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Motivation in Scientific Research of Lecturers of Vietnam National University – Ho Chi Minh City, Vietnam

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Abstract

This study was conducted to determine the current state of motivation of lecturers in scientific research tasks including carrying out and evaluating research projects, publishing research results, compiling teaching and training materials. The two methods used are a questionnaire survey and in-depth interviews with lecturers from 6 member universities of Vietnam National University – Ho Chi Minh City (VNUHCM). The results showed that the research motivation level of lecturers was generally quite high with an overall mean value of 4.15 on a 5-point Likert scale, but uneven in carrying out specific activities. Among the four tasks contributing to overall research motivation, the task of "compiling materials" has the highest level of contribution, while the task of "carrying out research projects" has the lowest. Motivation for "evaluating research projects" and "publishing research results" shows equivalent levels of contribution to overall research motivation. Based on the T-test and ANOVA results (sig < 0.05), the study also identified differences in motivation in carrying out research projects and publishing research results among groups of lecturers according to their demographic characteristics, such as position, professional title, academic rank and degree, gender, and income level at the university where they are currently employed. The research findings provide practical basis for the leaders of VNUHCM to develop policies improving motivation of lecturers in scientific research activities.

Keywords: work motivation, scientific research, lecturers, research projects, evaluation of research projects, publication of research results, compilation of teaching materials.

1. Introduction

Among the professional tasks of university lecturers, scientific research is an important one. For individual lecturers, scientific research helps them strengthen and improve their knowledge

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and professional skills, connect theory with practice; on the other hand, the results of scientific research are incorporated into teaching to improve the quality of teaching and training, and to establish the lecturer's reputation among students and colleagues. In addition, the scientific research results of lecturers also contribute to solving practical issues in life, contributing to the development of the community and society. For universities, the research results of their lecturers contribute to the institution's reputation in society. Scientific publication indicators are criteria for evaluating and ranking universities globally and domestically. Therefore, universities need to pay attention to research activities, considering it a core activity alongside teaching and training. However, research is a challenging activity that requires high effort, perseverance, and focus from the lecturers. Therefore, to carry out the scientific research task effectively, lecturers not only need research capacity but also require high motivation.

Vietnam National University – Ho Chi Minh City (VNUHCM) is one of the two national university systems, and is a key higher education institution in Vietnam. VNUHCM's vision is "To be a leading university in Asia and a hub where science, technology, innovation, and the culture of Vietnam converge"; VNUHCM's mission is "To take the lead in the training of high-quality human resources, nurturing talents to become future leaders, and promoting social-economic development; advancing and applying science, technology, excellent scientific research, innovation, and new economic growth models – contributing significantly to national development, promoting social progress, and enriching human" (vnuhcm.edu.vn, 21st July 2018). To achieve this vision and mission, VNUHCM needs to enhance its research activities. In order to do so, VNUHCM requires a team of lecturers who not only possess the necessary qualities and capabilities to meet the requirements of research, but also have high motivation and give their utmost effort in carrying out research tasks, contributing to the fulfillment of the mission of promoting social progress - a mission that VNUHCM is committed to achieving.

There is a considerable number of authors worldwide, including in Vietnam, conducting research on the role of motivation in the performance of university lecturers (Myint, 2017; Ali et al., 2018; Kurniawati, Tobing, 2019; Tran, 2018; Do et al., 2020), and the factors influencing the work motivation of lecturers (Munyengabe et al., 2017; Suchyadi, 2017), but there have been relatively few studies that systematically examine the indicators of lecturers' work motivation in the performance of specific professional tasks. In Vietnam, some authors have researched the work motivation of lecturers in private university institutions (Truong, 2017; Tran et al., 2019; Phan, 2020), but not many authors have researched the work motivation of lecturers in flagship public universities like the National University. This paper aims to systematize the indicators of work motivation among university lecturers based on a comprehensive literature review. Subsequently, it will present the research results regarding the motivation status of lecturers from the six member universities of VNUHCM in scientific research.

The research results provide practical grounds for proposing measures to enhance motivation in scientific research for VNUHCM's lecturers, contributing to the development of the lecturers, ensuring sustainable development, and affirming VNUHCM's position among the system of universities in the country and the region. On the other hand, the proposed measures may also be suitable for member universities of Vietnam National University Hanoi (the remaining national university system in Vietnam) and other public universities in Vietnam, where the working conditions for lecturers are nearly similar to those at VNUHCM.

