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Research Paper

Attitudes, Anxiety, Skills and Culture in Research: The Case of a Private Higher Institution

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Abstract

This study is about research attitudes, anxiety, skills and culture of private higher education institutions. Universities and colleges seek to cultivate and develop students. Their primary responsibilities are to provide quality education and substantially contribute to society. Moreover, the university should have a strong research culture to attain these goals. The study participants are full-time faculty members of the institution, and descriptive statistics and partial least squares are used to analyze data. The HEI under investigation showed a positive attitude towards research because the institution encourages its faculty members to do research activities. They also have moderate competence skills and are anxious about research activities. On the other hand, the dominant research culture is constructive, and a supportive research environment characterizes it. According to the results of PLS-SEM, research skills are significantly related to research culture. Thus, the university should continuously upgrade its research skills to develop its research culture.

Keywords *Research Culture; Productivity; Research Anxiety; Research Attitudes*

INTRODUCTION

Universities and colleges aim to develop and nurture students. Their primary functions are to provide quality education and make a significant contribution to society. The first function is obvious; they should educate students and prepare them to play a part in their respective organizations. The second function of universities is to make meaningful contributions to society by creating new knowledge (Serrano, 2022). That is a key and vital part of any research-led intensive university. In the Philippines, the Commission on Higher Education has emphasized the importance of research in higher educational institutions. Research had been a big part of the criteria to become a centre of excellence and a centre for development. Research has also become one of the significant standards in accreditations and certifications. CHED encourages faculty members to produce substantial-quality studies and innovative papers. Studies suggest that institutional status and output contribute to benchmarking any institution's research proliferation (Henthorne et al., 1998). Shamai and Kifir (2002) assert that for a university to be worthy of its name, it must spread research and research culture, which upholds its "formal and substantive right to be the gatekeeper." Growth in research publication has become a guarantee for stature and a significant institutional ranking. Research production and outputs are used to promote faculty members and will lift the scale and reputation of universities. The increase in reputation and world rankings of a university will increase student enrollment and more generous grants from government agencies and the private sector.

Research productivity has become a primary concern for some school administrators. Research productivity means writing and publishing research articles in professional, scientific journals, as chapters in books, or presenting papers at scientific conferences for publication in proceedings (Iqbal, 2011). In terms of research outputs, faculty members need help producing research. Several reasons are attributed to this attitude. Some faculty members claim they carry demanding teaching loads and need more time to conduct research. Moreover, some faculty members require assistance in forming alliances with other professors and struggle to exercise self-

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discipline in allocating time for research (Khan et al., 2018).

Another factor why faculty members need help generating cutting-edge research is their research attitude. Research attitudes play an essential role in the whole research process. Attitude is a relatively enduring organization of beliefs, feelings, and behavioral tendencies towards socially significant objects, groups, events, or symbols (Hogg et al., 2005). Lack of research, deficiency of understanding of research, a scarce conception of the study's significance, and problems with capabilities and inspiration are common negative attitudes toward research (Pajares & Schunk, 2001). A study by Khan et al. (2018) found that faculty members showed a cheerful disposition towards scholarly activities such as research activities. They wish to advance their careers and scale up their status by having research productivity. The study resulted in faculty members considering research necessary to their professional performance and daily lives.

Research culture refers to teachers' behavior required to fit in and meet expectations within the academic community (Callo et al., 2018). There is three research culture perceived as Northwestern University. These are constructive, passive/defensive, and aggressive/defensive cultures. Constructive culture is illustrated by achievement, self-actualizing, and encouraging behaviors. In contrast, a passive/defensive culture depicts approval, conventional, dependent, and avoidance norms, which aid members in intermingling with humans in ways that do not compromise their security. On the other hand, aggressive/defensive culture is characterized by oppositional, power, competitive, and perfectionist norms (Callo et al., 2018).

The purpose of this study is to find out the relationship of skills, anxiety and attitude to the development of research culture. Moreover, the establishment of the research productivity of the HEI under investigated is also being answered by this research paper. There are limited studies that discuss research culture, anxiety, and productivity that is why this paper was conceptualize.

