occur simultaneously. Therefore, identifying and describing a feasible model to predict academic achievement, including factors such as perceived parenting and social support, may improve our understanding about the low performance of Argentinean college students.

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Factors related to academic achievement

Although the influence of intellectual variables on students' achievement has been acknowledged,⁸ their ability as predictors in real-world performance seems weak.⁹ In light of this, the focus on the analysis of non-intellectual aspects appears as an interesting proposal.^{5,6}

Most authors highlight the multicausality of academic achievement. Garbanzo Vargas¹⁰ classified them in three groups: personal, social, and institutional. The personal ones include intellectual abilities, personality traits, and psychological symptoms. Social factors encompass the assessment of those settings where students interact: family, peer groups, and residency. The institutional factors refer to the particular features of the organization where studies take place, including whether it is public or private, if classes are taken in the morning, afternoon, or evening, and evaluation methods.

Parents and the students' social support network are considered social factors. However, following cognitive perspectives, if they are defined as the students' perception of the socialization practices they get¹¹ as well as the support they perceive, they should be classified as personal factors. As will be explained in the two following sections, perceived parenting and perceived social support were deemed able in partially explaining academic achievement.

Academic achievement and perceived parenting

Two main dimensions are usually considered when assessing perceived parenting: responsiveness and demandingness. Responsiveness refers to the amount of expressed warmth, affection, and time dedicated to dialogue.¹² Demandingness includes parental strategies to regulate the offspring's behavior by setting limits, prohibitions, verbal and physical coercion, and other expressions of discipline.¹²

When trying to explain how parenting is related to students' performance, two main approaches come out.¹³⁻¹⁵ The first one states that responsive parenting practices contribute to creating a stimulating, supportive, and healthy environment that enhances achievement in their children. The second one understands responsiveness as a protective factor: students that perceive a high parental response will make use of more adaptive ways to cope with stressful situations, thus developing less psychopathological symptomatology.¹⁶⁻¹⁸ It has been stated that students who perceive their parents as responsive show better achievement.^{13-15,19-31}

Conversely, the demandingness dimension has usually been related to worse academic performance. When parents were controlling, demanding, or aggressive, students

did not perform well in school.^{14,16,25,26,32-34} These kinds of parenting practices are thought to inhibit development.¹³⁻¹⁵ Furthermore, highly demanding parents underestimate dialogue, block communication, and development of language skills.¹⁴

Academic achievement and social support

Social support has also been linked to academic achievement. Here, the assumption is that a higher perception of support functions as a buffer against stress.³⁵ In this case the source of stress is the academic environment itself, which has often been considered stressful.³⁶ Research has shown that social support seems to play this buffering role since it improves achievement at all educational levels.^{7,17,37-45}

Predicting academic achievement with applied purposes

The University of Buenos Aires is a public university of Argentina and has the largest enrolment in the country.⁴⁶ Students that want to start a college career are required to pass a two-semester mandatory entry class. Since admission requirements are minimal and tuition is free, classrooms are often overcrowded, even with hundreds of students. This is a major change for high school graduates who are used to more personalized teacher-student relationships. In addition, syllabus and exams are difficult, and most students take more time than expected to pass this entry class. Students' delays in completing this class not only indicate low achievement and a rough transition from high school to college, but also cause the public resources to be misused.

Tailored interventions on variables identified as predictors of academic achievement in this mandatory entry class could lead to the early detection of students at risk of academic failure, thus preventing such failure.^{47,48} The goals of this research consisted of: 1) testing the ability to predict academic achievement through the perception of parenting on the one hand, and social support on the other, in this mandatory entry class, and 2) outlining and testing the fit of a predictive model that included both factors simultaneously in a sample of local students who passed this entry class.

Materials and methods

Participants

Participants were 354 Argentinean college students majoring in different degrees at the University of Buenos Aires (Psychology 59.4%, Nutrition 25.9%, Computer Engineering 6.2%, Public Translator 5.6%, and various 2.9%).

Ages varied from 19–35 years (mean 23.50 years, standard deviation 2.62 years). Most of them (83.3%) were females. Also, the majority belonged to the medium socioeconomic level (78.2%).

