TEACHERS' ATTITUDES TOWARDS RESEARCH AT PALAWAN STATE UNIVERSITY – PUERTO PRINCESA

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ABSTRACT

The university teachers' attitudes towards research may affect their research productivity, and in turn, influence the university research production. This cross-sectional explanatory study sought to assess the attitudes towards research of teachers at Palawan State University – Puerto Princesa (PSU) and determine how their attitude factors might vary across demographic variables age, gender, academic degree earned, teaching experience, tenure status, and rank. It also aimed to determine how their attitudes predict their research productivity. The Attitudes towards Research (ATR) Scale for university teachers developed by Shafqat, Manzoor, & Tariq (2018) was adopted to determine the attitudes of 155 teachers from the different colleges of the University. For analyses, descriptive statistics, Pearson correlation, MANOVA, and multiple linear regression were used. Results showed that, generally, PSU teachers have a positive attitude towards research in terms of research orientation, rewards influence, personal interests about research, mission of the university, and research use, but a negative attitude in terms of research anxiety. The PSU teachers' attitudes towards research did not significantly vary across gender, tenure status, and professional rank. However, significant differences were obtained in terms of age, academic degree earned, and teaching experience. PSU teachers had very low research productivity in the past five years, particularly in terms of research projects they authored or co-authored, published refereed articles, published books, chapters in edited books, and refereed presentations. Their attitudes towards research account for 20 percent of their research productivity, with their research orientation being the most important predictor-attitude factor. Provision of research opportunities such as having professional development programs on research, standardized research activities, publication facilities, and graduate scholarships among teachers were recommended. Other factors that affect teachers' research productivity were also recommended to be explored.

Keywords: Attitudes towards research, university teachers, research productivity, cross-sectional explanatory research, Palawan State University

INTRODUCTION

The United Nations Educational, Scientific, and Cultural Organization (UNESCO) and Commission on Higher Education (CHED) have emphasized the significant role of higher education in generating, transmitting, disseminating, and applying knowledge through research (CHED, 2009). However, it has been reported that Higher Education Institutions (HEIs) in the Philippines generally encounter various hindrances in advancing its research status. These challenges include, but not limited to, research capabilities, culture, and vocation of teachers, staff, and students, and university research facilities and infrastructure (CHED, 2016). Research practitioners' success in research may be determined by different factors including their attitudes towards research itself. Several studies have shown that attitudes towards work significantly affect one's work satisfaction and performance (Ahmad, Ahmad, & Shah, 2010). Studies also have shown that people's performance and success in their

profession are influenced by their positive professional attitudes (Hussain, et al., 2011). Assessing teachers' attitudes towards research and relating them to their research activities have been the focus of different studies. Pamatmat (2016) assessed the research attitudes of teachers in a State University in the Philippines and revealed that their attitudes significantly contribute to developing and sustaining university's excellence in research and publication. Nasser-Abu Alhija and Majdob (2017) examined 161 teacher educators' attitudes towards research and research productivity and found positive association between teachers' positive attitudes and productivity in research. On the other hand, in the study conducted by Mehta, Mehta, and Kikani (2017) amongst the faculty in a medical college, the teachers' attitudes towards research were quite healthy as compared to their actual practice. In 2018, Shafqat, Manzoor, and Tariq identified six factors of teachers' attitudes towards research, namely: research orientation, rewards influence research, personal interests, mission of university, research use, and research anxiety. In their study, they found that university teachers showed positive attitudes towards research, recognized the influence of rewards to research, and that teachers were not anxious about research activities. However, the extent to which these factors would vary across demographic variables and how these would affect teachers' productivity in research were not yet explored. The goal of this present study was three-fold: (1) assess the attitudes towards research of teachers at Palawan State University – Puerto Princesa (PSU) in terms of the factors identified by Shafqat, Manzoor, and Tariq (2018); (2) determine how the PSU teachers' attitudes towards research would vary across demographic variables; and (3) identify how the PSU teachers' attitudes towards research would predict their research productivity. PSU is one of the major universities in Western Philippines. It envisions itself to be an internationally recognized university that provides relevant and innovative education and research for lifelong learning and sustainable development. Thus, the enhancement of its research capability and productivity is deemed necessary. The results of this investigation would be helpful to PSU in making decisions on providing its teachers professional development programs on research and/or research opportunities that would eventually boost its teachers' productivity. Its results would also be useful to other related studies that seek to understand teachers' attitudes towards research and their research productivity.

