




Muhammad Sharif<sup>1</sup>, Umar Ali Khan<sup>2</sup> & Liaquat Hussain<sup>3</sup>

<sup>1</sup>PhD Scholar, Qurtuba University of Science & Information Technology, Dera Ismail Khan, Pakistan

<sup>2</sup>Professor, Qurtuba University of Science and Information Technology, Dera Ismail Khan, Pakistan

<sup>3</sup>Associate Professor, Institute of Education & Research, Gomal University, Dera Ismail Khan, Pakistan

KEYWORDS	ABSTRACT
<p>Research Culture, Environmental Determinants, Institutional Determinants, Higher Education</p>	<p>The study in hand was undertaken to explore the determinants which are effecting promotion of research culture at university level. Although many factors are effecting but the most relevant determinants affect was checked which are environmental and institutional determinants. The population was comprised of 1477 the faculty members of BZ University, Multan &amp; Islamia University Bahawalpur as well as Gomal University, Dera Ismail Khan and University of Science and technology, Bannu. The selected sample from the population was comprised of 253 faculty members hailing from the above-mentioned higher education institutions out of 1477 was selected for study. The research design was quantitative in which survey questionnaires were distributed for data collection. T-test and ANOVA were used for analysis of data. The results offered significant information for reaching the conclusion, and making the desired decisions. Also, some recommendations have been extracted from results offered to the policy-makers and future researchers about research issues.</p>
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<b>Corresponding Author</b>	Liaquat Hussain
<b>Email:</b>	Lhgudik@gmail.com
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## INTRODUCTION

Research has the due importance and avails the supreme priority in present system of education (Shukla, 2020). Higher education has two main pillars which are teaching and 'research in which research has the most importance (Rasool & Dilshad, 2023). Developed countries of the world has sound research culture but the developing countries are novice in this area. Research culture at the universities are the norms, beliefs, expectations, and the attitudes of the research community (Hajir, 2013). Research culture means a structure in which students and faculty members work together in collaboration with funding agencies (Bako, 2005). Performance of research could not be increased without funding in universities (Thomas, 2001). Moreover, Berliner (2002) also added the research

skills of the teaching faculty and students as an important factor for promotion of research culture. Research culture is promoted through different activities in the universities like research projects (Evans, 2007), research publication, launching research journals and making a link with Quality assurance Agency (QAA). Educational institutions in universities are contributing in the promotion of research culture because they are producing the researchers (RAE, 2009). HEC is playing a vital role for development of research culture in universities. Moreover, role of universities is dominant for developing the research culture under the umbrella of HEC (Wye, Brangan, Cameron, Gabbay, Klein & Pope, 2015).

### **Problem Statement**

Problem in the present days is weak research culture of the universities in Pakistan. HEC is working day and night to promote the research culture in HEI's across Pakistan and HE is providing facilities to the universities (Naoreen & Adeeb, 2013). HEC has made many short- and long-term plans for the development of research cultures across the universities of Pakistan (Sadia, 2023). No doubt the planning made in the HEC has tremendous effect on the promotion of research culture in Pakistan (Lodhi, 2012), but there is still room for improvement regarding the issues related to promotion of research culture. Pakistani universities are not at par with the universities of developed countries and thus, need has been felt to fill this gap over conducting researches on the promotion of research culture in Pakistan.

### **Research Objectives**

- RO01: To explore the determinants impacting the research promotion culture at the university level in Pakistan
- RO02: To compare views of male & female faculties about determinants effecting research culture in the universities

### **Research Hypotheses**

- H01: There is no significant difference in perceptions of different universities faculty members about environmental determinants effecting promotion of research culture at universities level.
- H02: There is no significant difference in perceptions of different universities faculty members about institutional determinants effecting promotion of research culture at universities level.
- H03: There is no significant difference in the perceptions of male and female faculty members about environmental determinants effecting promotion of research culture at universities level.
- H04: There is no significant difference in the perceptions of male and female faculty members about institutional determinants effecting promotion of research culture at universities level.