Research Objectives

This study aims to find the relationship between research attitudes, anxiety, and skills in the research culture. Specifically, it will answer the following questions:

1. What are the research attitudes and anxiety of faculty members?
2. What are the current research skills of faculty members?
3. What is the research productivity of the faculty members?
4. What is the dominant research culture at the private learning institution being studied?
5. What is the research productivity of the private learning institution being studied?
6. Is there a significant relationship between attitudes, anxiety, and skills in the research culture of the University?

Research Model

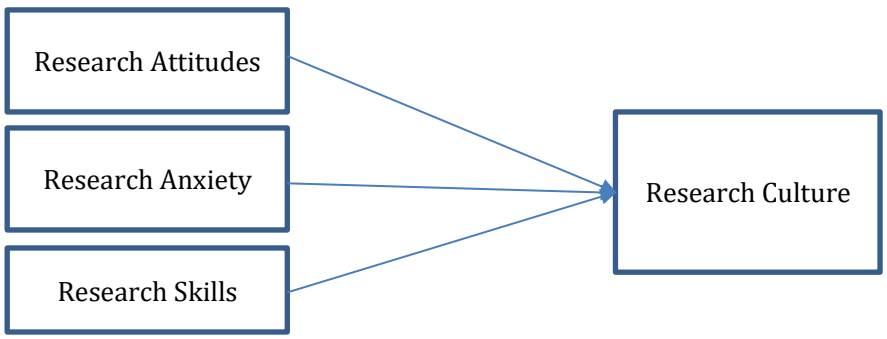

Figure 1. Research Model

LITERATURE REVIEW

Research Culture

The kind of environment that spearheads research productivity among university teachers has been the focus of studies about research culture. There are 12 identified factors present in excellent research environments (Pratt et al.,1999). These are clear goals for the coordinator, research emphasis, distinctive culture, positive group climate, decentralized organization, participative governance, frequent communication, resources (particularly Human Resources), group age, size and diversity, appropriate rewards, recruitment emphasis, and leadership with both research skill and management practice In a study by Clemena et al. (2020), faculty members of one higher education institution did not believe that aspects of research culture such as the impact of research, inter-institutional collaboration, institutional research strategy, infrastructure, the presence of ethical policies, and the availability of external and internal research funding. Findings suggest that nurturing a research culture should be taken earnestly with the help of HEIs, the researchers' minds, and the institutional policy body. On the other hand, in a study by Iqbal et al. (2011), research culture can be credited to the values and ideas researchers use to process research-related problems. It was also found that institutional and personal factors were seen as relatively more influential in advancing research culture than environmental factors. An example of institutional factors is communication systems. In Lodhi (2011) study, the faculty members believed that their University's top management could not spread information in time about future training and research opportunities because of the slow communication system. They said that they received the news after the deadline. Also, Lodhi (2011) found that schools' existing structure was more supportive of teaching than research activities. The same study shows that most faculty members spend time teaching rather than researching. The study also showed that almost all teachers expressed their non-knowledge of qualitative research. Alarmingly, the majority of them claim not to update their analyses (i.e., do not read new literature in their research, etc.). A study found that the determinants of the University's research structure are generally inclined to the faculty member's interest. It is also critical to say that it was observed that the University gives more favor to quantity rather than quality. The Administration's way of introducing the new culture of research in the University is to impose a publication quota.

Most professors unfamiliar with the research culture and were traditionally focused on teaching are not interested in nor have research skills. From the diverse fieldwork experiences of three non-Vietnamese doctoral students in rural and urban settings, with communities and central, provincial, and local government agencies. From their research sites in local villages, enterprises, offices, and archives in regional centers and cities, they emphasize many aspects of the changing academic cultures in the context of the broader reshaping of economic and political relationships in Vietnam. Opportunities for foreign scholars (and doctoral students) to collaborate with Vietnamese researchers on participatory research are constrained by institutional, epistemological, and professional barriers to adopting new practices and perspectives. Utilizing multiple techniques to identify this disparity is thus extremely beneficial. Fourth. Similarly, using official channels (via a host institution) to gain access to communities and information in Vietnam is invaluable and, in many instances, unavoidable. In a study conducted by Singh (2017), it was concluded that research culture is significant for schools or universities specifically established for research activity, as well as in all educational settings. To establish a superior and high-quality education, research must be conducted. In China, many researchers spend too much time cultivating relationships and should devote more time to attending conferences, researching science, conducting research, or instructing students (rather than hiring them as lab assistants). To be noticed in their organizations, others must be more easygoing. Some become part of the problem by evaluating grant applicants using associations and undervaluing research validity (Shi et al., 2010). According to Shamai and