The sampling method was nonrandomized; participants were volunteers and were asked to sign an informed consent. Assessment took place in their classrooms. Since passing the two-semester mandatory class is a prerequisite to starting college and all of them were college students, all of the participants had already fulfilled this requirement. Therefore, students who did not pass the class (and consequently did not start their college courses) were excluded.

Perceived Parenting Styles and Parental Inconsistency Scale (EPIPP)

This 24-item scale assesses perceived parenting from the child's perspective, asking how they perceive their parents had raised them. This version was designed to be used in young adults and its psychometric properties have been analyzed by means of a pilot study, expert judgment, exploratory and confirmatory factor analyses, including factorial invariance and cross-validation studies, a test–retest procedure, and Cronbach's α as well as ordinal α .^{49,50} Although this scale allows the calculation of different scores such as parenting styles and parental inconsistency, only the responsiveness and demandingness scores were considered. The responsiveness dimension is composed of 13 items (eg, "My mother/father would have congratulated me if I had obtained a good grade at school"). The demanding dimension is composed of eleven items (eg, "My mother/father would have scolded me if I had left my stuff lying around the house"). All of them are answered using a four-point Likert scale that ranges from one (never) to four (always). Both dimensions were analyzed for both the mother and the father.

Student social support scale

The 15-item version, adapted to the local population, assesses perceived social support taking into account the academic environment. It examines four possible sources of support: parents (eg, "Give me advice"), teachers (eg, "Allow me to ask all the questions I need to"), classmates (eg, "Invite me to join them in their activities"), and best friend or girlfriend/boyfriend (eg, "Helps me solve my problems"). The teacher scale has three items, the rest are composed of four items each. All of them are answered using a four-point Likert scale that ranges from one (never or almost never) to four (always or almost always). Its psychometric quality was studied in a pilot study, expert judgment, exploratory and

confirmatory factor analyses, corrected homogeneity indexes, and Cronbach's α .^{51–53}

Academic achievement in the mandatory entry class

Students were asked about the amount of semesters they needed to pass the mandatory entry class. This mandatory class usually includes six subjects. All students must take Scientific Thinking and State and Society courses. The contents of the other four courses vary according to the degree the student wants to major in. A psychology student for example must take: Psychology, Biology, Math, and Semiotics. Other subjects for students who want to major in other degrees include Physics, Chemistry, Anthropology, Sociology, and Economics. Teachers and classmates are not constant throughout the different classes.

The University of Buenos Aires deems two semesters as the expected time to complete the six subjects included in the mandatory entry class. Considering this, two different categories were found: 1) high academic achievement: students who passed the class in the expected time (two semesters or less), and 2) low academic achievement: students who passed the class exceeding the expected time (three semesters or more).

Results

In order to analyze which variables should be included in the model to predict academic achievement, univariate logistic regressions were calculated. Results showed that only perceived support from teachers was a statistically significant predictor (Table 1). Mother demandingness was just over the bounds of significance ($P=0.051$).

A prediction model for academic achievement was specified taking into account these results and the theoretical background. The pathway started with the perception of parenting (represented by the two dimensions: demandingness and responsiveness), going on to perceived social support (measured in terms of each source of support), and finally on to academic achievement (Figure 1). This was tested separately for the father and for the mother.

The estimation method used was maximum likelihood. A bootstrap procedure that generated 500 random samples was used to examine the stability of the results. Additionally, a Bayesian estimation was calculated because the final variable was dichotomous (high versus low academic achievement).⁵⁴

The model for perceived parenting from the father showed a good fit (goodness of fit index =0.998; adjusted goodness of fit

Table 1 Logistic regression for predicting high academic achievement

High academic achievement	Mother		Father		Mother		Father		Parental		Teachers' social support		Classmates' social support		Best friend or girlfriend/boyfriend social support	
	responsiveness	demandingness	responsiveness	demandingness	social support	demandingness	social support	demandingness	social support	social support	social support	social support	social support	social support	social support	social support
β	0.010	0.039	0.007	0.022	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055
P-value	0.567	0.051	0.681	0.285	0.691	0.691	0.691	0.691	0.691	0.691	0.691	0.691	0.691	0.691	0.691	0.691