### **LITERATURE REVIEW**

Pakistani universities are doing best up to their level for promoting the research. New act given the universities more autonomy for creating research culture in universities (Zafar, 2013). In Pakistan

universities are doing best for management of research culture (Ali, Saeed & Munir, 2018). Though teaching is prime duty of teachers in universities but they are focusing on research (Ullah, Ajmal & Rahman, 2011). According to Bibi (2022), focus of HEC is on research development and extension in universities, Formulation of HEC research policies and management of research activities in the Pakistan universities. Scholars have worked on diverse indicators for research culture development. Naoreen and Adeeb (2013) has put forward few indicators in Pakistan for development of research culture which are:

- a. Resources (human & physical) for conducting research
- b. Conducive environment for research
- c. Collaboration among institutions
- d. Research incentives and support
- e. Research publications

Lodhi (2016) has identified four determinants of research culture in Pakistani universities which are Individual factors, Institutional factors, Policies/practices related factors & Work performance and output of the faculty members. No doubt the research culture in Pakistan is weak (Salazar & Almonte, 2007). There may be many factors for this which needs to be explored and tackled in an effective way (Evans, 2011). The researchers in the developing countries are facing this problem and thinking to develop a mechanism for promotion of research culture in the universities. In line with other developing countries this research study is devised to find determinants effecting research culture in Pakistan.

### RESEARCH METHODOLOGY

Research design is the overall plan as well as framework of the study which explains methodology for conducting the research study (Saunders, Lewis & Thornhill, 2011). This is that blueprint which climaxes methods of data collection and analysis (Abbott & Mckinney, 2013). There are many types of research designs but designs are selected keeping in view nature of study (Kelly & Lesh, 2000). Sugiyono (2013) greatly admired survey research designs in educational research studies. Wye et al. (2015) consider these designs as most appropriate in education. So, quantitative survey research designs were used.

### Population of Study

Population or universe is that group that has some common characteristics (Shukla, 2020; Suryani et al. 2020). This group is the focus of study and used for collection of data (Banerjee & Chaudhury, 2010; Majid, 2018). In present study Population was consisted of faculty members of two universities of Southern Punjab (BZ University, Multan & Islamia University Bahawalpur.) two southern district universities of KP (Gomal University & University of Science & technology Bannu). This population is elaborated below:

Table 1 Population of Study

University	Faculty	Faculty	Total
		Members	
BZ University, Multan	Science	241	

	Arts	192	433
Islamia University Bahawalpur	Science	310	
	Arts	295	605
University of Science & technology Bannu	Science	65	
	Arts	32	97
Gomal University, Dlkhan	Science	185	
	Arts	157	342
Grand Total		1477	

### Sample-Size & Sampling Technique

Overall population is some time geographically dispersed and it becomes difficult for researchers to collect data (Maksimović & Kožuh, 2012), therefore a portion of population is selected which is called sample. Sample is a small set or chunk (Sugiyono, 2013) which is willing to participate in the study. Real data is collected from portion of population which is a sample (Field, 2013). This group is selected in such a way that it represents the overall population. The common methods for sample selection are probability and non-probability sampling (Kundačina & Brkić, 2004). Stratified sampling is sub-type of non-probability sampling as used in present study. Stratified sampling was used to select the stratus of male and female teachers from overall population. Krejcie and Morgan (1970) proposals were tailed for sample size. In final sample 253 faculty members (out of 1477) were considered appropriate.

Table 2 Sample of Study

University	Faculty	Faculty members
BZ University, Multan	Science	42
	Arts	32
Islamia University Bahawalpur	Science	52
	Arts	50
University of Science & technology Bannu	Science	12
	Arts	8
Gomal University, Dlkhan	Science	31
	Arts	26
		253

### Data Collection Tools

Fry (2006) suggested that data collection instrument should be clear and simple. These tools are selected keeping in view nature of study. Taherdoost (2016) considered questionnaire as most valid choice for descriptive researches. Vanek (2012) considered Likert type questionnaire as intelligent tool for research studies. In quantitative study, questionnaires were considered most proper tool for data collection. This tool was comprised of environmental determinant (19 items), and institutional determinants (18 items).

