INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY: APPLIED BUSINESS AND EDUCATION RESEARCH
2024, Vol. 5, No. 11, 4497 – 4509
http://dx.doi.org/10.11594/ijmaber.05.11.18

Research Article

Factors Associated with Research and Productivity among Faculty of Higher Education Institutions: Input to Enhancing Research Culture

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Article history:
Submission 31 October 2024
Revised 07 November 2024
Accepted 23 November 2024

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ABSTRACT

The role of research in an academic institution is significant for its sustainability and development, and it is imperative to have knowledge-driven growth based on innovation. The main objective of this dissertation was to find out the factors associated with research and productivity among faculty of higher education institutions in the LSPU System as input to enhancing research culture. Descriptive correlational research method was used to determine the factors associated with research and productivity among higher education faculty institutions consisting of 232 regular faculty members among four campuses of Laguna State Polytechnic University-San Pablo City Campus, Sta. Cruz Campus, Siniloan Campus and Los Banos Campus. The perceived level of self-motivation of the respondents on knowledge and skills, ability and interest, motivation and drive is "very high"; the perceived level of institutional support system for research among faculty of Laguna State Polytechnic University System on policies and guidelines, promotion and incentives, research program, budgeting, and external sourcing/funding is "highly evident"; perceived level of research- working environment, is "very highly evident"; perceived level of research productivity for research reveals that the research productivity is "very high". Faculty's research productivity is significantly predicted by self-motivation, an institutional support system for research; and the research working environment; teacher's perceived self-motivation mediated with the institutional support system and the faculty's research productivity; teacher's perceived self-motivation mediated with the research working environment and to the faculty's re-

How to cite:
Camilon, M. D. F., Callo, E. C., & Panoy, J. F. D. (2024). Factors Associated with Research and Productivity among Faculty of Higher Education Institutions: Input to Enhancing Research Culture. *International Journal of Multidisciplinary: Applied Business and Education Research*. *5*(11), 4497 – 4509. doi: 10.11594/ijmaber.05.11.18

search productivity. ANOVA result revealed that there is no significant difference in the perceptions of the LSPU respondents on self-motivation, an institutional support system for research, research working environment, and research productivity when grouped according to their University Campus. In terms of the above findings, this study concluded the hypotheses stating that the research productivity of the faculty is not significantly predicted by self-motivation, an institutional support system for research, and the research working environment is not sustained. The faculty self-motivation does not mediate the effect of the institutional support system and research working environment on their research productivity is not sustained. There is no significant difference in the perceptions of the LSPU respondents on self-motivation, an institutional support system for research, research working environment, and research productivity.

Keywords: *Research Productivity, Self-Motivation, Institutional Support System, Research Working Environment*

Introduction

Research has a substantial impact on 21st-century teaching standards and instructor effectiveness. It is necessary to reorganize new data, enable teachers to comprehend their specialized fields of study, analyze their capacities and talents, and understand their aptitudes—qualities crucial for practical instruction and a constructive attitude toward research. One of the three primary purposes of all higher education institutions in the Philippines, as mandated by the Commission on Higher Education (CHED), is research (Nuqui, A. V., & Cruz, R. C. 2013). Research productivity in educational institutions has significantly increased its importance due to the new typology prescribed by CHED, which emphasizes research as an agent for human and social development. Universities play an essential strategic role in helping professionals develop the skills necessary to innovate in the high-tech and knowledge-based sectors that will be the main engines of future global economic growth (Orale, 2014).

A.Yazon et al. (2019) stated research capability is the facility or potential of individuals, organizations, and systems to undertake and efficiently disseminate high-quality research effectively and efficiently. Furthermore, Callo and Sahagun (2019) noted that research is a significant function of Higher Education Institutions (HEIs) and is one of the primary criteria in university ranking. The features of the researchers, their research expertise, and the characteristics of the institutions that support research all impact the creation of research. This suggests that researchers would be more productive if their professors had robust research techniques, funding, research management, communication skills, networking, and teamwork since research activities and their popularity enhance universities' reputations (Batool, A., Hussain, A., & Ahmad, S. (2018).

