The triple role of university academic staff and its effects on students' satisfaction: contractual tie and gender contextual analysis

Josep Llach

Department Organització, Gestió Empresarial i Disseny de Producte
Universitat de Girona, Girona, Spain

Frederic Marimon

Department of Economy and Business Organization
Universitat Internacional de Catalunya, Barcelona, Spain

ABSTRACT

The university academic staff is a key element of the quality of universities. Therefore, it is essential to understand if performance in their three possible roles (teaching, research and management) affects the learning process of students and, more specifically, their satisfaction. A database of 992 satisfaction surveys conducted at the University of Girona was used to show that not all the roles affect these two aspects in the same way and that contextual factors such as contractual tie and gender are also significant.

1. Introduction

The assessment of university quality has become a significant issue for both university academic staff and university managers. In recent years a quality-based framework has been devised for assessing the quality of the university system. The Spanish universities are no exception in this worldwide trend and they have quickly moved from a classical model (a teaching university) to a modern one in which research is essential (Garcia-Berro et al., 2016).

The academic members of staff are obviously a key element in the quality of our universities because they are not only in charge of teaching students, but they also actively participate in research activities (Bentley et al., 2013). Every so often, the academic staff can apply for both their teaching and research performance to be officially recognized in merits. Obtaining official merits is viewed as a valid measure of performance since it considers a professional career over time and as such is a validation instrument that is widely recognised by the Spanish university community (Garcia-Berro et al., 2016). National public bodies are responsible for recognizing merits in teaching and research, which give academic staff the chance to receive pay bonuses and apply for better positions in the university.

In addition, there is a third role that some academic staff temporarily assume, and this is a management role. While both teaching and research are intrinsic roles for all university academic staff, the management role is not mandatory for everyone. Academic members of staff hold management responsibilities only in certain periods of their professional career.

This triple responsibility means that academic staff must find a balance among the three roles and managing their time among them becomes an important issue. Indeed, the balance among the three roles and how they influence the learning process of students is the main objective of this research paper. We are particularly interested in understanding how the experience of academic staff, mediated by teaching, research and management merits, impacts on the satisfaction of students.

Pursuant to this objective, the remainder of the paper is organised as follows. The second section provides a review of the literature and raises the hypotheses of the working model. The employed methodology is explained in the third section. The fourth and fifth sections present and discuss the results obtained, and the theoretical and practical implications are presented in the conclusion.

24

2. Literature review

2.1. Teaching experience and students' satisfaction

There is widespread consensus that the more experienced the academic staff member, the better their teaching performance is (Drule et al., 2014). It should be a given that previous experience provides academics with the tricks of the trade of how to better gain students' attention and consequently increase their satisfaction (Berbegal-Maribent et al., 2018). However, there are few studies that demonstrate this cause-effect relationship.

Prieto and Altmaier (1994) explored the effects of previous teaching experience, among other factors, on the teaching self-efficacy of graduate teaching assistants. Similarly, Shannon et al. (1998) analysed the impact of training and teaching experience in light of the fact that teaching assistants are taking on more responsibility in instructing undergraduate students due to the lack of stable full-time faculty positions. In both studies the authors concluded that the lecturers with previous teaching experience rate more positively than those without such teaching experience.

More recently, Berbegal-Maribent et al. (2018) analysed the mediating role of research intensity in the relationship between teaching experience and students' satisfaction, concluding that the research effort "competes" fiercely with teaching commitment. Accordingly, we hypothesise that:

H1: Greater teaching experience positively influences students' satisfaction.

2.2. Teaching experience and merits in teaching, research and management

The three roles of the academic staff in Spanish universities can be officially recognized in terms of merits in teaching (five-year terms), research (six-year terms) and management.

In Spain, and specifically in the region of Catalonia, the official national agency responsible for assessing teaching and research merits is different depending on the work contract of the academic staff. For the civil servant academic staff the body responsible for evaluating academic and research activity is CNEAI (ANECA, 2019), within ANECA. For academic staff with a non-civil servant contract the body responsible for assessing academic and research activity is the official Catalan Agency AQU (2019). The merits in management are assessed by each university based on a pre-agreed accumulated point scale.