2. Literature review

2.1. The definition and indicators of work motivation

The concept of work motivation has long been interested by many authors worldwide and in Vietnam. Some common views on work motivation from authors around the world include: motivation is a direction for a person in action, it is the cause that makes people want to continue or give up their actions (Elliot, Covington, 2001); work motivation drives individuals to do/not to do something (Broussard, Garrison, 2004); work motivation is the willingness to endure difficulties in order to achieve organizational goals (Laskova, 2007); work motivation represents the direction and intensity of human behavior (Dornyei, Ushioda, 2011); work motivation helps to adjust and direct human actions towards the desired pattern (Griffin, 2013); work motivation is the cause that explains why people decide to act, how long they sustain activity, and how hard they pursue it (Han, Yin, 2016); work motivation is the effort stimulating people at work with the desire to achieve personal and organizational goals (Munyengabe et al., 2017); work motivation influences

the effectiveness and quality of university lecturers' task performance (Nurcholis, 2018; Andriani et al., 2018; Kurniawati, Tobing, 2019; Chukwuedo, Egbri, 2020).

Some Vietnamese authors also have similar views to those mentioned above, such as Bui (2009) stated that "work motivation is the internal factors that stimulate people to work positively under conditions that allow for high productivity and efficiency" (p. 89); Nguyen (2010) who researched on management theory said that "the concept of motivation is used in management to describe an internal force within each individual that enables them to determine the level and methods necessary to continuously make efforts in their work" (p. 234).

The views of the authors show that, despite different expressions, when referring to work motivation, they all emphasize that work motivation is not only the cause explaining why individuals decide to act, but more importantly, work motivation will sustain and encourage individuals to make their utmost efforts to achieve desired goals. In general, work motivation can be understood as an internal force that guides human behavior, helps individuals sustain their activities, and makes utmost efforts to achieve personal and organizational goals in their work.

A person's work motivation will be indicated through his or her attitude and behavior while working. The issue of the indicators of work motivation of employees in organizations in general and university lecturers in particular has not been directly and deeply studied by many domestic and international authors, almost only mentioned in definitions of work motivation; or indirectly mentioned in studies of another related issue to work motivation; or mentioned when designing surveys of factors affecting work motivation.

- Mentioning the indicators of work motivation in the definition of work motivation:

The definition of work motivation itself highlights prominent expressions when a person has work motivation: persistence and effort. Dornyei and Ushioda (2011) when emphasizing two aspects of work motivation, direction and intensity of behavior, also argued that the second aspect (intensity of behavior) is largely due to the persistence and effort of the individual.

Some Vietnamese authors also incorporate indicators of work motivation directly into the definition of work motivation, such as efforts and hard work, as presented by Bui (2009), Nguyen et al. (2012), Nguyen (2015). Furthermore, other manifestations of work motivation are desire and voluntariness, as found in the definition of work motivation presented by Truong (2017).

- Mentioning the indicators of work motivation when studying other related issues to work motivation:

When studying leadership and organizational management, Grieser (2017), in his book "The ten golden principles of leadership", outlined the indicators of a motivated individual, such as "effort and discipline", "passion and enthusiasm", "optimistically pursuing goals", and "voluntarily taking on extra work" (pp. 32-35); Nguyen (2010) in Theory of Management stated that "A person with great motivation will work hard, but someone who is not motivated to work will not" (p. 234). Therefore, the two authors mentioned above have addressed the manifestations of a motivated individual, which are the passionate and enthusiastic attitude towards work, dedication, hard work, industriousness, efforts, and voluntariness.

- Mentioning the indicators of work motivation when designing a survey on factors affecting work motivation:

Authors from various countries, including Vietnam, have focused their research on factors influencing the work motivation of educators in general and university lecturers in particular (Ebru, 2012; Firestone, 2014; Myint, 2017; Munyengabe et al., 2017; Andriani et al., 2018; Sinniah et al., 2018; Tran et al., 2019).