Kifir (2002), in order for a higher education institution to be considered worthy of its name, it must propagate research and research culture that maintains its "formal and substantive right to be the gatekeeper." The term "culture" in the research context refers to the behaviors that professors and other academic staff members are expected to exhibit to integrate successfully and live up to the standards of the academic community. Constructive culture, passive and defensive culture, and aggressive and defensive cultures were the three ways in which participants in this research study regarded the research culture.

The norms for accomplishment, self-actualizing, humanistic-encouraging, and affiliative behaviors that are characteristic of constructive cultures urge members to engage with others and approach activities in ways that would help them realize their higher-order satisfaction demands. The presence of these norms defines constructive cultures. Cultures classified as passive or defensive tend to be characterized by approbation norms, conventional norms, dependent norms, and avoidance norms. These norms encourage or implicitly compel individuals of the culture to engage with others in ways that will not compromise their personal safety. Oppositional, power-oriented, competitive, and perfectionist norms characterize cultures characterized as aggressive and defensive. These norms encourage or motivate individuals of these cultures to approach activities forcefully to maintain their status and sense of safety.

Research Productivity

Abramo et al. (2014) pointed out the critical factors that should be considered in determining Research Productivity, such as impact, the intensity of the field of science (power of publications), citations, and the number of co-authors. The research cited and discussed different, widely-used indicators, such as the new crown indicator, CWTS method, SCImago Institutions, The Normalized Impact, and more. It also further explains that most of the widely-used indicators present two limits: the lack of the normalization of the output value to the input value (lack of a measure of productivity) and the scientists' classification concerning their field of research (different intensity of publication across domains). The researchers recommend the closest measure of productivity, the FSS, which considers both the quality and quantity of production. The researchers also call out the institutions and scholars on the subject to focus their knowledge on developing the FSS indicator to be more fitted in Research Productivity rather than microeconomics and refrain from using invalid arrows— no matter how widely used.

On the other hand, Ndege (2011) suggested that research productivity is influenced by three pertinent factors: personal, institutional, and standard human capital factors. The researchers claim that investment in this factor would significantly affect the country's Research Productivity Levels. In a study by Hadjinicola (2006), he found that external funding results in more high-quality research. The research must be perceived as relevant and significant to get research grants from other organizations. External funding also pressures researchers to provide a deliverable that justifies the initial budget. This pressure leads to more and better-quality publications. On the other hand, it was found out that in India, both public and private schools were the same in research productivity with journal tier, total citations, impact factor, author h-index, number of papers and journal h-index as the main factors for research productivity (Sahoo et al., 2015). Also, the same study found that faculty members who had doctoral degrees from foreign schools were more productive.

Research Attitude

A research attitude is a disposition toward conducting investigation. Social support consists of assistance provided by the government in the form of policies and by institutions. Numerous investigations on attitudes toward research have revealed that these attitudes are frequently

negative. According to the findings of Safi et al. (2019) research, people's attitudes enable them to discover solutions to new problems and transform reality based on their questioning, skills, knowledge, and abilities. The first and most fundamental contribution to the success of modern education will be the instructors' knowledge and attitude toward research and investigation for innovative professional performance. Research attitude is a unique trait of educators, who, more than other professionals, support and develop the teaching professions and place them on the map; as a result, research is an integral component of the teaching profession. In a study by Babalis et al. (2012), both men and women asserted that innovative-creative thinking was an essential trait to cultivate.

On the other hand, there were substantial gender differences in research attitudes. Both men and women exhibited a positive attitude toward research, but men preferred to be examined by individualized research works while women favored corporate research works. In addition, there are significant disparities between the sexes in terms of their research attitude and the type of work that makes them feel happy and which they choose. Women displayed a more "traditional" approach, as they preferred tasks with clear instructions, simple goals, and planned assignments to reduce the risk of error. Men, on the other hand, demonstrated a preference for non-integrated research works by selecting works at a higher level where they can make personal decisions, compared to women.