Since obtaining merits depends on the performance of the academic staff over a certain period of time, clearly the number of merits recognized should be correlated with the length of the academic career. Therefore, beyond the performance of each academic, the longer their career in the university the more likely it is for each academic member of staff to have obtained official merits in teaching, research and management. Accordingly, we hypothesise that:

H2: The academic staff members with more teaching experience are more likely to have more merits

H2a: The academic staff members with more teaching experience are more likely to have more merits in teaching

H2b: The academic staff members with more teaching experience are more likely to have more merits in research

H2c: The academic staff members with more teaching experience are more likely to have more merits in management

2.3. Merits in teaching, research and management and students' satisfaction

To improve the skills of its academic staff the university values and stimulates good teaching and research because when a teacher is committed to teaching excellence they will be highly valued by the students (Xiao and Wilkins, 2015). According to Berbegal-Maribent et al. (2018), the greater the teacher's motivation, beyond other skills such as good communication or feeling what they teach, the more effective is the students' learning. Therefore, the motivation of the teacher should be determinant to achieve greater student satisfaction.

According to Garcia-Berro et al. (2016), the research merit is considered as an unquestionable measure of the quality of the research activity. However, they question whether this excellence in research is correlated with a high performance in teaching, concluding that there is a correlation but not as high as they would have expected. In fact, the relationship between teaching and research activities has long been a controversial issue in the field of higher education management (Halse et al., 2007; Robertson and Bond, 2005). However, they are expected to be mutually reinforcing when the two activities are observed from a learning process perspective (Burke and Rau, 2010). Accordingly, we hypothesise that:

H3: A higher number of merits positively influences students' satisfaction

H3a: A higher number of merits in teaching positively influences students' satisfaction

H3b: A higher number of merits in research positively influences students' satisfaction

H3c: A higher number of teaching merits in management positively influences students' satisfaction

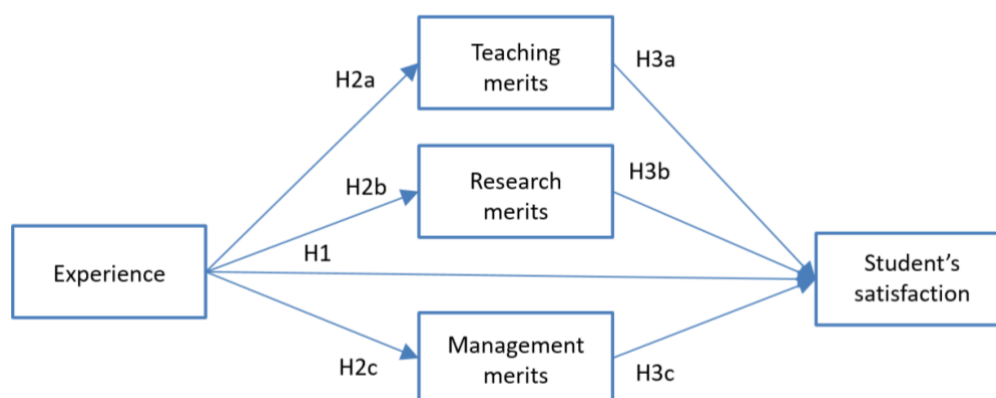Once the hypotheses have been raised, the whole proposed model is presented in Figure 1.

Figure 1. Proposed model.

3. Methodology

The database used to pursue the main objective of the present paper comes from the University of Girona. The University of Girona is a higher education institution located in the city of Girona in the region of Catalonia. The data is from the academic year 2015/2016. At that time, more than 14,000 students were enrolled at the University of Girona, distributed among bachelor's and master's degrees.

Specifically, two sources of data were used. The first was the professional information related to the full-time academic staff of the university, which included experience as academic staff in the university (in days), gender, contractual tie and recognition of academic, research and management roles (in number of periods). And the second was the satisfaction surveys that all the students must fill out for each subject they have taken during the academic year. In total, the number of questionnaires completed during the 2015/2016 academic year was 4,468.

However, since the structure of the satisfaction surveys for bachelor's and master's degrees was different and the total number of bachelor's degree students much higher, our analysis was limited to the bachelor's degrees. In addition, following Berbegal et al. (2018), on considering the values collected in the satisfaction surveys as representative,

we established a minimum response rate of 15% in the questionnaires to consider them as representative.