### Validity & Reliability of Instrument

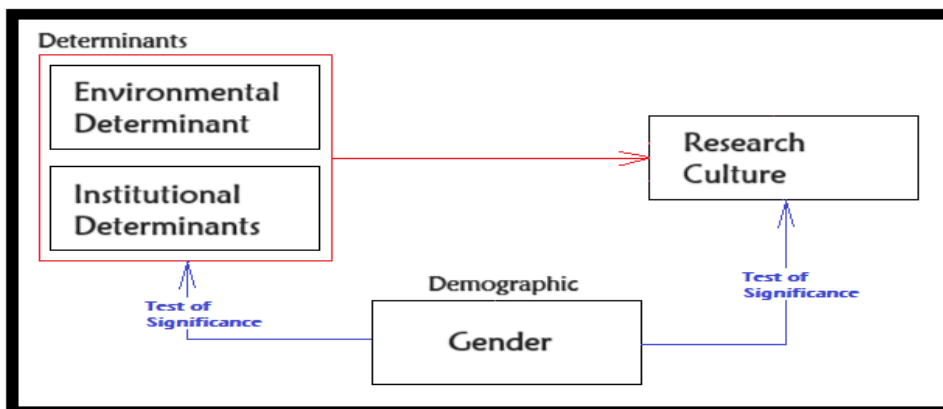
Validity ensures that instrument accurately measures what it is intended to measure. In this study, content validity was deemed most appropriate. Questionnaire was evaluated by 5 subject matter

experts with PhDs in education. These experts assessed questionnaire items on a three-point scale (accepted, accepted with changes, rejected) to verify both face and content validity. Following the validity process, the validated questionnaire was distributed among 10 education experts to assess reliability. Experts rated items on a five-point scale (SA, A, U, DA, SDA). The data from these ratings were analyzed using the SPSS, employing Cronbach's Alpha method to determine the reliability. Subsequently, the questionnaire was refined towards 37 items, resulting in an overall reliability coefficient of 0.87.

### Data Analysis Techniques

Following data collection via questionnaire, gathered data were entered into a data matrix using SPSS. Appropriate statistical analyses were chosen based on the nature of the data and the research hypotheses. The most suitable statistical techniques for this research study included descriptive methods such as calculating means and percentages, as well as inferential techniques such as the t-test and ANOVA.

Figure 1 Conceptual Model of Study



### RESULTS OF STUDY

Table 3 ANOVA (H01)

	SS	df	MS	F	Sig.
Between Groups	.072	3	.024	.943	.421
Within Groups	6.296	249	.025		
Total	6.368	252			

In Table 3, an ANOVA was conducted to assess the variance in perceptions among faculty members from various universities about environmental determinants impacting the promotion of research culture at the university level. The analysis yielded an F-value of 0.943, with a corresponding p-value of 0.421, which exceeds 0.05. This suggests that there is no significant difference observed. Consequently, the null hypothesis (H01), which posits that there is no significant distinction in the perceptions of faculty members across the different universities (as mentioned earlier) concerning

environmental determinants affecting the promotion of research culture at the university level, is therefore supported.

Figure 2 Showing Universities Statistics

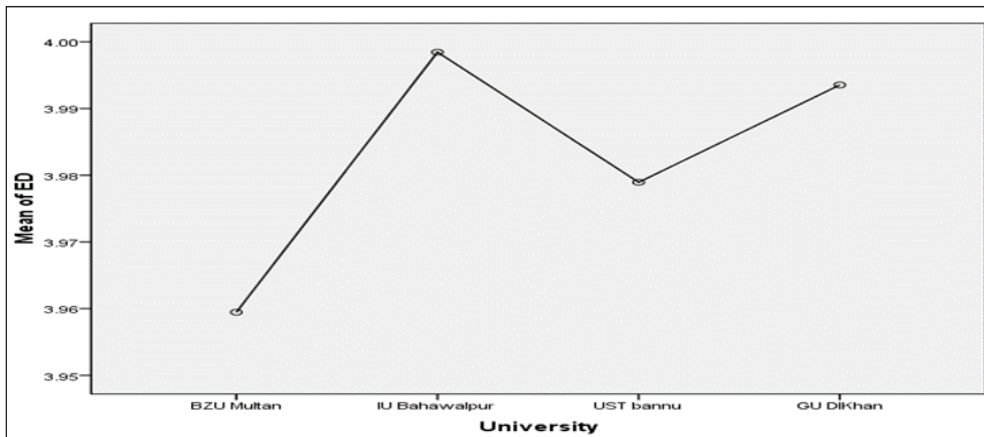
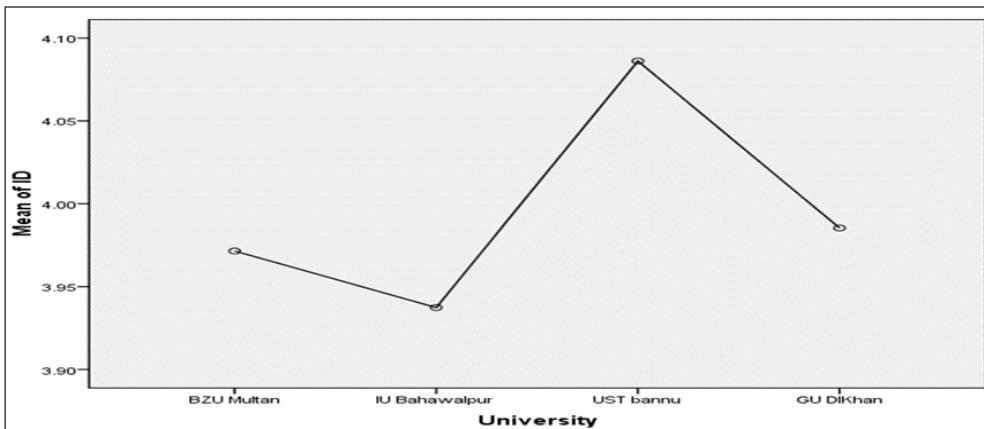