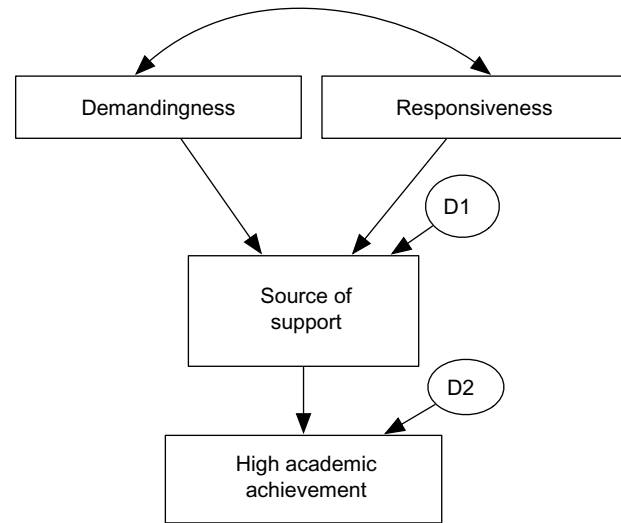


Figure 1 Hypothesized model to predict academic achievement. **Abbreviation:** D, disturbance.

index =0.988; standardized root mean square residual =0.021; comparative fit index =1; normed fit index =0.949; root mean square error of approximation =0 [90% confidence interval 0.000–0.101]). All paths were statistically significant, and parameters by maximum likelihood and Bayesian estimations were similar (Table 2).

All paths had the expected results (Figure 2). Responsiveness had a positive effect on social support, and demandingness had a negative one. Teacher support had a positive effect on academic achievement. The explained variance for academic achievement was 1.8%.

When testing the same model but in the case of the mother, the path from demandingness to teacher support was nonsignificant. In view of this and considering the results of the logistic regressions, where mother demandingness approached the level of significance ($P=0.051$), the model was respecified to measure the direct effect of demandingness on academic achievement. The respecified model showed a good fit (goodness of fit index =0.999; adjusted goodness of fit index =0.996; standardized root mean square residual =0.012; comparative fit index =1; normed fit index =0.983; root mean square error of approximation =0 [90% confidence interval 0.000–0.071]), with all parameters showing statistical significance for maximum likelihood as well as for the Bayesian estimation (Table 3).

Figure 3 exhibits a direct positive effect of demandingness on academic achievement, and an indirect positive effect of mother responsiveness through the perception of social support from teachers. The explained variance for academic achievement was 3%.

Table 2 Predictive model for high academic achievement: the father case

Exogenous	Endogenous	Standardized parameters			P-value	Non-standardized parameters	
		Mean	Inferior	Superior		ML	Bayes
Father responsiveness	→ Teachers' social support	0.190	0.081	0.284	0.004	0.020	0.020
Father demandingness	→ Teachers' social support	-0.115	-0.216	0.001	0.052	-0.016	-0.016
Teachers' social support	→ High academic achievement	0.134	0.031	0.243	0.018	0.095	0.093

Abbreviation: ML, maximum likelihood.

Discussion

The main goal of this research was to test the ability to predict academic achievement in a mandatory entry class required at the start of college with a model that included perceived parenting and social support simultaneously. Initially, univariate logistic regressions were carried out to outline the model. Despite the fact that perceived parenting was supposed to be directly associated to academic achievement,^{13–15,19–29} only mother demandingness was shown to be almost significantly related. This lack of statistical significance may be due to two main elements.

Firstly, participants were college students and not elementary or high school students, as in most studies previously referred to.^{13–29,32–34} Differences in the age group studied seem to be one of the causes. Developmental issues may play a major role in these results. It seems logical that the statement about the direct influence of parenting in children and adolescents' achievement might not be extended to young adulthood. The influence of

perceived parenting may decline as students grow up and its effects remain only through secondary variables.

Secondly, measures of academic achievement could also have introduced dissimilarities. The indicator employed here was passing a mandatory entry class as a prerequisite for admission to college within the stipulated time (two semesters). Former studies, on the other hand, measured performance through school tests or grade point average.^{13–29,32,34} The use of grade point average was not possible in this research since access to the university records is extremely difficult due to confidentiality restrictions set forth by the institution. In this matter, it must also be remarked that reliability of the self-report measure is a limitation that could influence the results as well.