In summary, the sample used for this study was made up of 992 surveys from 491 full-time academic staff. Table 1 presents the descriptions of the sample. By knowledge area, most of the surveys were from the fields of engineering and architecture (37.5%) and social sciences (25.6%), which is where more of the undergraduate studies are concentrated. Regarding the most common profile for academic staff, it is a man (60.8%) with a civil servant professional contract (65.4%).

Satisfaction survey			Academic staff					
Knowledge area	n	%	Contract	n	%	Gender	n	%
Arts and Humanities	190	19,2	non-civil servant	170	34,6	Man	299	60,8
Science	98	9,9	civil servant	321	65,4	Female	192	39,2
Health science	78	7,9						
Engineering/ Architecture	372	37,5						
Social science	254	25,6						
Total	992	100,0	Total	491	100,0	Total	491	100,0

Table 1. Description of the sample by knowledge area and professional profile.

The reason why there are more satisfaction surveys than academic staff members is because during any given academic year the academic staff members can give lectures in several subject. To this effect, the satisfaction values collected in the surveys were weighted according to the percentage of credits given by the academic staff member with respect to the total number of credits of the subject they imparted.

The satisfaction survey for the bachelor's degrees of the University of Girona is structured in two sections. The first section is comprised of six questions (q1 – q6) about specific aspects such as organization and planning, implementation, interaction and results, following the recommendations of Pratt (1997). The second section consists of one question about the student's global satisfaction with the subject. For the purpose of this paper, student satisfaction is measured by means of the score in the global satisfaction question. All the questions in the survey are ranked on a five-point Likert scale, from totally disagree (1) to totally agree (5). Table 2 presents the statements and the mean scores of the satisfaction survey.

	N	Mean	Std.Dev.
q1: This teacher has clearly presented the programme of the subject and the assessment criteria	992	4.234	.631
q2: I learn with this teacher	992	4.060	.761
q3: This teacher motivates me to work hard and learn on my own.	992	3.859	.756
q4: The support materials that this teacher has provided have helped me	992	3.971	.685
q5: The evaluation process allowed me to reflect my knowledge	992	3.876	.680
q6: This teacher clarified my doubts where necessary	992	4.283	.674
Global satisfaction: I globally assess the teaching of this academic staff member as positive	992	4.033	.746

Table 2. Satisfaction survey: mean values and standard deviation.

The results can be considered as positive since on average all the means are higher than 3.8 (out of 5) and the global satisfaction score is higher than 4. Among the six questions, the two highest scores are obtained in question 6 (assessment of the attention received from the academic staff member), with a mean value of 4.28, and in question 1 (the programme of the subject and the evaluation criteria being clearly presented), with a mean value of 4.23. On the other hand, the lowest scores, also with similar values, are related to the motivation of the academic staff members (3.85) and the evaluation system of the subject (3.87).

Table 3 shows the descriptive statistics of the academic, research and management merits. As would be expected, the highest means in terms of merits are in teaching and research since these can be obtained at the same time as the academic staff member develops their professional career. The longer the professional career, the more likely they are to obtain teaching and research merits. On the other hand, the lowest score is for management merits because having a management position is optional.

Merits	Mean	Std.Dev.
Teaching periods (five years)	3.750	1.407
Research periods (six years)	1.482	1.298
Management periods (accumulation of points)	.526	1.226

Table 3. Descriptive statistics of the merits in teaching, research and management.

4. Results

The results are structured in three sections. In the first section, a bivariate correlation was performed between the measures, including the control variables of gender and contractual tie. In the second section, a structural equations model was carried out to contrast the above raised hypotheses. Last, a contextual analysis was performed to detect possible divergences when the sample was controlled in terms of gender and contractual tie.

4.1. Bivariate correlation

Table 4 shows the result of the bivariate correlation. All the variables are considered as continuous except for the control variables gender (0: man; 1: woman) and contractual tie (0: non-civil servant, 1: civil servant), which are considered as dichotomous variables.