During the research on factors affecting work motivation, in order to design a scale measuring the influence of factors (independent variables) on work motivation (dependent variable), some authors have attempted to identify the indicators of work motivation (i.e. the observed variables within the dependent variable). Some authors who have done this include: Andriani et al. (2018) identified 10 indicators of a motivated individual, most of which are related to persistence in maintaining activities and perseverance in overcoming difficulties (p. 26). Other authors such as Watt and Richardson (2007); Muhammad and Sabeen (2011) have addressed the manifestations of enthusiasm, dedication, and effort in their studies. Some indicators of work motivation were found in surveys by Vietnamese authors on factors affecting university lecturers' work motivation, such as trying their best to complete the work despite difficulties, hard work (willingness to start the working day early or stay late to complete work, work without time management), excitement with work (Le, 2020: 32), good mood, enthusiasm,

agreement with the school's encouragement policies, and willingness to sacrifice their benefits for common goals (Phan, 2020: 35).

In summary, although there have not been direct and in-depth researches on the work motivation indicators of employees in general and university lecturers in particular, these indicators have been mentioned scattered in definitions and in some related research works on work motivation. Generally, university lecturers, when motivated to work, will have the following prominent indicators: Interested in performing tasks; Enthusiastic to perform tasks; Voluntary and willing to receive tasks; Dedicated and hardworking; Make efforts, try their best; Persistent to carry out to the end; Desire to achieve good results/ good performance.

2.2. Scientific research tasks of university lecturers

In Vietnam, the scientific research tasks of university lecturers are specified in a number of documents published by the Government and the Ministry of Education and Training of Vietnam, such as the Law on Higher Education (The National Assembly..., 2012, Article 55); Law on amending and supplementing some articles of the Law on Higher Education (The National Assembly..., 2018, Clause 30); Circular No. 40/2020/TT-BGDDT Regulations on codes, standards for professional titles, appointment and salary ranking for teaching officials in public higher education institutions (Ministry of Education..., 2020, Article 4, 5, 6, 7); Circular No. 20/2020/TT-BGDDT Regulations on work regime of higher education lecturers (Ministry of Education..., 2020a, Article 5). Professional titles of Vietnamese university lecturers include senior lecturer (class I), main lecturer (class II), lecturer (class III), and teaching assistant. The basic tasks for class I, II and III lecturers are unchanged, only the leading role in performing tasks and high responsibilities in scientific publication for main lecturer and especially senior lecturers is increased.

Based on the above documents, scientific research tasks of Vietnamese university lecturers could include 4 following main activities:

- Carrying out scientific research projects (supervising or participating);
- Evaluating scientific research projects of colleagues and students;
- Publishing research results on scientific journals; presenting at scientific conferences;
- Compiling teaching and training materials.

Therefore, lecturers with motivation in scientific research are those who have indicators of motivation in carrying out the four activities mentioned above.

3. Materials and methods

* Research objectives: This study aims to determine the current motivation of VNUHCM lecturers in scientific research.

* Research content: Motivation of VNUHCM lecturers: 1. In carrying out scientific research projects; 2. In evaluating scientific research projects of colleagues and students; 3. In publishing scientific research results in scientific journals; presenting at scientific conferences; 4. In compiling teaching and training materials.

The research questions are:

- What is the current level of motivation in carrying out scientific research activities of VNUHCM lecturers?

- Are there differences in motivation level of lecturers in carrying out scientific research activities based on demographic characteristics?

* Research area: The study was carried out at 6 member universities of VNUHCM, which were encrypted from U1 to U6.

* Research methods: The study uses a mixed-methods approach, combining both quantitative and qualitative methods, in which:

- Questionnaire survey is the key research method to collect data on motivation of lecturers in scientific research. The questionnaire is built based on literature review, the content includes 4 items (scientific research activities) with 28 observed variables (work motivation indicators). Participants were requested to rate a 5-point Likert scale, whereby 1 = totally disagree, 2 = somewhat disagree, 3 = neither agree nor disagree (neutral), 4 = somewhat agree, and 5 = totally agree. The questionnaire was conducted online (via Microsoft Forms) from August to October 2022 with 457 participants (Table 1). The results of the reliability test using Cronbach's Alpha showed that the scale met the requirements for reliability. The results of exploratory factor analysis (EFA) indicated that the number of factors and observed variables within each factor were appropriate. The scale is well-qualified for use.