OBJECTIVES OF THE STUDY

This study sought to assess the attitudes towards research of PSU teachers and determine how their attitude factors might vary across variables and predict their research productivity. Specifically, this study aimed to (1) assess the attitude towards research of PSU teachers in terms of the following factors (Shafqat, Manzoor, & Tariq, 2018) research orientation, rewards influence research, personal interests, mission of the university, research use, and research anxiety; (2) determine whether there is a significant relationship among the six factors of PSU teachers' attitude towards research; (3) determine whether there is a significant difference in the attitudes of PSU teachers towards research in terms of the variables age, gender, academic degree earned, teaching experience, tenure status, and rank; (4) assess the PSU teachers' productivity in research in the past five years; and (5) explain how the PSU teachers' attitudes towards research predict their research productivity.

METHODOLOGY

This study is a cross-sectional explanatory research. It employed self-report survey as its primary method of gathering data. This methodology is particularly appropriate when obtaining current statistics of a large population in a short period of time. All teachers at the PSU for School Year 2019-2020 were considered eligible participants for this study. However, only 155 of the PSU teachers were

able to complete the survey as most of them were either on leave, on travel, or occupied with administrative, teaching, and/or non-teaching tasks. The Attitudes towards Research (ATR) Scale for university teachers developed by Shafqat, Manzoor, & Tariq (2018) was adopted to determine the attitudes of the PSU teachers. This instrument consists of 22 items on a 5-point Likert scale. It measures six attitude factors, namely: (1), research orientation (5 items); (2), rewards influence research (5 items); (3), personal interests (4 items); (4), mission of university (2 items); (5), research use (3 items); and (6), research anxiety (3 items). As reported in the original study, the ATR scale was developed and validated from literature and experts in the field. The reliability coefficient of the instrument was 0.76. The survey was conducted from October 21 to November 5, 2019. Before the conduct of the survey, an approved communication with the PSU President was secured, followed by the personal communication with the Vice President for Academic Affairs and College Deans as recommended by the President. Since teachers had different schedule in a week, the survey forms were left to the secretary of each college. To increase the response rate and ensure that every teacher was given a chance to participate, the survey period was extended for two weeks following-up those departments and colleges which had yet incomplete returned questionnaires. However, due to unavailability of most teachers at that period, only 155 survey questionnaires were collected. Before statistical analyses were conducted, the data were examined and transformed. The item numbers 12, 13, and 20 for factor 6 (research anxiety) were recoded into opposite direction such that a respondent with a higher score has a lesser anxiety in research. Some items which were not answered by the respondents were imputed with the mean score of the population for each item. The percentage of missing cases per item was relatively small, ranging from 0 percent - 3.9 percent with mode = 0 percent. Meanwhile, to obtain the attitudes towards research of PSU teachers, the mean and standard deviation of each ATR factor were computed. The significant correlation among these factors was determined using Pearson correlation coefficient. To assess whether these factors differ significantly across age, gender, academic degree, teaching experience, tenure status, and rank, one-way multivariate analysis of variance (MANOVA) was used for each independent variable. To make the categories in every independent variable have comparable sizes for MANOVA analyses, only two categories were made in every variable (e. g. for age, 21 – 30 years old and 31 years old and above). As for gender and rank, the category with greater number was reduced by random selection in such a way that it was not 1.5 times bigger than the other category. To describe the research productivity of PSU teachers in the past five years, descriptive statistics of teachers' research outputs five years before the collection of data were computed and presented. Only the teachers who declared their research productivity and taught for the past five years were considered in the analyses of research productivity. This was to ensure that the outputs they reported in the surveys were not the ones they produced in their undergraduate programs. The following formula adopted from Nasser-Abu Alhija and Majdob (2017) was used to compute for teacher's research productivity (RP):