		Global Satisfaction	Teaching merit	Research merit	Management merit	Experience	Contractual tie
Teaching merit	Correl.	-,107**	1				
	Sig.	,001					
Research merit	Correl.	,048	,146**	1			
	Sig.	,147	,000				
Management merit	Correl.	,046	,336**	,156**	1		
	Sig.	,160	,000	,000			
Experience	Correl.	-,133**	,765**	,091**	,241**	1	
	Sig.	,000	,000	,006	,000		
Contractual tie	Correl.	-,107**	,640**	,199**	,231**	,660**	1
	Sig.	,001	,000	,000	,000	,000	
Gender	Correl.	-,065*	-,070*	-,031	-,116**	-,068*	-,126**
	Sig.	,042	,032	,343	,000	,032	,000

Table 4. Bivariate correlation among the measure and the model and the control variables (n=992).

According to Table 4, there is a significant and positive correlation between the three types of merits. A possible explanation is that the three merits are proportional to the LENGTH OF SERVICE of the academic staff at the university. Therefore, the longer their professional career, the more likely they are to obtain teaching, research and management merits. This affirmation is confirmed by the correlation between the three merits and experience, especially in the case of teaching merits ($\beta = 0,765$).

On the other hand, the relationships between students' satisfaction and the three merits are different. While there is no relationship between satisfaction and research and management merits, there is a significant but negative relationship with teaching merits. This correlation is confirmed by the significant but also negative relationship between the satisfaction of the student and the length of the academic staff member's experience. Regarding the control variables, both are significantly and negatively correlated with satisfaction. Therefore, it seems that non-civil servant academic staff and men are the ones who obtain the highest scores in the satisfaction surveys.

4.2. Structural equation modelling

Structural equation modelling was performed using the maximum-likelihood method and the EQS 6.3 software was used to test the model. Table 5 shows the main fit statistics. In all cases the values are above the recommended cut-off values of 0.9 (Byrne, 1994). According to Schermelleh-Enge, Moosbrugger and Müller (2003) when three or more fit statistics are greater than the recommended values the fit of the model is accepted.

Statistic	Value	Cut-off value
BB-NFI Bentler-Bonnet Normed Fit Index)	.933	.900
CFI (Comparative Fit Index)	.935	.900
IFI (Incremental Fit Index)	.936	.900

Table 5. Fit indexes of the model

The standardized solution of the causal model is presented in Figure 2. All the causal relationships between experience and the three merits are significant and positive. These results confirm those of the previously performed bivariate correlation where a high dependency between obtaining merits and the experience of the academic staff member was detected. No such relationship could be established, however, between experience and students' satisfaction and only the relationship between management merits and students' satisfaction was significant.
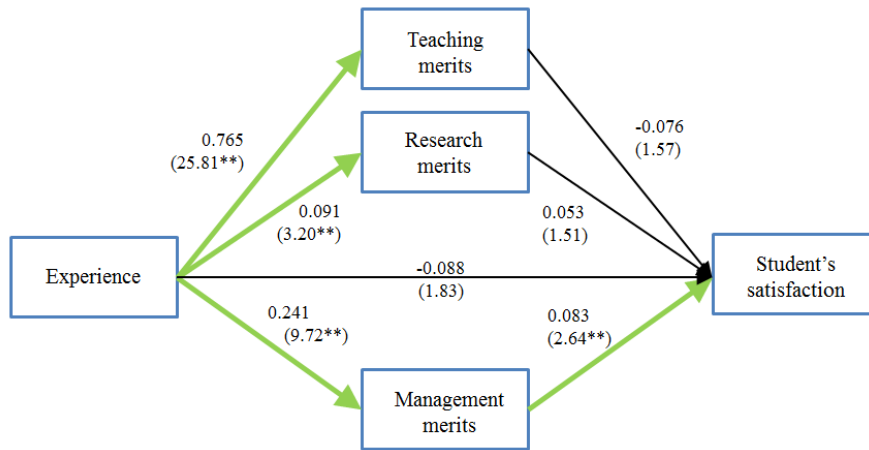
Figure 2. Maximum-likelihood solution (robust method).
*** Significant relationship at level 0.01*
** Significant relationship at level 0.05*

4.3. Contextual analysis

A contextual analysis was performed to verify whether the profile of the academic staff member influenced the results obtained in the model based on the whole sample. This decision was taken for two main reasons. First, because most of the previous results obtained were somehow running contrary to the popular knowledge that both experience and merits should increase students' satisfaction, and second because of the diversity of the academic staff that coexist in the Catalan public universities. According to Arcas et al. (2016), in 2015 the percentage of civil servant academic staff was reduced to below 40% of the total Catalan academic staff with a slight but continuous decreasing trend. Furthermore, the number of female members of academic staff has increased in the last years although they still represent less than half the total of the Catalan academic staff. Two endogenous variables were introduced: gender and contractual tie.

