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Take Care of Well-Being: How Facilitators and Engagement Predict Performance of University Students

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Abstract

The interest in developing a high quality educational system requires constant research of the variables involved in the teaching-learning process. Among these variables, social and academic facilitators are important because there is empirical evidence about their positive relationship with engagement, commitment, self-efficacy, happiness and satisfaction in the academic context. Moreover, the psychological well-being of university students (i.e., engagement) showed to positively affect future academic success. In line, the aim of this study is twofold. First, the relevance of social and university academic facilitators was analyzed depending on the faculty of belonging. Second, the effect of social (e.g., Good relationship with classmates) and academic facilitators (e.g., Updated website with new information and easily accessible) as well as academic engagement on academic performance (i.e., GPA) was tested. The sample consisted of 965 University students. The ANOVAs' results showed the existence of statistically significant differences in social and university academic facilitators among the different faculties. Regression analyses demonstrated that social (but not university's) facilitators and academic engagement were positively related to academic performance. Additionally, the interaction between social facilitators and academic engagement was positively related to academic performance. The effect was also significant when controlling for gender and faculty. The identification of different facilitators allows to develop different activities depending on the faculty, as well as leading to the optimization of teaching-learning process. Moreover, academic facilitators do not affect academic performance. From a practical view, it means that specific interventions can be implemented during the course so that students' social facilitators and engagement increase.

Keywords

University students, Well-being, Academic Engagement, Academic Facilitators, Social Facilitators.

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1. Introduction

Improving education systems is an important goal in all countries, due to the particular importance of education in personal and professional development of individuals. Specifically, the university systems are of unique interest because, through university, education is trying to develop the skills that will ensure future job success between current students. Therefore, it is important to optimize the teaching-learning process through the study of the variables that have an impact on this process. The nature of the university setting focuses on long periods of learning and evaluation creates an environment where students are faced with ongoing challenges and pressures to meet deadlines and maintain high performance. Research has shown high levels of stress in university students but little research has focused on the link between the academic environment of university students, their levels of well-being and academic performance.

Then, the aim of this study is twofold. First, analyze the facilitators perceived by students: social facilitators (e.g., Good relationship with classmates) and academic facilitators (e.g., Updated website with new information and easily accessible) depending on the faculty of belonging. We hope that facilitators are different in each faculty. Second, test the effect of social and academic's facilitators, as well as academic engagement, on academic performance (i.e., GPA).

1.1 Facilitators and Academic Performance

Facilitators are defined "as the aspects of the situation that may promote performance or one's ability to optimally perform one's job (or study)" (Salanova et al. 2010, pp 55). Following Job Demands-Resources (JD-R) model (Bakker and Demerouti 2007), facilitators are similar to resources (e.g., autonomy, supportive team climate), but they are more specific for the educational situation (Salanova et al. 2010). In the teaching-learning process, facilitators refer to factors related to the University or academic facilitators (e.g., services, availability of scholarships), to teachers and fellow students or social facilitators (e.g., solidarity, comradeship, social support), and to themselves or personal facilitators (e.g., motivation

towards studies) (Salanova et al. 2005). Previous research showed differences in perceived facilitators for students from different faculties (Salanova et al. 2005; Peñalver et al. 2013, Martínez et al. 2014). We therefore expect that:

Hypothesis 1: Facilitators (i.e., social and academic) will show differences depending on the faculty of belonging.

Facilitators have been shown to play role in burnout, engagement, satisfaction, performance, self-efficacy and commitment (Salanova et al. 2005; Salanova et al. 2010). Specifically, in the academic context a greater perception of facilitators was found to be related to lower levels of cynicism, and greater levels of happiness, commitment with the university, efficacy in studies and satisfaction. In addition, they are related to smaller tendency to abandon studies and higher levels of vigor and dedication (Salanova et al. 2005). Although in the preview literature only personal facilitators have been found to correlate positively and significantly with academic performance (Salanova et al. 2010), recent research shows the importation of variables associated with student social support and positive relationship for increase academic performance (Meneghel et el. 2015). In this sense, we consider that facilitators act as resources: perception of high levels of social and academic facilitators help to address the academic demands and affect students' performance. Thus, students use facilitators to solve problems and difficult situations related to their studies and get a good performance. We therefore expect that:

Hypothesis 2: Facilitators (i.e., social and academic) will be positively associated with academic performance.