$$RP = 1 + log\ [3(\text{number of research projects as principal researcher})$$
$$+ 3\ (\text{number of research projects as co} – \text{researcher})$$
$$+ 5\ (\text{number of refereed articles published})$$
$$+ 5\ (\text{number of books published})$$
$$+ 3\ (\text{number of chapters in edited books})$$
$$+ 3\ (\text{number of refereed presentations}) + 0.5]$$

Finally, multiple linear regression analysis was used to determine how the means of six ATR factors of teachers could predict their RP. Microsoft Excel and Statistical Package for Social Sciences (SPSS) software were used to perform all statistical analyses.

RESULTS AND DISCUSSION

This section presents, interprets, and discusses the results obtained in this study.

1. Attitudes towards Research of PSU Teachers

Table 1 shows the mean ratings and standard deviations of PSU teachers across six factors in the ATR scale.

Table 1

Attitudes towards Research of PSU Teachers (n=155)

ATR factors	M	SD
F1: Research orientation	3.80	0.69
F2: Rewards influence	3.84	0.57
F3: Personal interests	3.93	0.64
F4: University mission	4.43	0.61
F5: Research use	4.01	0.75
F6: Research anxiety	2.97	0.99

Mean value >3 indicates positive attitude; mean value <3 indicates negative its value, the less anxious the respondent is.

As revealed in Table 1, PSU teachers scored positively from factors 1 to 5. This indicates that PSU teachers were oriented towards research. They recognized that their research activities could be influenced by rewards. They confirmed that carrying out research could be driven by personal interests. They believed that research is essential to the university mission and that it is useful to their profession and to their lives, in general. However, since the items in factor 6 were recoded, their score below median score three indicates that many of them were nervous, stressed, or feeling insecure concerning the analysis of research data.

2. Relationship among PSU Teachers' ATR Factors

The correlations among PSU teachers' ATR factors are shown in Table 2.

Table 2

Pearson Correlation of PSU Teachers' ATR Factors

ATR factors	F1: Research orientation	F2: Rewards influence	F3: Personal interests	F4: University mission	F5: Research use
F2: Rewards influence	.669**				
F3: Personal interests	.670**	.647**			
F4: University mission	.644**	.575**	.568**		
F5: Research use	.724**	.697**	.670**	.679**	
F6: Research anxiety	.152	-.129	-.137	.087	.011

**. Correlation is significant at the 0.01 level (2-tailed).

As shown in Table 2, the PSU teachers' ATR factors 1 to 5 were all significantly and positively correlated among each other. This indicates that as they scored higher in one of these factors, they also tended to score higher in the other factors. However, their scores in research anxiety were weakly correlated to any of the other factors. This signifies that the anxiety they felt about research did not affect their positive inclinations and perceptions about research. In other words, they may have experienced stress and difficulty in analyzing research data, yet they still recognized the usefulness of research and desired to conduct research.

3. PSU Teachers' ATR Factors across Variables

To be able to determine the differences in the PSU teachers' ATR factors across demographic variables age, gender, academic degree, teaching experience, tenure status, and rank, one-way MANOVA was performed for each independent variable. Prior to MANOVA, preliminary analyses were done. Most of the dependent variables had little skewness (<|1.0|) or kurtosis (<2.0) for each independent variable, reasonably satisfying the normality assumption (Harlow, 2014). Correlation among the dependent variables ranged from 0.011 to 0.724 (<0.80), which did not cause concern for

multicollinearity (Harlow, 2014). Scatterplots among dependent variables revealed linearity among them. Box's tests of equality of covariance revealed that homoscedasticity in the dependent variables was present, *p*>0.05. To evaluate the MANOVA *F-test*, Pillai's Trace criterion was used as it is more robust against any possible violation of assumptions than the other criteria. Note that not all respondents were included in the analysis of some variables. This was because some respondents missed or opted not to identify some demographic variables such as their age, gender, academic degree, teaching experience, tenure status, and rank. Moreover, as mentioned earlier, some groups were reduced in number by random selection for the interest of MANOVA analysis.