- In-depth interviews were conducted following the questionnaire to clarify the data obtained from the questionnaire. The interviews were conducted both in-person and over the phone, took notes/recorded (with the participant's permission), and the results of the interviews were synthesized. The interview sample consisted of 18 lecturers randomly selected from the lecturer groups (Table 1). To secure participants' personal information, the lecturers' identities were encrypted from L1 to L18.

Table 1. Descriptive statistics of participants' demographics

Lecturer groups		Questionnaire survey		Interviews	
		N	%	N	%
Position	Manager	83	18.2	07	38.9
	Non-managerial lecturer	374	81.8	11	61.1
Academic title, degree	Senior lecturer – Professor, Associate Professor	26	5.7	03	16.7
	Main lecturer – Doctor	31	6.8	02	11.1
	Lecturer – Doctor	106	23.2	06	33.3
	Lecturer – Master	186	40.7	06	33.3
	Teaching assistant	89	19.5	01	5.6
Gender	Male	223	48.8	11	61.1
	Female	234	51.2	7	38.9
Age	Below 30 years old	116	25.4	03	16.7
	30 to below 40 years old	184	40.3	08	44.4
	40-50 years old	128	28.0	04	22.2
	Above 50 years old	29	6.3	03	16.7
Experience as a lecturer	Below 5 years	144	31.5	02	11.1
	5-10 years	114	24.9	09	50.0
	Above 10 years	199	43.5	07	38.9
Income level at university	Below 10 million VND	180	39.4		
	From 10 to 15 million VND	126	27.6		
	Above 15 million VND	151	33.0		
University	U1	150	32.8	03	16.7
	U2	79	17.3	03	16.7
	U3	56	12.3	03	16.7
	U4	79	17.3	03	16.7
	U5	49	10.7	03	16.7
	U6	44	9.6	03	16.7
Total		457	100	18	100

* Data Analysis Techniques:
Using SPSS software: testing reliability and validity of the scale; descriptive statistics (mean, standard deviation) and inferential statistics (ANOVA and t-test) in describing and analyzing the current situation.
In addition, Partial Least Squares Structural Equation Modeling (PLS-SEM) (by SmartPLS software) is also used to evaluate the quality of the measurement model and structural model.

4. Results

4.1. Synthesized research results on VNUHCM lecturers' motivation in scientific research

The survey results using a questionnaire on the indicators of lecturers' motivation in carrying out scientific research activities are presented in Table 2.

Based on the descriptive statistics in Table 2, it can be observed that the overall motivation in scientific research among lecturers is evaluated at a fairly high level (the overall mean value of 4.15); in which, motivation in carrying out projects achieved the highest level (mean value of 4.22), while the lowest level is for motivation in research project evaluation (mean value of 4.10). Most of the motivation's indicators in carrying out 4 specific activities in scientific research tasks were self-evaluated by lecturers at a somewhat agree level.

Table 2. Lecturers' self-assessment on motivation's indicators in scientific research

No	**Motivation's indicators in scientific research activities**	Agreement level	
		Mean	SD
1	In carrying out scientific research projects (supervising or participating) (referred to as carrying out scientific research projects)	4.22	0.77
2	In evaluating scientific research projects of colleagues and students (referred to as evaluating scientific research projects)	4.10	0.72
3	In publishing research results on scientific journals; presenting at scientific conferences (referred to as writing scientific articles)	4.17	0.79
4	In compiling teaching and training materials (textbooks; monographs, reference books, guidebooks; internal circulating documents for teaching and training purposes) (referred to as compiling materials)	4.12	0.74
	Overall	4.15	0.63

However, to accurately analyze the level of expression of the 7 indicators in scientific research activities, as well as the contribution of 4 specific activities to the overall motivation in scientific research, the research team conducted further analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM), obtaining the results as follows (Tables 3 and 4):

In terms of the expression level of the 7 indicators in scientific research motivation:

In the reflective measurement model, the close relationship between the observed variables and the structural variable (convergence) is evaluated by Outer Loading. If the observed variables have Outer Loading less than 0.7, they should be removed and the model should be reanalyzed (Hair et al., 2021). The results calculated by PLS-SEM in assessing the measurement model quality show that, all observed variables (indicators) have outer loading > 0.7 (Table 3), so all of these variables meet the convergence criteria towards the structural variable (motivation in scientific research). Therefore, the indicators of excitement, enthusiasm, voluntariness, dedication, hard work, making effort, perseverance, and desire to complete tasks well all have a clear expression level of indicators for lecturers' motivation in carrying out all 4 scientific research activities.