Table 4 ANOVA (H02)

	SS	df	MS	F	Sig.
Between Groups	.392	3	.131	1.950	.122
Within Groups	16.685	249	.067		
Total	17.077	252			

Figure 3 Showing Universities Statistics



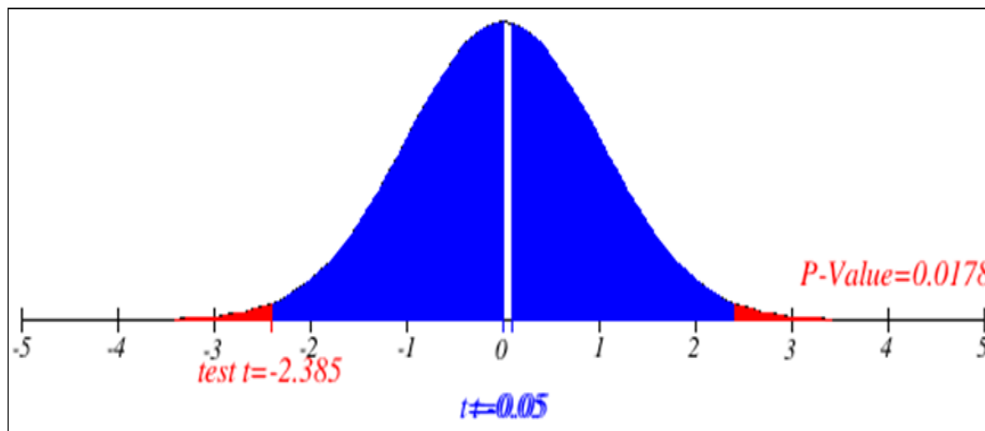
In Table 4 ANOVA was applied to find the difference of perceptions of faculty members of different universities about institutional determinants effecting promotion of research culture at universities level. Analysis shows that  $F=1.950$ ,  $p=.122 > 0.05$ , indicating no significant difference. Thus, null hypothesis (H02) 'stating there is no significant difference of perceptions of faculty members across

different universities about institutional determinants effecting promotion of research culture at universities level' is accepted.

Table 5 Gender Statistics (H03)

	Gender	N	Mean	SD	t	p
ED	Male	129	3.9612	.16402	-2.385	0.018
	Female	124	4.0085	.15043		

Figure 4 Showing Statistical Values



The examination presented in Table 5 aimed to assess hypothesis (H03) suggesting no substantial variance in perspectives of male and female faculty members about environmental determinants affecting promotion of research culture at university level. Analysis revealed a significant outcome with  $t = -2.385$ ,  $p = 0.018$ , which is less than  $0.05$ , leading to rejection of null hypothesis (H03). Thus, there exists a notable distinction in the viewpoints of male and female faculty members regarding environmental determinants impacting the advancement of research culture at university level. Still, mean values indicate that female perceptions leaned towards more positive stance compared to those of males.