1.2 Academic Engagement and Academic Performance

Academic engagement may be considered as an indicator of well-being in academic context, and it is defined as a positive psychological state characterized by vigor, dedication and absorption toward education (Schaufeli et al. 2002). Previous research showed that engagement is positively related to satisfaction (i.e., with professors, with studies, with faculty, with university), happiness, and commitment with the university (Salanova et al. 2005),

organizational facilitators, personal facilitators, social facilitators (Salanova et al. 2010), academic resilience and academic self-efficacy (Martínez et al. 2014). As discussed above, engagement is identified with a positive motivational state by which performance enhancing mechanisms are activated. Specific to the university setting, in their study among university students from Spain, Portugal, and the Netherlands, Schaufeli and colleagues (2002) found that academic engagement was positively related to academic performance (measured as the number of passed exams relative to the total number of exams done). More recently, Bakker and colleagues (2015) showed the relevance of student engagement as a psychological process in education that facilitates performance in a diary study. In fact, engaged students are intrinsically motivated to advance in learning, attend classes, and participate in activities related with their study. They are usually curious persons, ask questions, and enjoy challenges related with their learning. Vigorous, absorbed and dedicated students are energetically immersed in their studies, which makes them successful as well (Salanova et al. 2010).We therefore expect that:

Hypothesis 3: Academic engagement will be positively associated with academic performance.

Previous literature showed that there is a linear relationship between facilitators, engagement and performance (Salanova et al. 2010), in the sense that academic engagement mediates the relationship between facilitators and future performance (i.e., GPA). Chambel and Curral (2005) showed that student's well-being also mediated the relationship between control and performance. Then, well-being is a variable than can explain significant relationships enhancing or reducing the effect of the facilitators on performance. However, there is reason to believe that reciprocal interactions among supportive context, with high levels of academic and social facilitators, and student engagement are also relevant for academic outcomes (Furrer et al. 2006). In this study, we propose that academic engagement acts as a moderator of the relationship between the perception of facilitators and academic performance, in the sense that when academic engagement is high, facilitators have a stronger relationship with academic performance. We therefore expect that:

Hypothesis 4: Academic engagement will moderate the relationship between perception of facilitators and academic performance such that when academic engagement is high, facilitators have a stronger relationship with academic performance.

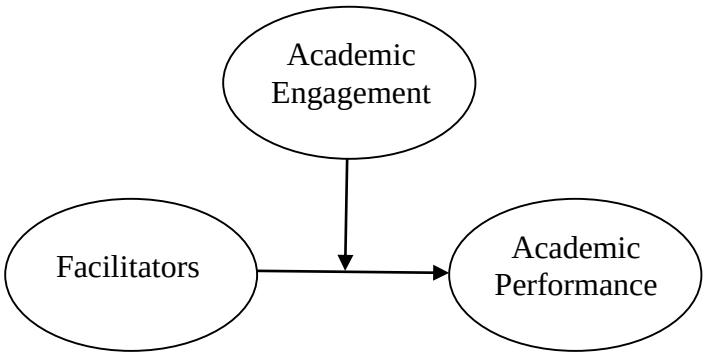

Figure 1. The proposed model of the study.

2. Method

2.1 Sample and Procedure

A stratified sample of 965 students (59.3% female) was drawn from undergraduate students of Jaume I University in Castellón (Spain). The students belonged Faculty of Human and Social Sciences (FHSS, 37.7%), Faculty of Health Sciences (FHS, 16.8%), Faculty of Law and Economics (FLE, 22%) and School of Technology and Experimental Sciences (STES, 23.5%). Regarding the course they were doing, 31.5% were in the first year, 39.8% in the second, 21.1% in the third, 6.7% in the fourth, and 1% were in their fifth year.