During the course, the faculty's general and notably their specific, cognitive, affective, and social understandings of research work and functioning as a researcher were expanded. The conceptions were expanded from ethical principles to conceptions in which ethics served as a foundation for reasoning and acting in research and daily life. According to the findings of Jeronen et al. (2005), faculty and students in distance education, in particular, may require more specialized scaffolding than those in contact education when endeavoring to locate pertinent information in complex, open-ended situations. Questions and supportive feedback aid students in the formation of their ideas. Teachers should not provide correct answers; students should be permitted to make decisions or revise their beliefs based on their own research and observations. Students can externalize their thinking for peer critique, discussion, and revision via distance-learning platforms.

Research Anxiety

Research anxiety, defined as the feeling of dread or apprehension associated with conducting research, is an additional aspect of research that may influence students' persistence in their research experiences and in science in general.

Spielberger (2013) defines anxiety as a negative emotion characterized by subjective feelings of tension, anxiety, and concern. State anxiety is defined as a reaction to a specific condition or stimulus (Endler & Kocovski, 2001), whereas trait anxiety is a generally persistent aspect of a person's personality. State anxiety can be treated by altering the trigger that causes the transient state of anxiety (Endler & Kocovski, 2001). While trait anxiety is addressed consistently and frequently through counseling and medical treatment, state anxiety can be treated by altering the trigger that causes the temporary state of anxiety. We define research anxiety as the state of anxiety that arises when a student engages in authentic research in a professor's lab. As with math anxiety, statistics anxiety, and library anxiety, research anxiety is a reaction to a specific situation: conducting research. Anxiety in response to active learning (Brigati et al., 2020) and interaction with classmates (Downing et al., 2020; Hood et al., 2021). Each of these forms of state anxiety has been shown to have a negative impact on classroom performance (Hood et al., 2021). Nonetheless, research anxiety has not been studied in the sciences, especially in the context of undergraduate research. Only in research methods courses has research anxiety been examined (Eckberg, 2015).

RESEARCH METHOD

Participants

The study respondents were selected using a random sampling technique and were full-time and part-time faculty members of Northwestern University. Using the Sample size calculator by Raosoft, with a 5% margin of error, a confidence level of 95%, and a total population of 115, the full sample size of 80 respondents was computed. However, 112 faculty members answered the questionnaire during the actual data gathering. The researchers used the face-to-face distribution of questionnaires.

Research Instrument

The research instrument utilized in the study was a questionnaire. There are four parts of the questionnaire. The first part is the demographic profile, the second part will be the research skills, and the third will be the research attitudes and anxiety. The questionnaire was adopted in research by Prof. Ericson Serrano entitled "Attitudes Toward Research and its Impact on Research Skills Development among Grade 12 students of Meycauayan National High School" last 2022. Moreover, research productivity was based on the actual outputs of the faculty for the University. Further, it was computed as:

$$\frac{\text{Number of Research produced, +presented and +published}}{\text{Years of Observation + No. Of Fulltime Faculty}}$$

Data Analysis

The researchers used descriptive statistics in narrating the results of the study. Mostly the items were presented using frequency and percentages. On the other hand, the researcher attempted to measure the relationship between research culture to research attitudes, anxiety and skills using simple structural equation modeling. Lastly, the researchers interviewed faculty members to validate the responses in the survey.

Ethical Considerations

The research among faculty members of NWU incorporated a variety of ethical factors. The participants get comprehensive information on the research's objective and their unique contribution. After presenting and discussing the goal of the research inquiry, informed consent was sought. Similarly, the researchers invited people to engage in the study, and they could withdraw at any point throughout the examination. All responders' queries were answered thoroughly and honestly.

Additionally, everything is stated and adhered to by the researchers throughout the research project. The researcher made every effort to guarantee that the respondents receive only the best, that they profit from the study's findings, that they contribute to the development of the teaching and learning process, and that they are never physically, psychologically, or emotionally injured. Additionally, informed consent included (a) an agreement between the researcher and the participants in which the latter consented to their participation in the study. Sufficient information presented and explained to participants at their level of comprehension, (b) information from which participants can withdraw at any time, ask questions, and refuse to answer questions if they are uncomfortable with the questions, (c) an explanation of the study's potential risks and benefits to enable participants to make informed decisions about their participation in the study, and (d) a description of the participants. Prior to the commencement of data collection, a signed consent form was collected.