Table 3. Expression levels of 7 indicators of motivation in scientific research

Motivation in scientific research	**Indicators**	**Encoding**	**Outer loading** (> 0.7)
Motivation in Carrying Out Scientific Research Projects (COSRP)	Excitement	COSRP1	0.919
	Enthusiasm	COSRP2	0.918
	Voluntariness	COSRP3	0.939
	Dedication, hard work	COSRP4	0.926
	Making effort	COSRP5	0.912
	Perseverance	COSRP6	0.875
	Desire	COSRP7	0.919
Motivation in Evaluating Scientific Research Projects (ESRP)	Excitement	ESRP1	0.914
	Enthusiasm	ESRP2	0.917
	Voluntariness	ESRP3	0.911
	Dedication, hard work	ESRP4	0.916
	Making effort	ESRP5	0.927
	Perseverance	ESRP6	0.921
	Desire	ESRP7	0.908
Motivation in Publishing Scientific Research Results (PSRR)	Excitement	PSRR1	0.931
	Enthusiasm	PSRR2	0.932
	Voluntariness	PSRR3	0.927
	Dedication, hard work	PSRR4	0.949
	Making effort	PSRR5	0.944
	Perseverance	PSRR6	0.928

	Desire	PSRR7	0.906
Motivation in Compiling Materials for teaching and training (CM)	Excitement	CM1	0.889
	Enthusiasm	CM2	0.928
	Voluntariness	CM3	0.906
	Dedication, hard work	CM4	0.937
	Making effort	CM5	0.924
	Perseverance	CM6	0.920
	Desire	CM7	0.902

In terms of the contribution level of motivation in carrying out each activity to the formation of overall research motivation:

In the formative measurement model, the influence of factors on the structural variable will be evaluated by Outer Weight (Hair et al., 2021). The results calculated by PLS-SEM in assessing the measurement model quality show the contribution level of factors (COSRP, ESRP, PSRR, CM) to the overall research motivation, as follows (Table 4):

Table 4. Contribution levels of motivation in carrying out 4 activities to the overall scientific research motivation (SR)

Connection	Outer weight	Level
COSRP -> SR	0.119	4
ESRP -> SR	0.236	2
PSRR -> SR	0.236	2
CM -> SR	0.616	1

Although the mean values in the descriptive statistics in Table 3 indicate that the motivation of teachers in "carrying out scientific research projects" is the highest; however, the Outer Weights in Table 4 show that among the 4 tasks contributing to overall research motivation, the task of "compiling materials" has the highest contribution level (0.616), and the lowest is the task of "carrying out scientific research projects" (0.119). Motivation in "evaluating scientific research projects" and "publishing scientific research results" have equivalent levels of contribution to the overall research motivation.

To further clarify the above analysis results, the research team conducted interviews with 18 lecturers from 6 member universities of VNUHCM. For the question about the assigned tasks and the request to "rank the tasks according to their own motivation level (from highest to lowest)", only 5 out of 18 interviewed lecturers (27.8 %) ranked the task of conducting scientific research projects as the highest motivation level for themselves. All these 5 lecturers, when telling the reasons for the above ranking, mentioned their own tendencies, abilities and interests in scientific research, and had a clear understanding of the role of scientific research:

"I enjoy participating in scientific research. Through research, I have discovered many useful things for my teaching activities; through research, I have found similarities and differences between theory and practice to enrich my teaching activities" (L3 – Male, Senior Lecturer, Manager, 38 years old, 13 years of experience as a lecturer).

"Such ranking is due to my own interest and inclination. I am most interested in scientific research and tend to decrease my teaching activities to focus on research" (L13 – Female, Lecturer, M.S., 39 years old, 9 years of experience as a lecturer).