To conduct the study, the research team designed a questionnaire containing the study variables. This questionnaire (which required 20 minutes to administer) was completed by students in the classroom. Participants completed the questionnaire by answering questions regarding their academic activity. Participation was voluntary, and confidentiality was guaranteed to all respondents.

2.2 Measures

Facilitators. An inventory was composed of two sets of items: social facilitators (five items) and academic facilitators (eight items). Item examples include: Indicate how important these facilitators in your role as a student are: "Updated website with new information and easily accessible (e.g., institutional mail etc.)" and "Good relationships with professors" respectively. All items are scored on a 5-point importance rating scale ranging from 0 (Not important at all) to 4 (Very important).

Academic Engagement. Engagement was measured by short versions of the Utrecht Work Engagement Scale (Schaufeli et al. 2006), which was previously validated for students (Schaufeli et al. 2002). The vigor, dedication, and absorption dimensions were each measured by three items (item examples include "When I'm doing my work as a student, I feel bursting with energy.", "My studies inspires me", and "I am immersed in my studies"). All items were rated on a seven-point Likert scale that ranged from 0 (never) to 6 (every day).

Academic performance. Performance was assessed by the GPA given from the university data, which ranges from 5 to 10. The GPA obtained, comprised from the beginning of the students career to the second evaluation of the current semester. The GPA was obtained 4 or 5 months after the questionnaire was filled. The participant's permission was obtained for receiving their GPA from the University database.

Control variables. Previous researches show the effect of socio-demographic variables (Martinez el al. 2014). Therefore we consider gender and faculty of belonging as control variables.

2.3 Data Analyses

In order to achieve our objectives, descriptive analyses and internal consistence of scales were computed. Also, correlations of all the variables were calculated. Afterwards, analysis of variance ANOVA, and post hoc tests (DMS) were performed to show differences related with gender and facilitator perceptions between faculties. Finally hierarchical multiple regression analyses were conducted using the method of successive steps (Cohen and Cohen 1983), using

as dependent variable academic performance. The independent variables entered in the equations in three successive steps (Aiken and West 1991). In the first step, gender and faculty were introduced. In the following step, academic facilitators, social facilitators and academic engagement were introduced. Finally, in the third step, we included the two-way interactions of the independent variables (academics facilitators x engagement and social facilitators x engagement).

3. Results

3.1 Descriptive analyses

Table 1 shows means, standard deviations and correlations. The coefficient (Cronbach's alpha) of academic engagement was α = .87. For facilitators values of Cronbach's α were not computed because instead of referring to an underlying latent factor both are sets of basically independent environmental or social factors. Correlations were significant and in the expected direction. As expected, academic facilitators are significantly positively correlated with academic engagement; however they do not correlate with the academic performance. On the contrary, social facilitators are significantly positively correlated with both academic engagement and academic performance. Also as expected, the interrelations among academic engagement and academic performance are positive.

Table 1. Means, standard deviations and correlations for the study variables (N = 965)

	Variable	M	SD	1	2	3
1	Academic facilitators	3.48	0.51			
2	Social facilitators	3.04	0.56	.55**		
3	Academic engagement	3.69	0.95	.18**	.26**	
4	Academic performance	7.00	0.85	ns	.18**	.21**

***p < .01*

The results of ANOVA show significant differences in facilitators when we consider the faculty of belonging: perceptions of academic facilitators ($F= 2.79$; $p < .05$); social facilitators ($F= 15.71$; $p < .001$); and engagement ($F= 10.31$; $p < .001$). The Faculty of Human and Social Sciences show highest level of both facilitators (Figure 2). The Faculty of Law and Economics shows the lowest levels of social facilitators and The School of Technology and Experimental Sciences show lowest levels of academic facilitators. Significant differences were found also when the gender is considered. Women perceive more academic and social facilitators ($F= 52.72$; $p < .001$ and $F= 26.13$; $p < .001$ respectively). Also, women present significantly higher engagement levels ($F= 17.81$; $p < .001$). Then, we consider faculty and gender as control variables in regression analyses.