3.1 Age. There was a significant difference between teachers who were 21 – 30 years old and teachers who were 31 years old and above when jointly considered on the six ATR factors, Pillai's Trace = 0.12, $F(6, 139)$ = 3.19, p = 0.006, partial η^2 = 0.12. A separate ANOVA conducted for each dependent variable at an alpha level of 0.008 revealed that there was a significant difference between two age groups on factors 1, 3, and 5, but no significant difference on factors 2, 4, and 6 as shown in Table 3. This indicates that teachers aged 21-30 years old were more research oriented, more personally interested about research, and more perceptive of the usefulness of research in profession and in life. This could be because these young professionals were being more optimistic about their future careers and still had more time for research.

Table 3
One-way ANOVA for Teachers' ATR Factors between Age Groups

| Factors | Age Groups | | | | ANOVA | |
| | 21-30 years old (*n*=58) | | 31 years old above (*n*=88) | | | |
	M	*SD*	*M*	*SD*	*F*	p
F1: Research orientation	3.99	0.61	3.67	0.70	7.86	0.006*
F2: Rewards influence	3.94	0.52	3.77	0.54	3.75	0.055
F3: Personal interests	4.12	0.51	3.81	0.66	8.84	0.003*
F4: University mission	4.51	0.53	4.43	0.60	0.71	0.400
F5: Research use	4.25	0.59	3.88	0.79	9.42	0.003*
F6: Research anxiety	2.82	0.96	3.08	0.98	2.59	0.110

Mean value >3 indicates positive attitude; mean value <3 indicates negative attitude. Items in research anxiety were recoded, i. e. the higher its value, the less anxious the respondent is.
*Significant at alpha 0.008.

3.2 Gender

Table 4
One-way ANOVA for Teachers' ATR Factors between Genders

| Factors | Gender | | | | ANOVA | |
| | Male (*n*=49) | | Female (*n*=72) | | | |
	M	*SD*	*M*	*SD*	*F*	p
F1: Research orientation	3.73	0.79	3.78	0.62	0.14	0.714
F2: Rewards influence	3.88	0.59	3.79	0.52	0.86	0.355
F3: Personal interests	3.94	0.72	3.85	0.56	0.55	0.458
F4: University mission	4.44	0.61	4.42	0.58	0.04	0.841
F5: Research use	3.99	0.88	3.95	0.64	0.08	0.782
F6: Research anxiety	3.02	1.03	2.84	0.94	0.93	0.338

Note. Mean value >3 indicates positive attitude; mean value <3 indicates negative attitude. Items in research anxiety were recoded, i. e. the higher its value, the less anxious the respondent is.

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There was no significant difference between male and female teachers when jointly considered on the 6 ATR factors, Pillai's Trace = 0.058, $F(6, 114) = 1.171$, $p = 0.327$, partial $\eta^2 = 0.058$. A separate ANOVA conducted for each dependent variable at an alpha level of 0.008 also revealed that there was no significant difference between male and female teachers across all factors as shown in Table 4. This finding suggests that teachers' attitudes towards research were independent of their genders.

3.3 Academic degree earned. There was no significant difference between teachers who earned undergraduate and graduate degrees when jointly considered on the 6 ATR factors, Pillai's Trace = 0.06, $F(6, 147) = 1.43$, $p = 0.21$, partial $\eta^2 = 0.06$. However, a separate ANOVA conducted for each dependent variable at an alpha level of 0.008 revealed that there was a significant difference between teachers who earned undergraduate and graduate degrees on factor 6 as shown in Table 5. This shows that teachers who earned at least a master's degree were less anxious about research, which could be because of their research trainings in their graduate programs.