"I realize that conducting scientific research brings the most value to myself. Through research, I have been able to enhance my own abilities, acquire new knowledge, and produce research projects that meet the requirements for applying for scholarships, sponsorships from organizations and businesses. Additionally, I am also able to create new values and technologies for society. In terms of economics, this activity has also helped me to earn additional income from various sources of funding. Therefore, for me personally, this is the biggest motivating task for myself" (L5 – Male, Lecturer, M.S., 27 years old, 4 years of experience as a lecturer).

"I have many scientific publications with high-ranking indexes." "Research activities have helped me gain research experience and scientific publication skills, which in turn enable me to guide many students and graduates" (L12 – Male, Manager, Lecturer, PhD., 42 years old, 15 years of experience as a lecturer).

"Scientific research activities create many opportunities for consolidating knowledge and expanding social relationships outside of university. Currently, I am coaching a group of research students, so I have a very high motivation to work" (L16 – Female, Manager, Lecturer, PhD., 43 years old, 20 years of experience as a lecturer).

Therefore, the lecturers who have high motivation in carrying out research projects are those who have a passion for research, research competence and experience, and a clear understanding of the importance of research in their professional activities. However, implementing scientific research projects is a difficult and demanding task that requires high competence and concentration. As a result, the proportion of interviewed lecturers who are ranked as having the highest motivation in this area is not high.

4.2. Comparison of scientific research motivation of lecturers by demographics

The results of analyzing the differences by t-test and ANOVA are shown in Tables 5-9.

Table 5. Comparison of scientific research motivation survey results of lecturers by age and university teaching experience

Scientific research activities	Level of agreement								ANOVA (< 0.05)
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
By age									
	< 30 years old		**30 - < 40**		**40 - 50**		**> 50 years old**		
COSRP	4.28	0.67	4.16	0.78	4.20	0.83	4.36	0.78	0.387
ESRP	4.24	0.68	4.07	0.75	4.02	0.73	4.18	0.62	0.091
PSRR	4.21	0.71	4.14	0.82	4.13	0.83	4.41	0.65	0.316
CM	4.18	0.72	4.07	0.74	4.11	0.76	4.30	0.77	0.338
By university teaching experience									
	< 5 years		**5-10 years**		**> 10 years**				
COSRP	4.25	0.73	4.12	0.77	4.25	0.79			0.323
ESRP	4.16	0.73	4.11	0.72	4.06	0.72			0.440
PSRR	4.19	0.75	4.04	0.85	4.24	0.77			0.078
CM	4.09	0.79	4.14	0.66	4.14	0.76			0.829

The ANOVA results in Table 5 indicate no significant difference in motivation among lecturer groups based on age and university teaching experience in performing all tasks within the scientific research activities category (sig > 0.05).

The data in Tables 6, 7, 8, 9 shows that there is a statistically significant difference (sig < 0.05) in motivation, mainly focused on the two tasks of "implementing scientific research projects" and "publishing research results". These two tasks are the main focus and the most visible evidence of the university lecturers' scientific research activities. In practice, these two tasks often go hand in hand; publishing research results in scientific journals/proceedings is a mandatory task for authors/research teams when their research projects are approved for implementation.

Specifically, there are differences in motivation in conducting research projects and publishing research results among the following groups of lecturers:

- By position (see Table 6): lecturers with management positions have higher motivation than non-managerial ones (motivation in scientific publications has mean values at 4.33 and 4.14, respectively).

Table 6. Comparison of scientific research motivation survey results of lecturers by position

Scientific research activities	**Manager**		**Non-managerial Lecturer**		T- test (< 0.05)
	Mean	SD	Mean	SD	
COSRP	4.35	0.78	4.18	0.76	0.070
ESRP	4.15	0.77	4.09	0.71	0.522
PSRR	4.33	0.82	4.14	0.78	**0.044**
CM	4.12	0.77	4.12	0.74	0.995

The interview results also showed that among the 5 lecturers who ranked scientific research motivation the highest, there were 3 managers. These are the leaders and professional managers of the faculty and discipline, so they need to assert their ability in scientific publication to lead the lecturers in their unit to carry out scientific research.

- By professional title, academic title and degree (see Table 7): the higher the professional title and academic title, the higher the motivation in carrying out research projects and publishing research results (as shown by the mean scores in Table 7).