FINDINGS AND DISCUSSION

Table 1. Research Attitudes of Faculty Members

Research Attitudes	WM	VI
I enjoy research	2.93	A
Research is interesting	3.01	A
I like research	2.93	A
I love research	2.76	A
I am interested in research	2.96	A
Most faculty members benefit from research	3.21	A
I am inclined to study the details of research procedures carefully	2.94	A
Composite Mean	**2.96**	**A**

3.26-4.0 Strongly Approve (SA)
2.51-3.25 Approve (A)
1.76-2.50 Disapprove (DA)
1.0-1.75 Strongly Disapprove (SD)

Table 1 discusses the research attitudes of faculty members in the studied private educational Institution. It showed that the composite mean is Approved with a weighted mean of 2.96. This implies that faculty members' behavior towards research is accepting. They are inclined to research activities and are beginning to accept that research is one component of the teaching profession. The HEI had already focused on research through revised ranking and promotion where the research component had been given maximum points, monthly webinar Series of their University Center for Research capability and capacity enhancement, and improved incentives for research that are enticing and motivating for faculty members. Many studies have investigated attitudes about research, revealing that views toward research are often negative. However, in this study, it is positive. The interviews with the faculty members revealed that there had been a strong push and motivation for research for the past years, so they have yet to choose whether to accept research as part of their task in the academe.

Table 2. Research Anxiety Experienced by Faculty Members

Research Anxiety	WM	VI
Research makes me anxious	2.55	MA
I feel insecure concerning the analysis of research data	2.53	MA
Research scares me	2.26	SA
Research is stressful	2.63	MA
Research makes me nervous	2.40	SA
Research is complicated	2.49	SA
Research is difficult	2.65	MA
Research is a complex subject	2.73	MA
Composite Mean	**2.53**	**MA**

3.26-4.0 Extremely Anxious (EA)
2.51-3.25 Moderately Anxious (MA)
1.76-2.50 Slightly Anxious (SA)
1.0-1.75 Not at All Anxious (NA)

Table 2 discusses the research anxiety experienced by faculty members. It can be deduced from the table that faculty members are most anxious that research is a complex subject, with a weighted mean of x=2.73 and a verbal interpretation of Moderately Anxious. Interviews with the faculty members revealed that they perceived research as a complicated subject because of the

process of identifying research topics and titles and that they had to undergo many activities before completion. The mere conceptualization of research gaps, the first step in the process, is difficult, so many faculty members need help to begin a research activity. During the data collection procedure, academics confront difficulties. They claimed that difficulties in reaching various sampling groups, the indifference of the sample group, which included instructors, toward completing questionnaires and protocols, and their reluctance to participate in studies voluntarily negatively impacted their research procedures. In addition, they claim that their studies are negatively impacted by their incapacity to find assistance during the application process for questionnaires in the field of education. Overall, faculty members find research a difficult, stressful and complex activity. They find research as an activity that causes them to be Moderately Anxious (x=2.53).

Table 3. Research Skills Possessed by Faculty Members

Research Skills	WM	VI
Critical Thinking	3.04	MC
Organizing ideas	3.03	MC
Finding information	3.07	MC
Writing Skills	3.02	MC
Reading skills	3.25	MC
Ability to analyze ideas from articles.	3.08	MC
Oral Communication Skills	3.16	MC
Ability to ask questions	3.15	MC
Methodological Knowledge	2.92	MC
Sense of "big picture."	3.05	MC
Time Management	2.97	MC
Ability to collaborate	3.16	MC
Reviewing related literature	3.05	MC
Interpretation of statistical results	3.07	MC
Capability to draw generalization/summary	2.93	MC
Composite Mean	**3.06**	**MC**

3.26-4.0 High level of competence (HC)
2.51-3.25 Moderate Level of Competence (MC)
1.76-2.50 Low level of Competence(LC)
1.0-1.75 No Level of Competence(NC)