At Laguna State Polytechnic University (LSPU), faculty members must do research as part of their academic functions and productive activities. To do this task, the management provides training and seminars for the faculty to enhance their research capabilities and increase their opportunities for involvement, particularly in research. This is why the university has designed a policy for research work describing the process of the research conduct with necessary mentoring and assistance to the faculty researchers. Besides, incentives and recognitions are also given to faculty researchers to motivate them to conduct research projects. Thus, there is a need to ensure that in the future, all faculty members should be competent in critically appraising scientific literature relevant to their practice and that some will be able to conduct research. As an initial step, it is

indispensable to describe their confidence in writing the research paper to identify the specific section in research writing that needs retooling or enhancement. Likewise, it is essential to assess the support given by the organization toward research programs and activities to motivate faculty members to conduct research.

Moreover, the Laguna State Polytechnic University, for its part, recognized the significant role the research plays in its discharge of the mandated functions along with instruction, extension, and production. Towards this end, Research and Development exists to provide a reference, education, and guidance for all research undertakings that the university and its members shall be involved in formulating the herein set forth policies and procedures (R & D Manual, 2015). Currently, the Laguna State Polytechnic University System exceeds the target of 135 completed papers every year. According to the Research and Development Office's report, LSPU System completed 146 of 135 research papers in 2019, with an average completion rate of 108.15 percent. We have finished 135 research papers with an average grade of 100% in 2020. In 2021, 152 published research articles have been accomplished with an average of 112. 59%.

Regarding achievements in published papers, LSPU System achieved 58 publications with an average score of 54.60% in 2019. By the year 2020, we have published 75 papers, each with a 107.25 percent average. We achieved 166 papers published in 2021, an average of 191. 7%. The LSPU system met its 20% target for publications and has released all finished articles from the previous three years.

The fact that LSPU System achieved 24 utilization outputs in 2020, 400% of the targeted 6 utilization outputs, 7 outputs in 2020, an average of 116.7%, 9 outputs in 2021, an average of 150%, and 16 outputs in 20212, an average of 266.67%, showed that LSPU System is a top-tier research university. In light of the above statement, this study determined factors associated with research and productivity among higher education faculty, which served as input to enhancing research culture.

This research determined the factors associated with research and productivity among higher education faculty, which served as input to enhancing research culture. Specifically, the study aimed to answer the following questions:

1. Determine the respondents' level of self-motivation in terms of knowledge and skills, ability and interest, and motivation and drive.
2. Determine the level of institutional support for research among Laguna State Polytechnic University System faculty in terms of policies and guidelines, promotions and incentives, research programs, budgeting, and external sourcing/funding.
3. Describe the respondent's perceived level of research working environment in terms of trends and issues, policy satisfaction, and research climate.
4. Describe the perceived level of research productivity of the respondents in terms of mentorship, grant, training, experience, output, and publication.
5. Find out whether the faculty's research productivity is significantly predicted by self-motivation, institutional support system, and research working environment.
6. Find out whether the faculty self-motivation mediates the effect of the institutional support system for research and research working environment on their research productivity.
7. Find out the significant difference in the perceptions of the LSPU respondents on the following self-motivation, institutional support system for research, research working environment and research productivity.

Methods

This study employed a descriptive correlational research method to determine the factors associated with research and productivity among higher education institutions' faculty. Descriptive quantitative was used using questionnaires to collect data and answer the specific research questions using descriptive and inferential statistics. The descriptive part using mean and standard deviation presents the level of self-motivation, institutional support system, research working environment, and the level of research productivity. Meanwhile, mul-

tiple linear regression was utilized to determine whether the faculty's research productivity is significantly predicted by self-motivation and an institutional support system for research and the research environment. ANOVA or Analysis of Variance was utilized to determine the perceptions of the LSPU when grouped by campus.

Results and Discussion

Table 1. Cross-tabulation of Respondents by Campus and Academic Ranks

University Campus	Academic Rank of Respondents						TOTAL
	Instructor I-III		Assistant Professor I-IV		Associate Professor I-V		
	N	%	N	%	N	%	%
San Pablo	29	28.4%	38	45.2%	20	44.4%	37.5%
Siniloan	11	10.8%	15	17.9%	8	17.8%	15.5%
Sta. Cruz	33	32.4%	21	25.0%	10	22.2%	27.6%
Los Banos	29	28.4%	10	11.9%	7	15.6%	19.8%
TOTAL	102	100.0%	84	100.0%	45	100.0%	100.0%

This study concentrated on the 232 regular faculty members from the four (4) campuses of the Laguna State Polytechnic University, strategically located in San Pablo City, Siniloan, Sta. Cruz and Los Banos.