Table 7. Comparison of scientific research motivation survey results of lecturers by professional title, academic title and degree

Scientific research activities	Mean	SD	Mean	SD	Mean	SD	Mean	SD	ANOVA (< 0.05)
By professional title									
	Senior Lecturer		**Main Lecturer**		**Lecturer**		**Teaching assistant**		
COSRP	4.63	0.57	4.41	0.58	4.14	0.80	4.04	0.75	**0.003**
ESRP	4.25	0.55	4.07	0.62	4.08	0.74	4.17	0.77	0.474
PSRR	4.59	0.56	4.39	0.65	4.09	0.81	4.05	0.79	**0.002**
CM	4.01	0.74	4.13	0.64	4.13	0.74	4.15	0.82	0.877
By academic title, degree									
	Prof./Assoc. Prof.		**PhD**		**M.S**				
COSRP	4.63	0.57	4.37	0.76	4.11	0.76			**0.000**
ESRP	4.25	0.55	4.14	0.70	4.08	0.74			0.404
PSRR	4.59	0.56	4.35	0.73	4.05	0.81			**0.000**
CM	4.01	0.74	4.16	0.73	4.12	0.75			0.594

The interview results also showed that, among the 5 lecturers who ranked scientific research motivation the highest, there were 1 senior lecturer (Assoc. Prof.) and 2 PhDs. According to the regulations on the duties of lecturers (as mentioned above), lecturers with higher professional titles and academic titles have higher research and scientific publication responsibilities (Ministry of Education..., 2020, Articles 4, 5, 6, 7); on the other hand, higher academic titles and degrees are evidence of expertise, capacity, and experience in research. Therefore, their research motivation levels are higher than those of lecturers with lower academic degrees or titles.

- By gender (see Table 8): male lecturers have higher motivation in research and publication than female lecturers (mean value of 4.32 and 4.12; 4.30 and 4.06, respectively).

Table 8. Comparison of scientific research motivation survey results of lecturers by gender

Scientific research activities	***Male***		***Female***		T- test (< 0.05)
	Mean	SD	Mean	SD	
COSRP	4.32	0.75	4.12	0.77	**0.005**
ESRP	4.10	0.72	4.11	0.73	0.810
PSRR	4.30	0.78	4.06	0.79	**0.002**
CM	4.07	0.81	4.18	0.68	0.131

The interview results also showed that only 2 female lecturers out of the 5 lecturers rated that they had the highest motivation in scientific research. This can be explained by the fact that female lecturers face more pressure in fulfilling their gender roles in the family, making it more difficult for them than male lecturers to carry out research projects and publish results (scientific articles/reports), which are difficult, demanding, and require high levels of concentration and focus.

- By the level of income at the workplace and by universities (see Table 9): Lecturers with higher income have higher motivation in scientific research and publication (as seen in the mean value of these groups in Table 9). This is also understandable since lecturers with higher income can focus more on research without worrying about financial constraints. In addition, lecturers'

motivation in research and publication also varies by their universities. The factors influencing motivation in the scientific research activities of lecturers from each member university of VNUHCM need to be analyzed in more detail in future studies.

Table 9. Comparison of scientific research motivation survey results of lecturers by income and universities

Scientific research activities	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	ANOVA (< 0.05)
By income level at workplace													
	< 10 million		**10 - 15**		**> 15 million**								
COSRP	4.13	0.79	4.15	0.81	4.38	0.67							**0.006**
ESRP	4,11	0,72	4,16	0,69	4,04	0,74							0.386
PSRR	4.10	0.81	4.11	0.78	4.32	0.75							**0.026**
CM	4.12	0.78	4.10	0.74	4.16	0.70							0.803
By universies													
	U1		**U2**		**U3**		**U4**		**U5**		**U6**		
COSRP	4.03	0.83	4.36	0.64	4.30	0.81	4.29	0.73	4.03	0.77	4.54	0.54	**0.009**
ESRP	4.09	0.73	4.25	0.68	4.14	0.67	4.11	0.70	3.79	0.72	4.18	0.78	**0.019**
PSRR	4.06	0.82	4.27	0.72	4.18	0.88	4.19	0.83	4.06	0.77	4.49	0.54	**0.028**
CM	4.17	0.74	4.02	0.84	4.09	0.80	4.12	0.80	4.10	0.56	4.24	0.58	0.632

5. Discussion

According to the first research question (What is the current level of motivation in carrying out scientific research activities of VNUHCM lecturers?), the research results indicate that the overall motivation of lecturers in research activities is quite high. However, their motivation in carrying out specific research tasks is uneven. Data analysis shows that motivation in “carrying out research projects” has the lowest contribution level, while motivation in “compiling materials” has the highest contribution level to the overall research motivation. Motivation in the 2 remaining activities has an equivalent contribution level.