Table 3 speaks of the different skill competence of faculty members. It is revealed that the skills that faculty members are competent with are reading skills (x=3.25), ability to collaborate (x=3.16) and oral communication skills (x=3.16). Research skills are the capacity to search for, identify, extract, organize, assess, and utilize or present information related to a certain issue. Academic research is a subset of research that entails a careful and rigorous inquiry into a certain field of study. It entails extensive searching, study, and critical thinking, often responding to a particular research topic or idea. It also frequently entails a significant amount of reading. Interviews with the faculty members revealed that many are fond of reading books. However, they wanted to enhance their organizing skills, writing skills and methodological knowledge. The Research, Community and Social Development of the HEI organizes every month webinar with different research topics to ensure that research skills and capabilities are enhanced.

Table 4. Research Culture in the Higher Educational Institution

Research Culture	WM
Aggressive	
Faculty are trying to be noticed and do things perfectly	**3.03**
The research environment is Competitive	3.02
Faculty Members tend to be critical of others	2.90
Composite Mean	**2.98**
Passive	
Faculty members are encouraged to do what they are told	2.96
Faculty members keep out of trouble	2.93
Faculty members avoid being in the wrong place at the wrong time	3.07
Composite Mean	**2.99**
Constructive	
Faculty members are encouraged to strive and excel in research	3.26
Faculty members are encouraged to experiment, learn and grow	3.30
Faculty members support and help each other and build relationships, work	3.22
Composite Mean	**3.27**

The research culture of the University is discussed in Table 4. It can be deduced that the prevalent research culture in the HEI is constructive (x=3.27). Constructive cultures' standards for success, self-actualization, humanistic-encouraging, and affiliative behaviors encourage individuals to interact with people and approach tasks in ways that would help them meet their higher-order satisfaction needs. The existence of these rules characterizes constructive cultures. In the University, faculty members help and encourage each other because they want to increase research production. They collaborate, and even the different colleges develop collaborative research to increase productivity. Administrators also see that the environment is encouraging by providing incentives and recognition.

Table 5. Research Productivity in the HEI

Research Construct (Data based on 2019-2023)	Number in the Last Five Years
Research Production	111
Research Presentation	71
Research Publication	56
Years of Observation	5
No. of Faculty Active in Research	48
No. of Full-time Faculty Members	169

Research Productivity = 111+71+565+169 = 1.36 Research/Year/Faculty
% of Faculty Active in Research = 48/169 = 28.40%

Table 5 reveals the research productivity of the HEI. It should be noted, however, that some faculty members are very active in research, and some are not. Using the formula of multi-factor productivity, which is output/input, the output being production, presentation and publication, and inputs are years of observation and the number of full-time faculty members of the Institution. The research productivity computed is 1.36 research per year per faculty. Since no industry standard for research productivity exists, it is not easy to establish whether the HEI is productive. However, with the PACuCOA standard of 2 researchers for five years per faculty (Level 3 accreditation) as a benchmark, the University still needs to be considered unproductive. Also, considering that faculty members are very active in research and some are not, the HEI being investigated has much to improve. Computing the percentage of faculty members active in research can be seen at 28.40%,

which is way beyond the International Standard Association of 60%.

Indicators of Model Fit and Quality

Table 6. Model Fit and Quality Indices of SEM

Model fit and Quality Indices	Coefficients
APC	0.244, p=0.002
ARS	0.369, p<0.001
AARS	0.351, p<0.001
AVIF	1.475
AFVIF	1.662
Tenenhaus GoF	0.481

PLS-SEM was used to investigate the relationship between skills, anxiety, and attitude toward research culture. The PLS-SEM route model is evaluated in two stages (Hulland, 1999). The first portion investigates a measuring model. This phase assesses the validity and reliability of the variables. The structural model is evaluated in the second stage by examining the alleged relationships between variables (Hulland, 1999; Dimaunahan & Amora, 2016).