As indicated on Table 1, out of 232 regular faculty respondents the highest percentage of Instructors I-III can be found from Sta. Cruz Campus at 32.4%. However, San Pablo City and Los Banos Campus, both at 28.4% while Siniloan has the least percentage with 10.8%. On The other hand, San Pablo City Campus has the highest number of faculty members with an Academic Rank of Assistant Professor I-IV with 45.2% and Associate Professors I-V at 44.4%.

Table 2. Perceived Level of Self-Motivation on Research

Self- Motivation	Mean	SD	Verbal Interpretation
Knowledge and Skills	4.35	0.627	Very High
Ability and Interest	4.30	0.608	Very High
Motivation and Drive	4.34	0.647	Very High
Overall	**4.33**	**0.574**	**Very High**

***Legend**: 1.00-1.80=Very Low; 1.81-2.60=Low; 2.61-3.40=Moderately High; 3.41-4.20=High; 4.21-5.00=Very High*

Table 2 reveals the level of self-motivation on research components with the given variables of knowledge and skills, ability and interest, motivation and drive, the data reveals that there is a "very high" overall assessment (Mean=4.33; SD=0.574) when it comes to the perceived level of self-motivation on research. This shows that the majority of the respondents believed that they possess a very high self-motivation and drive to pursue research as part of their professional endeavours. The knowledge and skills of the faculty in research enable them to become research-oriented. Also, it encourages curiosity as it opens up to different ideas and opinions. With these, faculty researchers enhance conceptual understanding of the importance of conducting research. In addition, the ability and interest of the faculty in research strengthen informational resources that can help address the problem as well as increase their likelihood of getting the exact information needed in research Moreover, enables them to improve at identifying problems that may lead to an increase in research performance. Furthermore, the motivation and drive of the faculty researcher promote research output that leads to high-quality research.

Table 3. Perceived Institutional Support System for Research

Institutional Support System for Research	Mean	Standard Deviation	Verbal Interpretation
Guidelines and Policies	4.28	0.664	Very Highly Evident
Promotion and Incentives	4.23	0.747	Very Highly Evident
Research Program	4.25	0.695	Very Highly Evident
Budgeting	4.18	0.734	Highly Evident
External Funding	4.07	0.724	Highly Evident
Overall	**4.20**	**0.622**	**Highly Evident**

Legend: *1.00-1.80=Not Evident; 1.81-2.60=Moderately Evident; 2.61-3.40= Evident; 3.41-4.20=Highly Evident; 4.21-5.00=Very Highly Evident*

Table 3 shows the perception of the faculty respondents about the institutional support system for research in terms of guidelines and policies, promotion and incentives, research programs, budgeting, and external funding. The highest mean value was found on the university's guidelines and policies aligned to research and development at a mean of 4.28; SD=0.664. On the other hand, external funding support was found to only have a mean of 4.07; SD=0.724.Henceforth, these findings reveal that the institutional support system for research in LSPU is "highly evident" with an overall mean of 4.20; SD=0.622 and it can be observed through abiding by ethical standards to protect the welfare, rights, and respect of study participants. Giving them advice to make their employees' actions more consistent and of higher quality, encouraging and assisting researchers in maturing, developing their research aspirations, creating research directions, and identifying research progress (Mean = 4.23; SD=0.74).

Findings also reveal that the guidelines and policies of the university are "very highly evident" with a mean of 4.28; SD= 0.664. The faculty adheres to ethical principles to protect the dignity, rights, and welfare of research participants. Moreover, it also directs researchers on how to conduct research activities ethically. In terms of policies and guidelines, findings show that the promotion and incentives of the university attract high-quality, committed research participants as well as inspire and assist researchers in growing up, building research aspirations developing research directions, and recognizing research progress.

Whereas, findings reveal that the research program of the university encourages faculty members to present their finished research outputs through annual research presentation activities whether local, national, or international. Similarly, the university research program motivates faculty members to attend the various training and seminars related to their field.

Likewise, it also implies that the university research budget assists with in-house proposals, *en banc*, and international publications. It also promotes research through seminars and training and creates research facilities for the research and development center.