The uneven level of motivation in carrying out different activities is due to:

Firstly, there are different characteristics of research activities. Carrying out a research project is a difficult task that requires not only research skills but also personal qualities such as perseverance and diligence. Furthermore, this also requires dedication. Only when lecturers are not hindered by difficulties in life can they focus on their research work. Meanwhile, compiling materials include all teaching-related materials, not only textbooks; monographs, reference books, guidebooks but also internal circulation materials that lecturers compile for teaching and training purposes. This is a task that lecturers undertake not only due to mandatory duties but also out of their own personal needs to better serve their teaching. Therefore, to enhance the motivation of lecturers in the group of research tasks, it is necessary to take gradual steps. In the short term, it is possible to focus on increasing lecturers' motivation in compiling teaching materials. Hair et al (2021), in their research, argued that to enhance a factor, one should focus on the connection with the highest level of influence on that factor (p. 219). According to this perspective, if we can enhance the motivation of teachers in compiling teaching materials in particular, it will significantly contribute to the overall motivation of teachers in the entire research group. This is also reasonable because compiling teaching materials is an indispensable task associating with teaching, which is the central task in the professional activities of university lecturers.

Secondly, the personal characteristics of lecturers. The interview results showed that lecturers with high motivation in carrying out research projects are those who have a passion for this work, have research capacity and experience, and have a clear understanding of the importance of research in their professional activities. Thus, in order to enhance motivation in

carrying out research projects, it is necessary to strengthen the awareness of lecturers about the importance of this activity. In addition, it is also necessary to identify the lecturers who have a passion for scientific research to encourage and create favorable conditions for them to conduct research. They will be the nucleus that drives and attracts other colleagues to participate in scientific research activities.

According to the second research question ("Are there differences in motivation of lecturers in carrying out scientific research activities based on demographic characteristics?"), the results showed that not all tasks in scientific research had motivational differences based on demographics. The motivational differences only focused on two tasks which are "carrying out research projects" and "publishing research results". The differences in motivation in these two tasks were also not recorded for all groups of lecturers, but only for groups based on position, professional title, academic rank, gender, and income level at the current workplace. Based on these results, to enhance the motivation of lecturers in scientific research, member universities of VNUHCM and each faculty within each university should consider establishing research groups with leaders who are managers, lecturers with high academic title and degree. They will be the pioneers, attracting other lecturers, especially those who have a a passion for scientific research, to participate in scientific research activities. In addition, attention should be paid to the income of lecturers, developing policies to reward lecturers participating in scientific research, allocating funding and appropriate incentives for implementing research projects and for publishing research results.

Limitations and Suggestions for Further Studies: The study was conducted on lecturers from public universities which are members of the national university, and has not been conducted on lecturers from other types of universities (private universities, public universities not affiliated with the national university). The study has also not mentioned yet the factors affecting the motivation of lecturers in research activities in general and in specific research activities; the factors affecting the research motivation of different groups of lecturers (by demographics).

The above issues need to be further investigated in future research studies.

6. Conclusion

An important professional task of university lecturers in Vietnam is scientific research. According to the regulations of the Ministry of Education and Training of Vietnam, this task includes four specific activities: carrying out research projects, evaluating research projects, publishing research results in scientific journals or presenting them at national and international scientific conferences, and compiling teaching and training materials.

The analysis of data collected from surveys and in-depth interviews with lecturers from 6 member universities of VNUHCM shows that the motivation of lecturers in scientific research, in general, is at a somewhat high level, but uneven in the implementation of specific activities.

The study also identified differences in motivation for conducting research projects and publishing research results among groups of lecturers based on their demographic characteristics, including position, professional title, academic rank and degree, gender and income level at their workplace.

The research results presented in the article provide practical basis for VNUHCM leaders to develop policies that enhance the motivation of lecturers in research activities.

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