Table 6 shows the structural equation model's model fit coefficients and quality metrics. According to the overall findings, the SEM estimations are within the permitted range. The p-values of the average path coefficient (APC), average R-squared (ARS), average block VIF (AVIF), and average full collinearity VIF (AFVIF) indices must be less than 3.30 for the model to be considered acceptable. (Kock and Hadaya, 2018). Tenenhaus goodness of fit (GoF), a measure of the model's explanatory capacity (Kock and Hadaya, 2018), is classified as small if it exceeds 0.1, medium if it exceeds 0.25, and large if it exceeds 0.36. (Kock and Hadaya, 2018). Tenenhaus et al. (2005) calculated the GoF using the mean commonality index and the square root of the ARS. Table 6 shows the fit and quality indicators for the model. fall within permissible limits.

Table 7. Item Loadings, AVE, and Reliability of the Variables

Construct/Items	Item Loading	AVE	CR	CA
RESEARCH ATTITUDES				
I enjoy research	**0.842**	**0.649**	**0.927**	**0.906**
Research is interesting	0.849			
I like research	0.906			
I love research	0.880			
I am interested in research	0.847			
Most students benefit from research	0.580			
I am inclined to study the details of research procedures carefully	0.681			
RESEARCH ANXIETY				
Research makes me anxious	**0.824**	**0.714**	**0.952**	**0.943**
I feel insecure concerning the analysis of research data	0.854			
Research scares me	0.822			
Research is stressful	0.797			
Research makes me nervous	0.905			
Research is complicated	0.844			
Research is difficult	0.877			
Research is a complex subject	0.833			

Construct/Items	Item Loading	AVE	CR	CA
RESEARCH SKILLS				
Critical Thinking	0.788	**0.610**	**0.958**	**0.952**
Organizing ideas	0.810			
Finding information	0.867			
Writing Skills	0.757			
Reading skills	0.747			
Ability to analyze ideas from articles.	0.835			
Oral Communication Skills	0.808			
Ability to ask questions	0.804			
Methodological Knowledge	0.838			
Sense of "big picture."	0.824			
Time Management	0.704			
Ability to collaborate	0.836			
Reviewing related literature	0.813			
Interpretation of statistical results	0.327			
Capability to draw generalization/summary	0.807			
RESEARCH CULTURE				
Faculty are trying to be noticed and do things perfectly	**0.717**	**0.537**	**0.912**	**0.891**
The research environment is Competitive	0.748			
Faculty Members tend to be critical of others	0.657			
Faculty members are encouraged to do what they are told	0.722			
Faculty members keep out of trouble	0.677			
Faculty members avoid being in the wrong place at the wrong time	0.750			
Faculty members are encouraged to strive and excel in research	0.714			
Faculty members are encouraged to experiment, learn and grow	0.756			
Faculty members support and help each other and build relationships, work	0.790			

The measurement model was evaluated using convergent and discriminant tests of reliability and validity. The evaluation of construct dependability permits a comparison of a reflective item or collection of reflective items to the being evaluated construct. Frequently, composite reliability and Cronbach's alpha are utilized to evaluate dependability (Kock and Hadaya, 2018). To indicate dependability, the composite reliability (C.R.) and Cronbach's alpha (C.A.) scores must be at least 0.70.. Table 7 indicates that the construct dependability criteria were met by the factors of skills, anxiety, attitudes, and culture. On the other hand, convergent validity evaluates the quality of the questions or question statements on a research instrument. This demonstrates that participants understand the objectives or question statements of the constructs as intended by their developers (Kock and Hadaya, 2018). The p-values for each item must be less than or equal to 0.05, and the loadings must be greater than or equal to 0.5 for convergent validity. (Kock and Hadaya, 2018). The connection between an item and a structure is referred to as item loading (Kock and Hadaya, 2018). All item loadings are statistically significant and exceed the 0.5 threshold, as shown in Table 7. In addition, the average variance extracted (AVE) quantifies the variance of each construct recovered from its constituents in relation to the measurement error variance (Dimaunahan & Amora, 2016). Each AVE for latent variables exceeds the specified validity threshold of 0.5. Calculations of accurate AVE coefficients were made.

Table 8. Square Roots of AVE Coefficients and Correlation Coefficients

	Culture	Skills	Anxiety	Attitude
Culture	**0.628**			
Skills	0.600	**0.781**		
Anxiety	-0.027	-0.325	**0.845**	
Attitude	0.448	0.591	0.173	**0.806**

Diagonal elements are the square root of the AVE of the construct, whereas the off-diagonal elements are the correlation between constructs.