Table 4. Perceived Research Working Environment

Research Working Environment	Mean	Standard Deviation	Verbal Interpretation
Trends and Issues	4.19	0.665	Highly Evident
Policy Satisfaction	4.27	0.699	Very Highly Evident
Research Climate	4.17	0.712	Highly Evident
OVERALL	**4.21**	**0.636**	**Very Highly Evident**

Legend*: 1.00-1.80=Not Evident; 1.81-2.60=Moderately Evident; 2.61-3.40= Evident; 3.41-4.20=Highly Evident; 4.21-5.00=Very Highly Evident*

Can be gleaned from Table 4 the perceptions of the respondents on the level of research working environment with the given variables of trend and issues, policy satisfaction, and research climate, the data in Table 38 reveals that the LSPU research working environment is "very highly evident" with (Mean= 4.21; SD= 0.636). Hence, it implies that the faculty-perceived research working environment is very conducive for everyone to learn and grow in understanding the facets of undergoing research for the academe. The highest mean score was found on the Policy Satisfaction with a mean of 4.27; SD= 0.712 while the lowest score was found on the Research Climate subcategory with a mean of 4.17; SD=0.712. In terms of trends and issues, the findings imply that the university research working environment provides research teams with collective adherence to fundamental principles supported by the university research environment. Additionally, the university promotes researcher's involvement in international publications. It also enhances research culture as an excellent way to share best practices. Regarding policy satisfaction, the university research working environment provides incentives for the effort and time of faculty that academics have spent on research activities. In addition, the university creates research projects leading to innovation. Moreover, as to research climate, findings reveal that the university research working environment motivates faculty to become committed to conducting research and endorses research leaders who can influence researchers by setting an excellent example of research behavior. Thus, motivating faculty to become committed to conducting research.

Table 5. Perceived Level of Research Productivity

Indicators	Mean	Standard Deviation	Verbal Interpretation
Mentorship	4.21	0.700	Very High
Grant	4.17	0.701	High
Training	4.28	0.704	Very High
Experience	4.24	0.667	Very High
Output	4.25	0.669	Very High
Publication	4.22	0.761	Very High
OVERALL	**4.23**	**0.623**	**Very High**

***Legend**: 1.00-1.80=Very Low; 1.81-2.60=Low; 2.61-3.40=Moderately High; 3.41-4.20=High; 4.21-5.00=Very High*

Table 5 shows the perceptions of the faculty respondents on the level of research productivity with the given variables of mentorship, grant, experience output, and publication. It reveals that the research productivity is "very high" in the LSPU System.

Overall, the respondents imply that they achieved high research productivity because of all the research opportunities given by the institution. However, the lowest mean score of 4.17; SD =0.701 can be observed on grants, meaning that the researchers believed that the university can achieve more breakthroughs in the research landscape by finding more grant opportunities from the public and private sectors. Using a grant, the researcher develops the confidence that they can make an academic or social impact without the stain of discriminatory practices associated with their work. The faculty respondents also revealed that by employing training, the faculty becomes more motivated to participate in research engagement tasks. Thus, exploring knowledge and understanding of research. It also shows that the research experience of the faculty respondents opens the door to understanding research strengths and weaknesses. It is also evident that the research output of the faculty ensures the level of performance on the activity or program relative to research work. Henceforth, the LSPU research publication serves as a repository of significant efforts and recognition for researchers with a mean of 4.22; SD=0.761. Research has always been a significant and challenging component of graduate education. It is a scholarly activity to advance knowledge

by finding new things about specific disciplines. This would also open the door to enhancing research in the Philippines and other developing countries. Training the graduates in research methods, techniques, and systematic management should be an integral part of the prevailing culture of research in Higher Education Institutions (HEIs), more so in graduate studies. Hence, central to the multi-faceted concerns in graduate education today is the provision for systematic research experiences whereby graduate students may be assisted to craft, implement and defend their research interest, i.e., their thesis and dissertations with utmost integrity and professionalism.

Table 6. Regression of Faculty's Research Productivity on Teacher's Self-Motivation