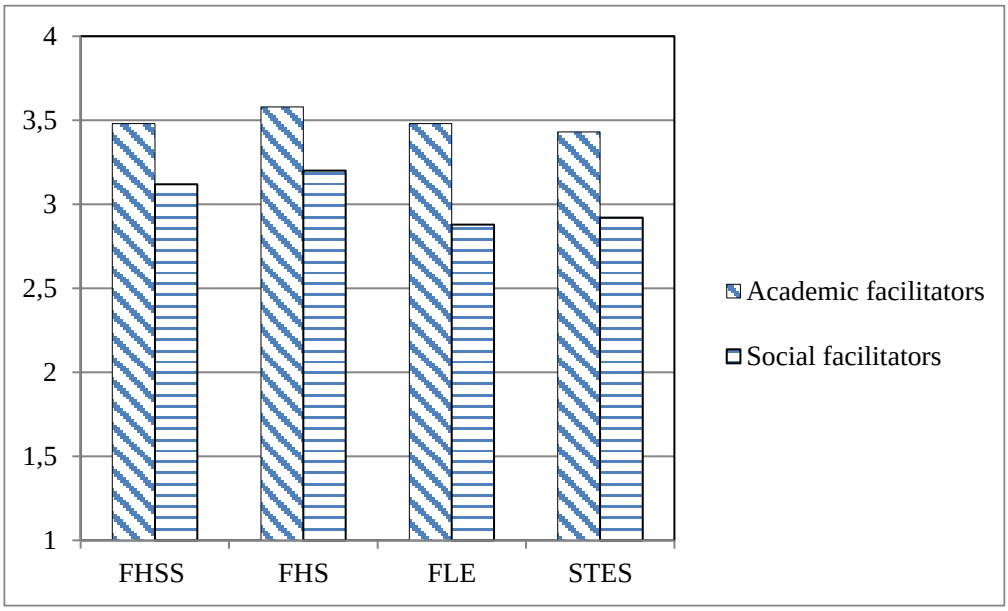

Figure 2. Academic and Social Facilitator in four faculties: FHSS, FHS, FLE and STES

3.2 Regression analyses

Overall, we found substantial support for our hypotheses. Results of regression analyses show an increase of variance explained in the successive steps, showing the importance of considering step 3 to evaluate the interaction effect. Regarding the results, considering academic performance as a dependent variable, we observe a main positive effect of faculty (β

= .26, p < .001), social facilitators (β =.55, p < .001) and engagement (β = .70, p <.005) on academic performance (Table 2). These results support H2 and H3. Moreover, results showed a significant interaction effect of social facilitator and engagement (β = -.90, p < .001), which provides partially support H3.

The significant interaction effect of social facilitators and academic engagement is graphically represented in figure 3, following the method recommended by Aiken and West (1991) and Jaccard, Turrisi and Wan (1990). Values of the moderator were chosen 1 SD below and above the mean. Entering these values in the regression equation generated simple regression lines.

Table 2. *Hierarchical multiple regression analysis of gender, faculty, academic and social facilitators and academic engagement on academic performance (N= 965)*

Variables	β	R^2	R^2change
Step 1		.10	.10***
Gender	.07*		
Faculty	.29***		
Step 2		.14	.04***
Gender	.05		
Faculty	.26***		
Academic facilitators	-.05		
Social Facilitators	.11**		
Academic engagement	.15***		
Step 3		.16	.02***
Gender	.04		
Faculty	.26***		
Academic facilitators	-,10		
Social Facilitators	.55***		
Academic engagement	.70**		
Acad. facilitators X acad. engagement	.13		
Soc. facilitators X acad. engagement	-.90***		