Table 5

One-way ANOVA for Teachers' ATR Factors between Academic Degrees Earned

Factors	Academic Degree Earned				ANOVA	
	Undergraduate (*n*=83)		Graduate (*n*=71)			
	M	SD	M	SD	F	p
F1: Research orientation	3.81	0.69	3.78	0.69	0.07	0.799
F2: Rewards influence	3.87	0.58	3.80	0.54	0.68	0.413
F3: Personal interests	3.96	0.69	3.87	0.58	0.73	0.394
F4: University mission	4.46	0.59	4.39	0.64	0.50	0.480
F5: Research use	4.06	0.77	3.95	0.73	0.78	0.379
F6: Research anxiety	2.78	0.92	3.21	1.01	7.52	0.007[*]

Mean value >3 indicates positive attitude; mean value <3 indicates negative attitude. Items in research anxiety were recoded, i. e. the higher its value, the less anxious the respondent is.
[*]Significant at alpha 0.008.

3.4 Teaching experience. There was a significant difference between teachers who taught 0-10 years and teachers who taught 11 years and above when jointly considered on the 6 ATR factors, Pillai's Trace = 0.130, $F(6, 137) = 3.403$, $p = 0.004$, partial $\eta^2 = 0.130$. A separate ANOVA conducted for each dependent variable at an alpha level of 0.008 revealed that there was a significant difference between the groups on factors 1, 2, 3, and 5, but no significant difference on factors 4 and 6 as shown in Table 6.

Table 6

One-way ANOVA for ATR Factors of Teachers Grouped according to their Teaching Experience

Factors	Length of Teaching Experience				ANOVA	
	0 – 10 years (*n*=84)		11 years and above (*n*=60)			
	M	SD	M	SD	F	p
F1: Research orientation	3.93	0.63	3.60	0.73	8.69	0.004[*]
F2: Rewards influence	3.97	0.51	3.68	0.57	10.43	0.002[*]
F3: Personal interests	4.10	0.54	3.70	0.68	15.12	0.000[*]
F4: University mission	4.52	0.51	4.33	0.66	4.19	0.042
F5: Research use	4.20	0.62	3.80	0.80	11.29	0.001[*]
F6: Research anxiety	2.83	0.99	3.19	1.00	4.41	0.037

Mean value >3 indicates positive attitude; mean value <3 indicates negative attitude. Items in research anxiety were recoded, i. e. the higher its value, the less anxious the respondent is.
[*]Significant at alpha 0.008.

This indicates that teachers who taught 0-10 years were more research oriented, more influenced by rewards for research, more personally interested about research, and more perceptive of research use. This finding is understandably associated with the results in

age as the young professionals usually had less number of teaching years. Moreover, this finding suggests that those teachers who just started their careers were more hopeful and optimistic about research, and thus should be supported

3.5 Tenure status. There was no significant difference between non-tenured and tenured teachers when jointly considered on the 6 ATR factors, Pillai's Trace = 0.069, $F(6, 146) = 1.815$, $p = 0.100$, partial $\eta^2 = 0.069$. A separate ANOVA conducted for each dependent variable

at an alpha level of 0.008 also revealed that there was no significant difference between non-tenured and tenured teachers across all factors as shown in Table 7. This finding could suggest that the teachers' attitudes towards research were not influenced by their tenure status.

Table 7

One-way ANOVA for ATR Factors between Non-tenured and Tenured Teachers

| Factors | Tenure Status | | | | ANOVA | |
| | Non-tenured (n=67) | | Tenured (n=86) | | | |
	M	SD	M	SD	F	p
F1: Research orientation	3.90	0.61	3.72	0.74	2.34	0.128
F2: Rewards influence	3.94	0.51	3.76	0.59	3.74	0.055
F3: Personal interests	4.07	0.56	3.81	0.68	6.39	0.012
F4: University mission	4.50	0.51	4.37	0.69	1.63	0.204
F5: Research use	4.15	0.63	3.91	0.82	4.11	0.044
F6: Research anxiety	2.78	0.94	3.14	0.99	5.15	0.025

Mean value >3 indicates positive attitude; mean value <3 indicates negative attitude. Items in research anxiety were recoded, i. e. the higher its value, the less anxious the respondent is.