As for perceived social support, teachers were the only source related to academic achievement. This arises as a finding of interest for Argentinean educators if you consider the characteristics of local public education. Since admission to this mandatory entry class is not selective and almost any resident with a high school diploma can take it, classes are crowded often with hundreds of students. This has a high impact on the student–teacher relationship, since the teachers are hardly available to students. However, these results show that teachers do play an important role in students' performance in this entry class. As evidenced by previous research, social support enhanced academic achievement, probably by buffering the stressful conditions of academic life.^{7,17,35–45}

Proceeding now to the interpretation of the prediction models tested by path analyses, where the variables were studied jointly, it must be noted that fit indexes were adequate. The root mean square error of approximation index was zero because χ^2 was less than the degrees of freedom in both models. This means that the models were perfectly specified reflecting exact model fit.⁵⁵

When observing path analyses, relationships within variables became clearer. In both models, responsiveness favored the perception of support from the teachers who, additionally, had a positive impact on academic achievement. It seems reasonable that students with parents that provided loving and supportive environments, where dialogue was valued, seek or perceive similar bonds with other important

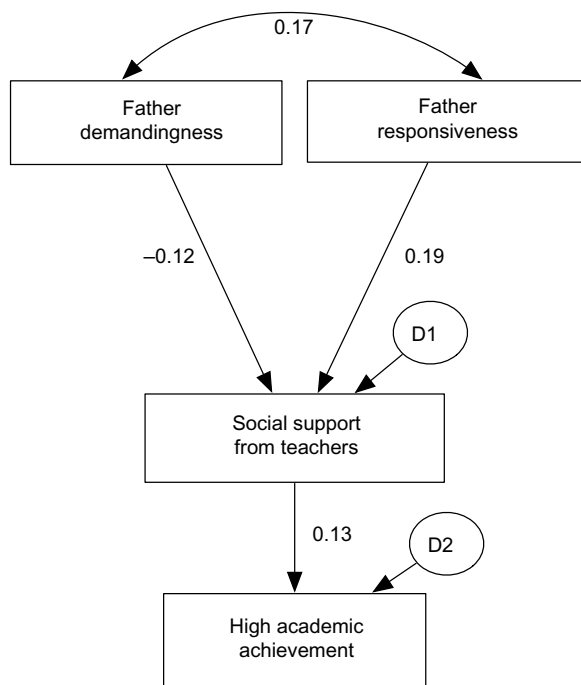


Figure 2 Predictive model for high academic achievement: the father case.

Abbreviation: D, disturbance.

Table 3 Predictive model for high academic achievement: the mother case

Exogenous	Endogenous	Standardized parameters			P-value	Non-standardized parameters	
		Mean	Inferior	Superior		ML	Bayes
		Mother responsiveness → Teachers' social support	0.199	0.085		0.306	0.004
Teachers' social support → High academic achievement	0.134	0.035	0.242	0.013	0.095	0.095	
Mother demandingness → High academic achievement	0.105	0.016	0.199	0.028	0.009	0.009	

Abbreviation: ML, maximum likelihood.

socialization agents – the teachers. This leads to an enabling college performance.

Demandingness played a different role in each model. In the case of the father, the negative indirect path from demandingness to academic achievement ran in the same direction as previous studies,^{14,16,25,26,32–34} ie, a high perception of demandingness was related to low achievement through the perception of social support. Surprisingly, in the mother model, demandingness had a direct positive effect on academic achievement. Suggesting any conclusions from these analyses is daring, for they would be inconsistent with previous research as well as theoretical hypotheses which state that a higher perception of demandingness should be linked to a lower achievement. Again, this inconsistency may relate to the two points mentioned above: the age group and the measuring method employed for academic achievement.

When considering the limitations of the study, one rests on the female prevalence in the sample. However, this disproportion represents pretty accurately the picture in an

Argentinean college population.⁵⁶ Also, students who did not pass the entry class were left out and no information was retrieved regarding the delay in completing the class due to medical or other reasons. This could bias the results obtained. Plus, although the University of Buenos Aires expects that all students complete this class in two semesters, only two of the six courses are the same for all of them. The remaining four differ according to the degree they want to major in. Dissimilarities in the difficulty of the content could play a role in the delay in completing the mandatory entry class.