Table 6 presents a descriptive analysis of these two variables and the statistical differences between the groups. Numerous significant differences emerge in the results. The civil servant academic staff group obtained higher mean values in all the variables except students' satisfaction. From a gender perspective, fewer differences were detected with significant differences only in the number of teaching and management merits.

(mean)	Contractual tie			Gender		
	Civil servant	Non-civil servant	p-value	Male	Female	p-value
Experience (days)	7,909	4,546	.000**	6,807	6,594	.157
Teaching merits	4.312	2.303	.000**	3.753	3.62	.042*
Research merits	1.642	1.066	.000**	1.482	1.428	.644
Management merits	.702	0.070	.000**	.526	.339	.000**
Student's satisfaction	3.977	4.148	.000**	4.033	3.970	.055

Table 6. Descriptive analysis of the variables by contractual tie and gender.
** Significant relationship at level 0.01
* Significant relationship at level 0.05

Next, Table 7 presents the results of the contextual analysis for the model. By contractual tie, there are significant differences in any of the hypotheses except for the relationship between research merits and students' satisfaction. It should be pointed out that there are three hypotheses where the sign of the relationship is different according to the subsample. On the one hand, for non-civil servants there is a positive relationship between experience and research merits, and experience and satisfaction. However, on the other hand, for civil servants there is a positive relationship between management merits and students' satisfaction.

Similarly, significant differences are observed when the model is analysed by gender. Specifically, differences emerge for all the hypotheses except for the relationship between experience and teaching merits and the relationship between research merits and students' satisfaction. In addition, there are some interesting differences in terms of the signs in the hypotheses teaching merits → satisfaction and management merits → satisfaction.

Hypotheses	(n= 992)	Contractual tie		$\Delta\chi^2(\Delta df)$	Gender		$\Delta\chi^2(\Delta df)$
		Civil servant (n= 667)	Non-civil servant (n=325)		Male (n= 624)	Female (n= 368)	
H1: Experience → Satisfaction	-0.088 (1.83)	-0.093 (2.53**)	0.115 (1.14)	0.007(1)	0.053 (1.06)	0.171 (0.557)	0.016(1)
H2a: Experience → Teaching merits	0.765 (25.81***)	0.529 (9.44***)	0.837 (25.87***)	0.033(1)	0.734 (16.48***)	0.805 (23.97***)	0.311(1)
H2b: Experience → Research merits	0.091 (3.20***)	-0.069 (2.28**)	0.084 (1.40)	0.009 (1)	0.064 (1.73)	0.136 (3.07***)	0.029(1)
H2c: Experience → Management merits	0.241 (9.72***)	0.172 (6.71***)	0.010 (0.25)	0.001(1)	0.244 (7.80***)	0.229 (5.43***)	0.001(1)
H3a: Teaching merits → Satisfaction	-0.076 (1.57)	-0.013 (0.28)	-0.241 (2.30**)	0.032(1)	-0.148 (2.84***)	0.052 (0.577)	0.007(1)
H3b: Research merits → Satisfaction	0.053 (1.51)	0.025 (0.61)	0.152 (2.25**)	0.247(1)	0.067 (1.56)	0.034 (0.83)	0.064(1)
H3c: Management merits → Satisfaction	0.083 (2.64***)	0.118 (3.33***)	-0.155 (2.37**)	0.001(1)	0.127 (3.23***)	-0.171 (1.84)	0.003(1)

Table 7. Contextual analysis by contractual tie and gender.
** Significant relationship at level 0.01
* Significant relationship at level 0.05

5. Discussion of results

This study presents a conceptual path model for understanding the relationship between the experience of academic staff members and students' satisfaction. In addition, it analyses the indirect relationship between experience and satisfaction through academic staff performance, measured in terms of merits in teaching, research and management.