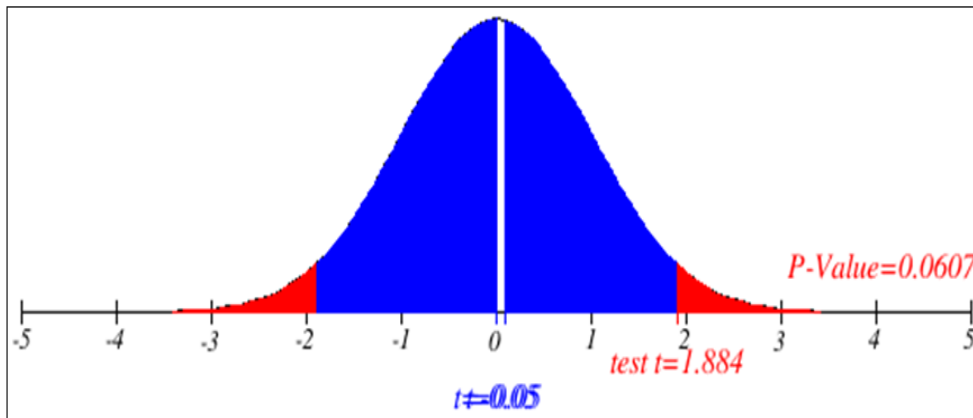
Table 6 Group Statistics (H04)

	Gender	N	Mean	SD	t	p
ID	Male	129	4.0000	.25506	1.884	0.061
	Female	124	3.9386	.26305		

The examination presented in Table 6 aimed to evaluate hypothesis (H04) suggesting no substantial distinction in perspectives of gender (male and female) faculty members concerning institutional determinants impacting the promotion of research culture at the university level. The analysis yielded a result with  $t = 1.884$ ,  $p = 0.061$ , which is greater than  $0.05$ , leading to the acceptance of the null hypothesis (H04). Therefore, there is no noteworthy difference in the viewpoints of male and female faculty members about institutional determinants affecting promotion of research culture at university level.



Figure 5 Showing Statistical Values



## FINDINGS OF STUDY

1. The results of the ANOVA revealed that there is no significant difference in the perceptions of faculty members from various universities about impact of environmental determinants on fostering a research culture at the university level. Consequently, we accept the null hypothesis (H01).
2. ANOVA was utilized to investigate the variations in perceptions among faculty members from distinct universities concerning Institutional determinants influencing advancement of research culture within university settings. The findings reveal that with  $F=1.950$  and  $p=.122 > 0.05$ , there is no notable difference. Consequently, the null hypothesis (H02) is thus upheld.
3. A t-test was conducted to examine disparity in perceptions amid male & female faculty members about environmental determinants impacting promotion of research culture in universities. Results indicate  $t=-2.385$ , with  $p=0.018 < 0.05$ , leading to rejection of the null hypothesis (H03).
4. A t-test was conducted to assess variance in perceptions between male and female faculty members concerning Institutional Determinants influencing the promotion of research culture at universities. Results show  $t=1.884$ , with  $p=0.061 > 0.05$ , leading to acceptance of null hypothesis (H04).

## DISCUSSION

The findings of this study align with [Sadia \(2023\)](#), who emphasized role of environmental factors in fostering a research culture at university level. [Sadia \(2022\)](#) further elucidated that stakeholder within universities express satisfaction with conducive research environments in their respective departments. Similarly, [Naeem et al. \(2019\)](#) demonstrated prevalence of collaborative environment within universities, while [Javed et al. \(2021\)](#) highlighted the supportive role of supervisors and the cooperative atmosphere in research departments. [Iqbal, Jalal, and Mahmood \(2018\)](#) corroborated study's findings, affirming that specific environmental factors contribute to promotion of research culture in universities, such as information exchange among colleagues, research opportunities, and dedication of department heads to research activities. In this connection, institutional determinants



were found to play a significant role in promoting research culture in institutions as supported by [Sadia \(2022\)](#), [Batool \(2018\)](#), and [Nguyen et al. \(2016\)](#), who emphasized importance of institutional practices and facilities, including adequate IT resources and supervisor support for publishing the research publications.

However, conflicting views were presented by [Iqbal and Mahmood \(2011\)](#), who argued against the adequacy of institutional research facilities. Similarly, [Iqbal, Jalal, and Mahmood \(2018\)](#) suggested that institutional determinants, while influential, are not universally common across universities. [Lodhi \(2016\)](#) highlighted lack of researcher skills, particularly in qualitative research, as a barrier to promoting research culture. By addressing these factors, universities can create environment that fosters a strong and sustainable research culture, contributing to advancement of knowledge and societal progress. The findings revealed that strong and visionary leadership that emphasizes the standing of research and clear institutional goals and strategies for promoting research. [Hazelcorn \(2005\)](#) supported the findings by emphasizing the role of research training programs in promoting research culture in institutions. [Hemmings \(2012\)](#) noted that focus on teaching and administrative duties among faculty members may impede research productivity. However, they suggested that advanced research skills training & foundational research skills could boost institutional capacity for research promotion.