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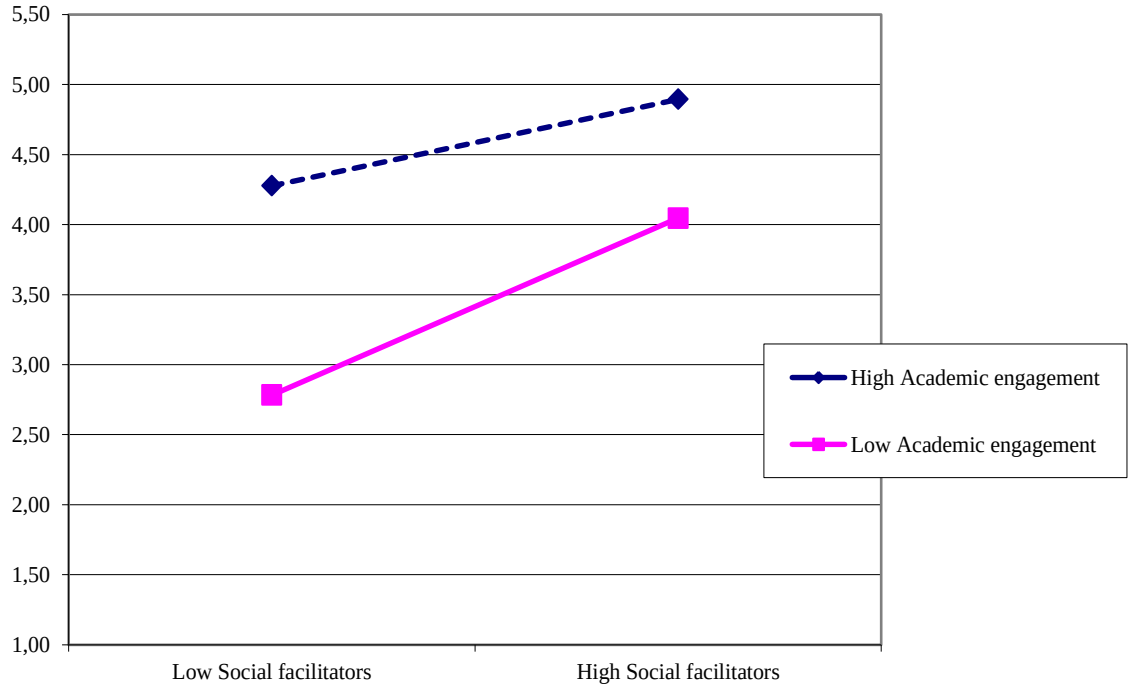

Figure 3. Two-way interactions effect of social facilitators and academic engagement on academic performance

When social facilitators' level is low, students have low levels of academic performance. However, when social facilitators are high, the effect on academic performance is different in relation to the academic engagement level. The results show higher levels of academic performance when academic engagement is high (1 SD above the mean score) in both cases, for high and low levels of social facilitators. Also, for students with low level of social facilitators (1 SD below the mean score), results show that when their level of academic engagement is higher, their level of academic performance increases. A different picture is showed for students with low level of social facilitators (1 SD below the mean score) and low level of academic engagement. Moreover when student show high levels of academic engagement, the effect of low social facilitators is damped and the effect of high facilitator is enhanced.

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4. Discussion

The interest in developing a high quality educational system requires constant research of the variables involved in the teaching-learning process. Among these variables, social and university's facilitators are particularly important because there is empirical evidence about their positive relationship with engagement, commitment, self-efficacy, happiness and satisfaction in academic context (Salanova et al. 2005). Thus, the first aim of this study was to analyze the relevance of social and university's facilitator depending of the faculty of belonging. As expected (Hypothesis 1) we found significant differences between faculties, that is: in the Faculty of Human and Social Sciences there are highest levels of both facilitators (i.e., social and academic), whereas the lowest levels of social facilitators are in the Faculty of Law and Economics and the lowest levels of academic facilitators are in the School of Technology and Experimental Sciences. Then, our results showed how social (but not academic) facilitators are antecedents of academic performance, supporting Hypothesis 2. Including academic engagement as an indicator of psychological well-being of university students, we also confirm that it is an antecedent of academic performance over time, supporting Hypothesis 3. Finally, the test of the interaction effect between facilitators and engagement showed that only the interaction between social facilitators and academic engagement is significant, whereas the interaction between academic facilitators and academic engagement isn't, partially supporting Hypothesis 4.

4.1 Theoretical contributions

A lot of studies have analyzed the teaching-learning process focusing on the internal variables of the process (e.g., curriculum, didactic strategies) and there are fewer studies that focused on psychosocial and academic variables (e.g., facilitators, obstacles). To identify these psychosocial and academic variables permits to comprehend the teaching-learning process from a broader point of view. Furthermore, to understand the effect of these variables on the well-being and performance of students allows carrying out interventions directed to improve this process.