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.705[a]	.497	.495	.442660426

a. Predictors: (Constant), SelMotov

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44.588	1	44.588	227.551	<.001[b]
	Residual	45.068	230	.196		
	Total	89.656	231			

a. Dependent Variable: Rprod

b. Predictors: (Constant), SelMotov

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.916	.222		4.132	<.001
	SelMotov	.765	.051	.705	15.085	<.001

a. Dependent Variable: Rprod

Legend: *SelMotov=.765, Rprod=.705*

A positive coefficient indicates that as the value of the independent variable increases, the mean of the dependent variable tends to increase. A negative coefficient indicates that as the value of the independent variable decreases, the mean of the dependent variable tends to decrease. The regression coefficient used to determine if teacher's self-motivation has a substantial impact on faculty's research productivity is presented in Table 6.Using the regression analysis, the data revealed that the teacher's self- motivation significantly predict in faculty's research productivity since statistical data showed has the F value (1, 231) =227. 551 and p<.01. The R2 value 0.495 implies that the teacher's self- motivation affects 49.5% of the variance of faculty's research productivity. In comparison the remaining, 50.5% was attributed to the other factors that are not included in the regression analysis. Likewise, the correlation result of R= 0.705 suggest a strong positive correlation. This shows that there is a strong direct relationship observed between the faculty's self-motivation to research and his/her research productivity. These high results are backed by the computed p value P=0.000 which is evidently less than the level of significance set at 0.05, which shows that teacher's self-motivation can be safely deemed as a predictor to the faculty's research productivity. A faculty member may be able to conduct more research and participate in more research activities if they are self-motivated.

Table 7. Regression of Faculty's Research Productivity on Institutional Support System for Research

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.823[a]	.678	.677	.354248305

a. Predictors: (Constant), ISSys

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	60.793	1	60.793	484.440	<.001[b]
	Residual	28.863	230	.125		
	Total	89.656	231			

a. Dependent Variable: Rprod
b. Predictors: (Constant), ISSys

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.765	.159		4.807	<.001
	ISSys	.825	.037	.823	22.010	<.001

a. Dependent Variable: Rprod

Legend: *ISSys=.825, Rprod=.823*

Table 7 provides the regression analysis of faculty's research productivity on institutional support system. It illustrates that the correlation result is 0.823 which is a strong positive correlation. It only implies that there is a strong direct relationship observed between the faculty's perceived institutional support system to research and his/her research productivity. The R Square value shows that 67.8% of the variance of the faculty's perceived research productivity can be explained by the institutional support system. These high results are backed by the computed p value (p=0.000) which is evidently less than the level of significance set at 0.05, which shows that teacher's perceived institutional support system for research can be safely considered as a predictor to the faculty's research productivity.

Table 8. Regression of Faculty's Research Productivity on Research Working Environment

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.823[a]	.677	.675	.355008042

a. Predictors: (Constant), RWE

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	60.669	1	60.669	481.385	<.001[b]
	Residual	28.987	230	.126		
	Total	89.656	231			

a. Dependent Variable: Rprod
b. Predictors: (Constant), RWE

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.838	.156		5.357	<.001
	RWE	.806	.037	.823	21.940	<.001

a. Dependent Variable: Rprod

Legend: *RWE=.806, Rprod=.823*

The regression coefficient used to determine if research working environment has a substantial impact on faculty's research productivity is presented in Table 8.Using the regression analysis, the data revealed that the research working environment significantly affect in faculty's research productivity since statistical data showed has the F value (1, 231) =481.385 and p<.01.The correlation result is B=.806 which is a strong positive correlation. This observed between the faculty's perceived research working environment and his/her research productivity. The R Square value shows that 67.7% of the variance of the faculty's perceived research productivity can be explained by the working environment on research. These high results are backed by the computed p value (p=0.000) which is evidently less than the level of significance set at 0.05, which shows that teacher's perceived research work environment can measured as a predictor to the faculty's research productivity.

Table 9. Mediating Effect of Faculty Self- Motivation on the Institutional Support System on Teacher's Research Productivity

```
**************************************************************************
Model  : 4
    Y  : Rprod
    X  : RWE
    M  : SelMotov

Sample
Size:  232

**************************************************************************
OUTCOME VARIABLE:
 SelMotov

Model Summary
          R       R-sq        MSE          F        df1        df2          p
       .632       .399       .199    152.723      1.000    230.000       .000

Model
             coeff         se          t          p       LLCI       ULCI
constant      1.930       .196      9.825       .000      1.543      2.317
RWE            .570       .046     12.358       .000       .479       .661

**************************************************************************
OUTCOME VARIABLE:
 Rprod

Model Summary
          R       R-sq        MSE          F        df1        df2          p
       .857       .734       .104    315.934      2.000    229.000       .000

Model
             coeff         se          t          p       LLCI       ULCI
constant       .191       .169      1.127       .261      -.143       .525
RWE            .615       .043     14.274       .000       .530       .699
SelMotov       .335       .048      7.024       .000       .241       .429

************************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 Rprod

Model Summary
          R       R-sq        MSE          F        df1        df2          p
       .823       .677       .126    481.385      1.000    230.000       .000

Model
             coeff         se          t          p       LLCI       ULCI
constant       .838       .156      5.357       .000       .529      1.146
RWE            .806       .037     21.940       .000       .733       .878

************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI
       .806       .037     21.940       .000       .733       .878

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
       .615       .043     14.274       .000       .530       .699

Indirect effect(s) of X on Y:
            Effect     BootSE   BootLLCI   BootULCI
SelMotov       .191       .040       .112       .271

************************ ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
```