3.6 Rank. There was no significant difference between teachers with ranks instructor I to III and teachers with ranks assistant professor I and above when jointly considered on the six ATR factors, Pillai's Trace = 0.124, $F(6, 75) = 1.770$, $p = 0.117$, partial $\eta^2 = 0.124$. A separate ANOVA conducted for each

dependent variable at an alpha level of 0.008 also revealed that there was no significant difference between the two groups on any ATR factors as shown in Table 8. This finding suggests that the teachers' professional ranks did not determine their attitudes towards research.

Table 8

One-way ANOVA for Teachers' ATR Factors between Ranks

| Factors | Rank | | | | ANOVA | |
| | Instructor I – III (n=49) | | Asst. Prof. I and above (n=33) | | | |
	M	SD	M	SD	F	p
F1: Research orientation	3.90	0.72	3.68	0.78	1.83	0.180
F2: Rewards influence	3.87	0.60	3.69	0.63	1.72	0.193
F3: Personal interests	3.90	0.71	3.74	0.67	1.07	0.305
F4: University mission	4.52	0.56	4.29	0.75	2.59	0.112
F5: Research use	4.10	0.81	3.87	0.85	1.43	0.236
F6: Research anxiety	2.85	1.03	3.31	0.88	4.52	0.037

Mean value >3 indicates positive attitude; mean value <3 indicates negative attitude. Items in research anxiety were recoded, i. e. the higher its value, the less anxious the respondent is.

4. Research Productivity of PSU Teachers in the Past Five Years

Out of 155 teachers, only 106 teachers declared their research productivity (RP). From 106 teachers, only 67 teachers had a teaching experience of more than five years. Thus, to ensure that the research activities the teachers identified were done during their teaching years, only 67 teachers were included in the analyses.

Most of these teachers had at least a master's degree (64.18 percent), tenured (83.33 percent), and occupied instructor I – III positions (65.67 percent). They taught for 5-37 years and their age ranged from 27-61 years old. The summary of descriptive statistics for their research outputs and the percentage of teachers having zero research output in the past five years are shown in Table 9.

Table 9

Descriptive Statistics for PSU Teachers' Research Outputs and the Percentage of PSU Teachers having Zero Research Output in the Past Five Years (n = 67)

Research Activity	Mode	Mean	SD	% of zero research output
Principal researcher	0	0.75	1.26	59.70
Co-researcher	0	0.60	1.31	68.66
Papers published	0	0.36	0.95	82.09
Books published	0	0.07	0.32	94.03
Chapters in books	0	0.09	0.42	94.03
Presentations at conferences	0	0.57	1.40	82.09

Note: Only those teachers who taught in the past five years and declared their research productivity were included. Range of responses 0-9.

As shown in Table 9, most of the participants had zero research activities in the past five years, which is indicative of their poor RP. Those who had been active were involved in research projects as principal researchers or co-researchers. The participants were least productive in terms of publishing books or chapters in edited books.

5. PSU Teachers' ATR Factors and their Research Productivity

The relationship between PSU teachers' RP and ATR factors were analyzed using correlation and multiple regression analyses. Prior to multiple regression analysis, preliminary analyses were done.