Moreover, the low explained variance in the predictive model must be remarked upon. This was not surprising since predictors included here were supposed to be significant but stated to estimate academic achievement only partially. The study never intended to explain the achievement completely. Actually, Cobb⁵⁷ stated, for instance, that although social support functions as a protective factor, it is not an absolute solution against personal discomfort and large main effects should not be expected. Notwithstanding the low variance, it must be pointed out that all paths were statistically significant and went in the expected direction according to the theoretical and empirical background.

When thinking about the implications of these findings, the suggestion of interventions on parenting may seem controversial. Nonetheless, there is an increasing interest in parenting training programs aimed at promoting healthy socialization practices.^{58,59} Although discussing these programs is beyond the aims of this paper, it seems interesting to point out that it is possible to teach people how to raise their children in ways that will probably impact on their general adaptation and particularly on their performance in college.

Regarding the idea of empowering teacher support, the space for tutoring hours comes up. Providing a space that promotes student–teacher interactions could benefit academic achievement since students' perception of feeling supported may increase. Indeed, tutoring has been found to constitute a factor linked to a better academic performance.^{44,60,61} Additionally, tutoring does not necessarily entail a big money expense since brief training has shown to have a later positive impact in students' autonomy in the school.⁶²

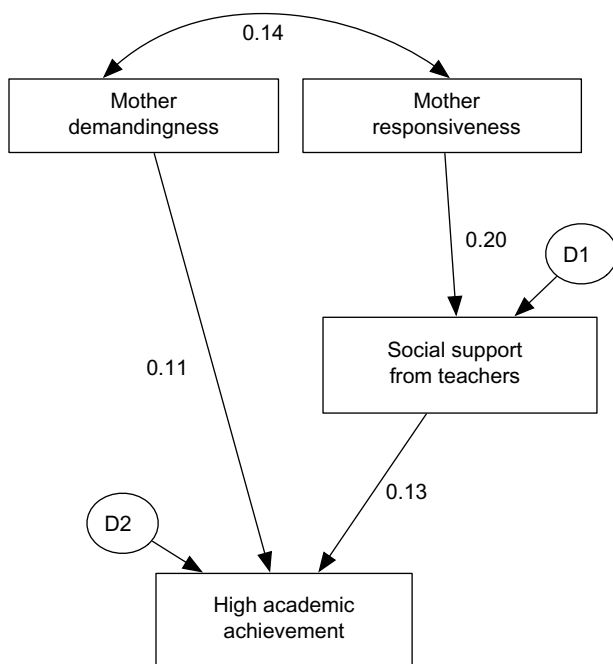


Figure 3 Predictive model for high academic achievement: the mother case. **Abbreviation:** D, disturbance.

In this matter, Argentinean public colleges provide more ideas than concrete facts.⁶³ Although tutoring should be regular practice and college authorities acknowledge this need, currently there are no tutoring spaces available for students. Implementing this type of support would allow high school graduates to experience a more mellow and guided transition to college, generating more independent students. Tutoring could function as a buffer to the stress implicit in a demanding syllabus and difficulties in seeking teachers' advice due to overcrowded classes.

Since teachers appear to play a more important role in students' success in this mandatory entry class than formerly thought, the teachers ought to be the focus of any intervention. Incorporating more teachers so that the responsibility of instruction does not lie just with one person could be another feasible strategy to enhance the perception of teacher support. This does not necessarily imply a big expense since many recently graduated professionals are willing to collaborate as teachers in the public university they graduated from. Assisting the teacher in charge of the course is important for their own learning since it involves the opportunity to interact and learn from someone with more experience in the field and consolidate theoretical concepts, ie, it provides a role in which recent graduates can continue their professional training.

Future research may test the effectiveness of the implementation of tutoring hours or the inclusion of assistants to the teachers in the classroom. Also, since variance was low, new studies should examine the role of other non-intellectual variables in order to increase knowledge on the multicausality of academic achievement.

Disclosure

The authors report no conflicts of interest in this work.

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