[Isani and Virk \(2005\)](#) underscored the significant role of institutions in promoting research culture through teaching research courses and managing research-related activities. They noted disparity amid emphasis on teaching versus research activities within institutions. In this linking, continuous professional development programs for the faculty and encouragement for faculty to engage in the interdisciplinary research that support for joining conferences & workshops. [Iqbal \(2018\)](#) identified various challenges hindering the promotion of research culture, including inadequate research training, lack of faculty research skills, and insufficient incentives and research facilities. Similarly, encouragement of collaboration among the departments, institutions and industry and establishing research centers and institutes to foster collaboration. Contradictory findings were presented by [Mirza, Qazi, and Rawat \(2012\)](#), who argued against availability of institutional support for research activities and highlighted faculty members' lack of skills in promoting research culture. Similarly, [Lertputtarak \(2008\)](#) and [Lamb, Lodhi, and Meier-Kriesche \(2011\)](#) identified obstacles like faculty members' insufficient skills and funding limitations for research promotion in Pakistani universities, particularly in Punjab.

## CONCLUSIONS

The research revealed that promoting the robust research culture at the university level involves addressing various determinants that contribute to the success of research initiatives. The current study aimed to investigate the factors influencing the advancement of research culture within the universities, specifically focusing on environmental and institutional determinants. In this linking, results indicate that both environmental and institutional determinants play the significant role in promoting research culture at the university level. Furthermore, demographic analyses revealed that male and female faculty members exhibit similar perspectives on these determinants in the institutions. Moreover, both determinants were found to have a significant impact on the promotion

of research culture in the institutions, with no notable differences observed in the views of male and female faculty members.

### Recommendations

1. The current study identified that environmental factors significantly effect advancement of research culture within universities. Therefore, it is advisable to enhance environmental parameters such as administrative support, the organization of consistent ASRB meetings, hosting seminars and workshops, and establishing research ethics committees within the university.
2. This research revealed that institutional factors play the crucial role in fostering research culture at the university level. Hence, it is suggested to ensure availability of institutional facilities for the faculty and students, orient curriculum towards research, expand research collaborations, provide adequate resources and IT infrastructure, and enhance institutional libraries.

### REFERENCES

- Abbott, M. L., & McKinney, J. (2013). Understanding and applying the research design. John Wiley and Sons.
- Academy for Educational Development. (2008). The Evaluation of USAID Higher Education Portfolio. The Washington, DC: The United States Agency for International Development (USAID).
- Ali, A., Saeed, A., & Munir, A. (2018). An Instrumental Perspective of the Higher Education in Pakistan: From Public Good to Commercial Commodity. *The Bulletin of Education & Research*, 40(3), 95-114.
- Altbach, P. (2003). African higher education and world. *African Higher Educations*, (9), 143- 50).
- Bako, S. (2005). The Universities, Research and development in Nigeria: Time for a paradigmatic shift. Batool, A. (2018). Relationship of Personal and Institutional Factors with Research Productivity
- Banerjee, A., & Chaudhury, S. (2010). Statistics without tears: Populations and samples. *Indonesian Psychiatry Journal*, 19(1): 60–65.
- Berliner, D. C. (2002). Educational research: The hardest science of all. *Educational Researcher*. 31(8), 18-20.
- Bibi, S. (2022). Analysis of current research practices in social sciences at university level in Khyber Pakhtunkhwa, [PhD Dissertation], Gomal University, DIKhan.
- Evans, L. (2007). Developing Research Cultures and Researchers in HE: the Role of Leadership. Paper presented at the Annual Conference of Society for Research into Higher Education (SRHE).
- Evans, L. (2011). What Research Administrators Need to Know about Researcher Development: Towards a New Conceptual Model. *Journal of Research Administration*, 42(1), 15-37.
- Hajir, M. (2014). Understanding of Research Culture Levels: Review of Literature. *RJSSM* 3, Number: 4. Hazelcorn, E. (2005). University Research Management: developing research in new institutions. Paris: OECD.