Table 9 presents the mediating effect of the faculty self-motivation on the institutional support system on teacher's research productivity. The correlation result is 0.856 which is a strong positive correlation. This shows that there is a strong direct relationship observed on the combination of the faculty's perceived self-motivation and the institutional support system to his/her research productivity.

The R Square value suggested that 73.3% of the variance of the faculty's perceived research productivity can be explained by the combination of the two independent variables. These high results are backed by the computed p value (p=0.000) which is evidently less than the level of significance set at 0.05, which expressed that teacher's perceived self-motivation mediated with the institutional support system and the faculty's research productivity.

Table 10. Mediating Effect of Faculty Self- Motivation on the Research Working Environment on Teacher's Research Productivity

```
**************************************************************************
Model  : 4
    Y  : Rprod
    X  : ISSys
    M  : SelMotov

Sample
Size:  232

**************************************************************************
OUTCOME VARIABLE:
 SelMotov

Model Summary
          R       R-sq        MSE          F        df1        df2          p
       .638       .407       .197    157.540      1.000    230.000       .000

Model
             coeff         se          t          p       LLCI       ULCI
constant     1.859       .199      9.333       .000      1.466      2.251
ISSys         .589       .047     12.552       .000       .496       .681

**************************************************************************
OUTCOME VARIABLE:
 Rprod

Model Summary
          R       R-sq        MSE          F        df1        df2          p
       .856       .733       .105    313.985      2.000    229.000       .000

Model
             coeff         se          t          p       LLCI       ULCI
constant      .153       .171       .895       .372      -.183       .489
ISSys         .631       .044     14.205       .000       .543       .718
SelMotov      .329       .048      6.847       .000       .235       .424

************************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 Rprod

Model Summary
          R       R-sq        MSE          F        df1        df2          p
       .823       .678       .125    484.440      1.000    230.000       .000

Model
             coeff         se          t          p       LLCI       ULCI
constant      .765       .159      4.807       .000       .451      1.079
ISSys         .825       .037     22.010       .000       .751       .899

************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI
       .825       .037     22.010       .000       .751       .899

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
       .631       .044     14.205       .000       .543       .718

Indirect effect(s) of X on Y:
            Effect     BootSE   BootLLCI   BootULCI
SelMotov      .194       .044       .109       .278

*********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000
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Table 10 presents the mediating effect of the faculty self-motivation on the research working environment on teacher's research productivity. The correlation result is 0.857 which is a strong positive correlation. This shows that there is a strong direct relationship observed on the combination of the faculty's perceived self-motivation and the research working environment to his/her research productivity. The R Square value shows that 73.4% of the variance of the faculty's perceived research productivity can be explained by the combination of the two independent variables. These high results are backed by the computed p value (p=0.000) which is evidently less than the level of significance set at 0.05, which shows that teacher's perceived self-motivation mediated by the research working environment and the faculty's research productivity.

Table 11. One-way Analysis of Variance on the Perceived Self-motivation, Institutional Support System, Research Working Environment, and Research Productivity between the Campus of the Respondents

		Sum of Squares	df	Mean Square	F	P Value
Overall Self-Motivation	Between Groups	.824	3	.275	.831	.478
	Within Groups	75.331	228	.330		
	Total	76.155	231			
Overall Institutional Support System	Between Groups	1.106	3	.369	.953	.416
	Within Groups	88.249	228	.387		
	Total	89.355	231			
Overall Research Working Environment	Between Groups	.459	3	.153	.375	.771
	Within Groups	93.003	228	.408		
	Total	93.463	231			
Research Productivity	Between Groups	.092	3	.031	.078	.972
	Within Groups	89.564	228	.393		
	Total	89.656	231			