Table 10

Summary of Statistics, Correlations, and Regression Analyses for Variables Predicting PSU Teachers' RP (n=67)

Variable	M	SD	Correlation with RP	b	ES_b	$ß$	t	R^2(adj)	F
F1: Research orientation	3.77	0.78	0.46[***]	0.56	0.21	0.63	2.70[**]		
F2: Rewards influence	3.88	0.57	0.18	- 0.11	0.21	- 0.09	- 0.54		
F3: Personal interests	3.98	0.62	0.27[*]	- 0.11	0.20	- 0.10	- 0.56	0.20	3.68[**]
F4: University mission	4.46	0.57	0.30[**]	0.01	0.22	0.01	0.04		
F5: Research use	3.98	0.75	0.27[*]	- 0.11	0.19	- 0.12	- 0.60		
F6: Research anxiety	2.89	1.07	0.34[**]	0.10	0.09	0.16	1.21		

[*]$p<0.05$. [**]$p<0.01$. [***]$p<0.001$

The data reasonably followed the assumptions of normality, homoscedasticity, linearity, and did not display multicollinearity by examining skewness and kurtosis, plots of standardized residuals, VIF values, and correlations among the variables. The descriptive statistics and analyses of results are summarized in Table 10. As can be seen in Table 10, factors 1, 4, and 6 were moderately and significantly correlated with PSU teachers' RP indicating that those with higher scores on these

variables tended to have higher RP. On the other hand, factors 3 and 5 were significantly weakly correlated with teachers' RP. The multiple regression model with all six ATR factors-predictors produced adjusted $R^2 = 0.20$, $F(6, 60) = 3.68$, $p = 0.004$. This shows that the ATR factors-predictors taken together significantly accounted for 20 percent of the variance in PSU teachers' RP. Further, this indicates that other factors, apart from attitudes towards research, accounted for 80 percent of teachers' RP and have to be further investigated. Moreover, Table 10 shows that factor 1 (research orientation) was the most important predictor of teachers' RP among ATR factors, followed by factor 6 (research anxiety). However, it is noted that only factor 1 had a statistically significant unique variance accounted for in PSU teachers' RP, $ß = 0.63$, $p = 0.009$. This indicates that teachers who had more positive orientation for research tended to be more productive in research. These results on PSU teachers' RP actually seem to align with the findings of Nasser-Abu Ahija and Majdob (2017). In their study, they found that the most important predictor of teachers' RP was the teachers' desire for knowledge and learning from research, followed by personal hindrances such as lack of competence and self-confidence in doing research.

CONCLUSION

Based on the results of this study, the following conclusions are derived:

1. The PSU teachers have positive orientation towards research, recognize the importance of rewards to conduct of research, confirm the role of personal interests in carrying out research, believe that research is important to the mission of the university, and that research is useful to their profession and personal lives. However, a great percentage of PSU teachers are finding anxiety in conducting research.
2. The PSU teachers ATR factors are significantly and positively related among each other, except for research anxiety,

which is weakly associated to all other attitude factors.
3. The PSU teachers' attitudes towards research do not significantly vary across gender, tenure status, and professional rank. However, there are significant differences in terms of age, academic degree earned, and teaching experience. Teachers aged 21-30 years old and taught for 0-10 years are more research oriented, more personally interested about research, and more perceptive of the usefulness of research in profession and in life. In addition, those who taught 0-10 years perceive that rewards influence teachers' research activities. Moreover, teachers who have master's degrees or doctoral degrees are less anxious about research.
4. PSU teachers had very low research productivity in the past five years. This is in terms of research projects they authored or co-authored, published refereed articles, published books, chapters in edited books, and refereed presentations.
5. The PSU teachers' attitudes towards research account for 20 percent of their research productivity, with their research orientation being the most important predictor-attitude factor.

RECOMMENDATION

Based on the foregoing conclusions, the following recommendations are made:

1. The University may capitalize on teachers' positive orientation towards research and their research interests to boost their research productivity. This may be done by providing research opportunities such as having standardized research activities and publication facilities. Various professional development programs about research may also be conducted to further enhance teachers' attitudes towards research and mitigate their research anxiety.
2. Graduate scholarships may be given especially to young professionals who

demonstrate positive attitudes towards research. As shown in the study, young teachers have significantly more positive attitudes towards research, yet those who have no graduate degrees experience difficulty and anxiety in research.

3. Further investigation may be conducted to determine other factors that cause poor research productivity among PSU teachers. It is hypothesized that lack of resources such as time, facilities, and lack of research competencies hamper them to become productive in research.

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