The present study represents a step forward with respect to previous research into academic context in several ways. First, we could conclude that there are different kinds of facilitators (i.e., social and academic) which are identified as such by most students and that there are differences in their levels in terms of the different faculties. Although this result has clear and useful implications at practical level, it is also theoretically relevant. In fact, on one hand this result showed which specific facilitators could be provided to help students during their courses, and on the other, future research can study the psychological differences that characterized students depending on faculty belonging, which affects the perception of academic and social facilitators. These results updated previous findings about relevant facilitators and their implications on well-being and performance (Salanova et al. 2005; Salanova et al. 2010). These findings must be constantly revised and actualized. In fact, the academic context is suffering continuous changes, as curriculum goals that have become more academic and skill-oriented (Shoshani and Steinmetz 2014), the Bologna treaty about the European higher education area, and new challenges in the use of information and communication technology. In this sense, to identify specific facilitators relevant in each context is fundamental.

Second, whereas previous studies found that engagement fully mediated the impact of facilitators on future academic performance (Salanova et al. 2010), in this study we test their interaction, examining how academic engagement moderates the relationship between social facilitators and performance. Taking separately, our results indicate that student with higher levels of social facilitators tend to achieve better performance, and the same occur for students with higher levels of engagement. However, when these antecedents are taken together, results showed that students attain better performance when social facilitators and academic engagement were high. This is relevant because, as suggested by Furrer and colleagues (2006), we confirmed that there is an interaction effect between contextual variables and engagement to performance.

Finally, the results indicate that academic facilitators, which are more related to the physical context or university infrastructure, do not affect academic performance. In this sense, and

contrary to our expectations, these kinds of facilitators are not relevant for students to achieve better performance, or at least not as important as the social ones.

4.2 Implications for practice

The findings of this study reveal that students' social facilitators and academic engagement are key factors in achieving academic performance. In terms of practical implications, we conclude with a few suggestions.

First, from an educational point of view, specific interventions can be implemented during the course so that students' social facilitators and engagement increase. As Fredricks and colleagues (2004) suggested, most educational interventions are aimed at increasing achievement without taking into account the importance of students' engagement. However, effective interventions should attend to this important variable, focusing on its antecedents to help its development. In this sense, efforts from teachers and family (which are social facilitators as well) may help students to improve their engagement (Bakker et al. 2015). For example, it is possible to reduce student's fear of failure through positive reinforcement and frequent feedback (Caraway et al. 2003), which also influence positive emotions that are relevant for academic engagement (Reschly et al. 2008).

Second, this study focuses on issues that directly affect the quality of learning and psychological well-being of university students, as facilitators are. In this sense, taking into account facilitator by faculty of belonging was a key issue in proposing and carrying out the improvement of educational quality at a practical level. It is important to note that social facilitators, and not academic, are relevant in this sense. Thus interventions may be especially directed toward enhance relationship with teachers and classmates, in order to assist the development of social support ties.

4.3 Limitations and future directions

This study has several limitations which highlight important avenues for future research. With the exception of academic performance rates (i.e., GPA), perhaps the clearest limitation is the use of self-reported data, which increases the risk of common method bias (Podsakoff et al. 2003). We tried to minimize such errors by differentiating the response scales for each of these variables, as suggested in Podsakoff and colleagues (2012).

Another limitation of the present study is that data are cross-sectional, with the exception of the GPA, which is collected at a different point in time (i.e., between 4 and 5 months later). Although SEM analysis gives some information about the possible direction of the relationships, cross-sectional study designs do not allow one to draw firm conclusions regarding the causal ordering among the variables studied (i.e., moderation effect). Clearly there is a need for longitudinal studies that may allow stronger causal inferences to be made about the relationship between facilitators, engagement, and performance.

In addition, although the sample of the study came from four different faculties and a number of degrees, our results are based on a sample from the same university. Thus, the results need to be replicated in different universities in order to allow our findings to be generalized to broader academic contexts.

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