According to the results, there is no significant direct relationship between the experience of the academic staff and students' satisfaction. This result runs contrary to the popular idea that the more experience in teaching the academic staff member has, the better the lectures are. Many reasons can explain this finding, one of the most well-known of which is probably burnout on the part of the academic members of staff. However, in their systematic literature review of the burnout phenomenon in university teaching staff,

Watts and Robertson (2011) concluded that younger staff members present greater emotional exhaustion than their older colleagues. Therefore, we cannot safely say that there is a direct cause-effect relationship between experience and students' satisfaction, so the first hypothesis is rejected.

The results are consistent for the second hypothesis. The greater the experience of the academic staff member, the more likely they are to obtain merits in teaching, research and management. The time factor is obviously the explanation for this conclusive causality effect. The fact that the three merits can be obtained based on a time range (five-year terms for teaching merits and six-year terms for research merits) or on points accumulated over a certain period of time (for management merits) explains this robust relationship. Therefore, the second hypothesis is accepted.

The third hypothesis is partially accepted. Of the three sub-hypotheses only one of them is slightly significant. For the whole sample, there is no significant evidence that academic staff members with a higher number of teaching and research merits generate greater satisfaction among their students. Similar to the first hypothesis, many uncontrolled determinants could explain these results and again they run contrary to the popular idea that the academic staff members with a greater performance (in terms of merits) are the ones that are most appreciated by their students in terms of satisfaction.

Last, the group analysis shown in Table 7 illustrates that there are significant differences when the model is analysed based on a particular subgroup of the sample, principally according to the contractual tie of the academic staff member with the university, but also depending on gender.

6. Conclusions

Previous analyses have led to a set of both theoretical and practical conclusions, some of them related.

From a theoretical perspective, one main conclusion can be drawn based on two findings. The first is that seniority alone is not enough to show students' satisfaction. There is no significant impact between experience and students' satisfaction. The staff members that have accumulated more teaching are not the most preferred by students. However, some differences arise when this relationship is controlled by the contractual tie of the academic staff. In the specific case of the civil servant staff, the relationship becomes significant but negative.

35

The second finding emerges from the analysis of the path between teaching merits and students' satisfaction. According to Boardman and Ponomariov (2007), academic staff CVs are mainly research focused, leading to the research activity occupying most of their time. In the same line, Berbegal-Maribent et al. (2018) conclude that the academics with the best research CVs abandon their teaching responsibilities along their career. However, according to our results, this conclusion is only valid when it is restricted to non-civil servant staff. Several determinants might explain this behaviour. One possible factor is the recent restructuring of the Spanish public university towards a model based on excellence in research (Garcia-Berro et al., 2016), meaning that young academic staff, who are mainly contracted as non-civil servants, have pushed to prioritize research over teaching compared to the older academic staff who are mainly contracted as civil servants. Therefore, from a theoretical perspective, the main conclusion is that considering academic staff as a homogenous whole implies missing relevant information due to the diversity of the academic staff that coexist in the public university system. The contractual tie with the university and the gender of the academic staff members can determine their motivation and performance within the university.

From a practical perspective, three further findings are noteworthy. First, seniority impacts strongly on teaching merits due to the measurement system in the university. Every five years most members of staff receive a reward, regardless of any consideration of the quality of their teaching. Seniority also impacts on management merits, which also makes sense if we consider that to be promoted to certain positions there are some requirements that only can be achieved after a certain time working in the university. These results should make policy-makers reflect on whether the three merits fulfil their initial motivating function of spurring academic staff to improve their performance. It would seem that rather than a recognition of the quality of their teaching performance they are simply an automatic bonus every fixed period of time, especially in the case of teaching merits.

Second, seniority also impacts on research merits albeit to a lesser degree, with the findings showing that some staff members are involved in research but other avoid their research responsibility. This is the case of a great number of professionals who have no intention of progressing in their academic career despite having a full-time contract with the university. The university should have mechanisms to control these specific behaviours as tools to motivate the academic staff to focus their efforts on the university.

Third, in terms of management, the comparative analysis by gender shows that men are significantly more active. This difference in behaviour can also be detected in the relationship between management merits and satisfaction. For both male and female academic staff the relationship is significant but with contrary results. For male academic staff the relationship is positive, while for female academic staff it is negative. Therefore, since women are increasingly present in the Catalan public university system there should be more mechanisms to enable a better balance in this sense.