Based on Table 11, it is shown that overall, the perception of the respondents towards the institutional support system does not have any significant differences when grouped according to their respective campuses as shown by the p-value obtained (p=0.416), greater than the level of significance a=0.05. This can be seen among all of the ANOVA results above when checked based on its 5 subcategories except the for-Research Budgeting subcategory. The said subcategory obtained a p-value of 0.18 which is less than the level of significance, suggesting that there is a significant difference seen among the respondents on their perception of support from the university among campuses. It is very evident since ample budget are given to Siniloan Campus since they are engaged more on agriculture and Los Banos Campus for their fisheries courses. With the financing, the faculty may have a greater degree of research productivity, especially in conducting more research that requires innovation. It is a natural inclination for academics to feel more driven to conduct more studies for increased research output when they are working in an environment where their colleagues' norms and practices are accepted. As seen in the ANOVA results, the computed p values across the 4 variables are all greater than the level of significance set at a=0.05. This means that there is no significant difference between the scores of the respondents when grouped according to their University Campus. This is inherently because the respondents are only under 1 University System, thus having the same reception and perception of their Self-motivation towards research, the overall institutional support they received, the overall research environment they worked in, and their research productivity. The level of research productivity rises in terms of prospective academic personnel because the faculty are motivated, money and other sources are available, and implementation, monitoring, evaluation, and research outputs are all methodically carried out. The faculty can aid the production of studies since they are appropriately informed about the research agenda and orientated as to their position as researchers.

Conclusion

This study on the factors associated with research and productivity among higher education faculty: input to enhancing research culture yielded the following conclusions:

1. The hypothesis stating that the research productivity of the faculty is not significantly predicted by self-motivation, an institutional support system for research and the research working environment is not sustained.

2. The hypothesis stating that the research productivity of the faculty is not significantly predicted by self-motivation, an institutional support system for research and the research working environment is not sustained.
3. The hypothesis stating that there is no significant difference in the perceptions of the LSPU respondents on self-motivation, an institutional support system for research, research working environment and research productivity is sustained.

Acknowledgement

Words are not sufficient to express the researcher's profound gratitude to the people who unselfishly shared their time, knowledge, and ideas which contributed to the success of this research. The researcher wishes to extend sincerest thanks to the following:

Dr. Mario R. Briones, LSPU President for his stature of kindness and encouragement given to his faculty to strive for excellence in the field of research and other programs of the university.

Prof. Joel M. Bawica, Campus Director of LSPU San Pablo City for his generous support and motivation;

Dr. Eden C. Callo, Vice President for Academic Affairs and researcher's adviser of the researcher, for the truly valuable assistance, guidance, dedication, and encouragement she has extended to the researcher from the beginning to the end of this worthwhile endeavor;

Dr. Edilberto Z. Andal, Dean of CTE and GSAR of LSPU- SPCC, and the panelist of the researcher, for his comments as a technical editor for the refinement of this work.

Dr. Elsa C. Callo, former Dean of CTE and GSAR of LSPU- SPCC, and panelist of the researcher, for sharing her knowledge as a subject specialist so as to improve this study;

Dr. Julie Fe D. Panoy, the researcher's current dean of CAS of LSPU- SPCC, and panelist of the researcher, for the statistical assistance;

To the Campus Directors of LSPU System **Prof. Joel M. Bawica, Engr. Beltran Pedrigal, Engr. Manuel L. Alvarez** and **Atty. Rushid Jay S. Sancon,**

Deans/ Associate Deans and Administrative staff and secretaries of the LSPU System who supported her in the retrieval of the questionnaire.

HR of LSPU Campuses especially to **Ms. Annaliza B. De Roma** and **Ms. Ana Digi, Ms. Arla A. Redona, Mr. Efren R. De la Paz** and **Ms. Maria Lirio C. Ragel** for entrusting the official list of regular faculty member**.**

To the validators **Dr. Perlas Janice Sandoval, Dr. Rona Sahagun, Dr. Perla Guevarra, Dr. Cecilia Q. Velasco,** and to **Dr. Delon Ching** who gave sufficient information about the data on the status of research productivity of LSPU System that the researcher needed.

To all my friends, colleagues, classmates, students, and family who made this study possible.

To his husband, **Conrado,** and children **Jacob Conrad**, **John Daniel**, **James Matthew,** and **Johanna Alexa,** and most of all to **Jesus Christ for** the strength and blessing abundantly given to the researcher.

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