Table 8 shows the correlations between variables using the square roots of AVE coefficients to assess the instrument's discriminant validity. Regarding discriminant validity, it is determined whether or not questionnaire respondents can comprehend the statements associated with each latent variable. Furthermore, it ensures that statements about a single variable, for example, do not contradict statements about other variables (Kock & Hadaya, 2018). The square root of each variable's AVE must be larger than the square root of any correlation between variables. The study's measures exhibit discriminant validity based on the findings.

Table 9. Path Results

Hypotheses	B	P-value	SE	f^2
H1. Research Skills – Culture	0.530	<0.001	0.084	0.337
H2. Research Anxiety - Culture	0.076	0.213	0.095	0.025
H3. Research Attitude – Culture	0.127	0.089	0.0094	0.057

Table 9 shows the model for a multiple relationship test. Skills and research culture have significant associations (B=0.530, p0.01). However, there are no significant relationships between anxiety and culture (B=0.076, p=0.213) or between attitude and culture (B=0.127, p=0.089). The parameter estimates for the relationship model are shown in Table 9. According to the data analysis, research skills influence culture (B=0.530, p0.01). The positive route coefficient denotes how a researcher's abilities contribute to the research culture. Cohen's f2 = 0.337 indicates that the route from abilities to culture has a modest effect size. The conclusion gives support to H1. The study anxiety did not significantly influence culture (B=0.076, p=0.213). Finally, the negative route coefficient suggests that research anxiety does not affect research culture. As a result, H2 is not supported. Attitudes toward research did not influence culture (B=0.127, p=.089). As a result, H3 is unsupported.

CONCLUSIONS

In today's society, universities perform three functions: (1) training education, (2) scientific research, and (3) public service. Within the context of the historical process, three fundamental shifts may be identified: the shift from a training and education orientation in higher education to a scientific research orientation and the shift from a research orientation to a training-education orientation. This study aimed to find out several things. First, what are the attitudes of faculty members in terms of research? The results found that faculty members in the Institution have positive research behavior since it is a requirement for ranking and promotions. Research is an inevitable task in the academe, and faculty members must conduct research to be promoted and ranked higher. Research is a major component of the University, and according to the Commission on Higher Education, it is one of the pillars of Higher Education Institutions. This is in contrast with the study of Safi (2019), where it was found that faculty members and students have a negative attitude towards research. The faculty members of the institution under investigation was positive because as mentioned research culture is being cultivated by them.

Moreover, faculty members find research as complex and difficult. Professors face challenges throughout the data-collecting procedure. They asserted that several challenges, such as accessing diverse sampling groups, the sample group's indifference to the questionnaires and procedures, and their unwillingness to participate in the studies, adversely influenced their research operations. Furthermore, they report that their inability to locate someone to assist them throughout the application procedure for surveys on the subject of education has a detrimental impact on their studies. The same results. It was emphasized that many faculty members are anxious in doing research activities.

The research culture in the University is constructive. It is characterized by encouraging and supportive culture. The research culture encourages collaboration and partnership, which is very positive. Faculty members are motivated to do research activities since Administration provides a non-aggressive environment. However, as of 2023, the research productivity of the HEI could be higher, with 1.36 research/faculty/year. Since the Commission sets no industry standard for higher education, there is no formal way of identifying whether the University is productive. However, with the percentage of active faculty in research, it can be concluded that the HEI still needs to improve its productivity. Regarding the SEM results, skills largely shape research culture. It means skilled faculty members are more likely to develop a research culture and be more productive.

Managerial Implications

This study can be useful to administrators of different HEIs in order for them to strategize and come up with solutions to research anxiety and low productivity. The study suggested that research skills directly affect research culture. Therefore, the Administrators can develop appropriate webinars, training, and workshops to enhance skills to improve the research culture and productivity.

LIMITATION & FURTHER RESEARCH

This research has its limitations. The scope of this research is limited to a single higher education institution. Additionally, the years under investigation are limited to 2019-2023. For future research, it is highly recommended that other institutions be included in the study. Moreover, the research can be extended to the university's different colleges. Moreover, research on research problems and challenges can be conceptualized to determine how appropriate interventions will be implemented.

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