The conclusions of this research must be interpreted with caution. Although it is based on a large representative sample, the authors are aware that the study might have certain limitations. First, the sample is based on a single university, which makes extrapolating the results to other universities difficult. Second, the authors limited the analysis to undergraduate degrees, which could explain why research merits do not impact on students' satisfaction. However, these limitations provide avenues for future research such as carrying out similar studies in other universities and analysing differences when comparing bachelor's degrees and master's studies.

REFERENCES

Ahmed, A. S. (2012). Verbal and physical abuse against Jordanian nurses in the work environment. *Eastern Mediterranean Health Journal.* 18(4), 318-324. https://doi.org/10.26719/2012.18.4.318.

ANECA (2019). Agencia Nacional de Evaluación de la Calidad y Acreditación. http://www.aneca.es/

AQU (2019). Agència per a la Qualitat del Sistema Universitari de Catalunya. http://www.aqu.cat/

Arcas, O.; Mir, J.; Sacristán, V.; Veciana, P. (2016) "The academic staff in Catalonia: recent evolution of the teaching and research staff in the Catalan public universities". Observatori Sistema Universitari, Barcelona (Spain). http://www.observatoriuniversitari.org/en/2016/09/26/the-academic-staff-in-catalonia/

Barnett, R. (2005). Reshaping the university: New relationships between research, scholarship and teaching. Maidenhead. UK: Open University Press.

Bentley, P. J., Coates, H., Dobson, I. R., Goedegebuure, L., and Meek, V. L. (2013). Job satisfaction around the academic world. The Netherlands: Springer.

Berbegal-Mirabent, J.; Mas-Machuca, M.; Marimon, F. (2018). Is research mediating the relationship between teaching experience and student satisfaction?, *Studies in Higher Education*, 43:6, 973-988, DOI: 10.1080/03075079.2016.1201808

Byrne, B. (1994). Structural equation modeling with EQS and EQS/windows. Basic concepts, applications and programming. Thousand Oaks, CA: Sage.

Boardman, P. C., and Ponomariov, B. L. (2007). "Reward systems and NSF university research centers: The impact of tenure on university scientists' valuation of applied and commercially relevant research." *Journal of Higher Education*, 78 (1), 51–70.

Burke, L. A., and Rau, B. (2010). "The research -teaching gap in management." *Academy of Management Learning & Education* 9 (1), 132 -143.

Drule, A. M., Popa, I. E., Nistor, R., and Chis, A. (2014). "Quality of the teaching process and its factors of influence from the perspective of future business specialists." *The AMFITEATRU ECONOMIC Journal* 16 (37), 827–840.

Halse, C., Deane, E., Hobson, J., and Jones, G. (2007). "The research-teaching nexus: What do national teaching awards tell us?" *Studies in Higher Education* 32 (6), 727 -746.

Jenkins, A., and Zetter, R. (2003). Linking research and teaching in departments. Learning and Teaching Support Network (LTSN). UK: Oxford Brookes University.

Pratt, D. D. 1997. "Reconceptualizing the Evaluation of Teaching in Higher Education." *Higher Education* 34 (1): 23–44.

Prieto, L. R., and Altmaier, E. M. (1994). "The relationship of prior training and previous teaching experience to self-efficacy among graduate teaching assistants." *Research in Higher Education* 35 (4), 481–497.

Robertson, J., and Bond, C. (2005). "The research/teaching relation: A view from the `edge'." *Higher Education* 50 (3), 509 -535.

Schermelleh-Enge, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive Goodness-of-Fit measures. *Psychological Research*, 8(2), 23–74.

Shannon, D. M., Twale, D. J., and Moore, M. S. (1998). "TA teaching effectiveness: The impact of training and teaching experience." *Journal of Higher Education*, 440–466.

Watts, J., Robertson, N. (2011) "Burnout in university teaching staff: A systematic literature review". *Educational Research* 53(1), pp. 33-50.

Xiao, J., and Wilkins, S. (2015). "The effects of lecturer commitment on student perceptions of teaching quality and student satisfaction in Chinese higher education." *Journal of Higher Education Policy and Management* 37 (1), 98–110.