- Field, A. (2013). *Discovering statistics using SPSS*, third edition, SAGE Publications Ltd. Singapore.
- Hemmings, B. (2012). Sources of research confidence for early career academics: A qualitative study. *Higher Education Research & Development*, 31(2), 171-184.
- Iqbal, A. (2018). *Barriers in conducting research at post graduate level in public and private sector universities of Khyber Pakhtunkhwa*, [PhD Dissertation], department of education Hazara university, Mansehra, Pakistan
- Iqbal, M. Z., & Mahmood, A. (2011). Factors related to low research productivity at higher education level. *Asian social science*, 7(2), 188.
- Iqbal, M., Jalal, S., & Mahmood, M. (2018). Factors Influencing the Research Culture in Public Universities of Punjab: Faculty Members' Perspective. *Bulletin of Education and Research*, 40, (3), 187-200
- Isani, U. A., & Virk, M. L. (2005). *Higher education in Pakistan: A historical and futuristic perspective*. National Book Foundation, Islamabad.
- Javed, Z., Hussain, S., Iqbal, A., & Farid, M. F. (2021). Role of Supervisors' Research Expertise in Improving Academic Satisfaction and Research Skills of Supervisees. *Ilkogretim Online*, 20(2).
- Kelly, A. E., & Lesh, R. A. (Eds.). (2000). *Handbook of research design in mathematics and science education*. Mah-Wah, NJ: Lawrence Erlbaum Associates.
- Kundačina, M. i M. Brkić (2004): *Pedagoška statistika*. Užice: Učiteljski fakultet.
- Lamb, K. E., Lodhi, S., & Meier-Kriesche, H. U. (2011). Long-term renal allograft survival in the United States: A critical reappraisal. *American journal of transplantation*, 11(3), 450-462.
- Lertputtarak, S. (2008). *An investigation of factors related to research productivity in a public university in Thailand: A case study* (Doctoral dissertation, Victoria University). Factors Influencing Research Culture in Public Universities of Punjab: FMP 200.
- Lodhi, A. S. (2016). *Factors influencing institutional research culture: the case of a Pakistani university*, [PhD Dissertation], The University of Leeds, School of Education.
- Lodhi, A. S. (2016b). A pilot study of researching research culture in Pakistani public universities: the academics' perspective. *Procedia - Social and Behavioral Sciences*, 31, 473 – 479.
- Majid, U. (2018). *The Research Fundamentals: Study Design, Population, and Sample Size*, undergraduate research in natural and clinical science and technology journal.
- Maksimović, J., and Kožuh, B. (2012). Function and sample selection in educational research. *Udc 7.012:303.5. Facta universitatis Series: Philosophy, Sociology, Psychology and History*, 11 (2), 127 – 135.
- Mirza, N., Qazi, W., & Rawat, K. J. (2012). Research culture in teacher education: A study of perception of university teacher educators in Pakistan. *European Journal of Socia Sciences*, 28(4), 559-68.
- Naoreen, B., Adeeb, M, A. (2013). Investigating Academic Research Culture in Public Sector Universities of Pakistan, 5th World Conference on Educational Sciences, *Procedia- Social and Behavioral Sciences*, 116, 3010–3015.
- Nguyen, Q., Klopper, C. (2016). Affordances, barriers, and motivations: engagement in research activity by academics at the research-oriented university in Vietnam. *Open Review of Educational Research*, 3(1), 68-84.

- RAE. 2009. Research Assessment Exercise 2008: Manager's Report (2009). Joint publication of the Higher Education Funding Council for England (HEFCE), Scottish Funding Council, Higher Education Funding Council for Wales (HEFCW) and Department for Employment and Learning.
- Sadia (2023). Analysis of current research practices in social sciences at university level in Khyber Pakhtunkhwa, [PhD Dissertation], Gomal University, Dera Ismail Khan, Pakistan.
- Saunders, M, Lewis, P., & Thornhill, A. N. (2013). Research methods. Business Students 4th edition Pearson Education Limited, England.
- Shukla, S. (2020). Concept of population and sample. Conference Paper, Conference: How to Write a Research Paper? At Indore, M. P., India.
- Sugiyono (2013). Educational Research Methods (Quantitative Approaches, Qualitative and R & D). Bandung: Alfabeta
- Suryani, L., Somantri M., and Kartiwi, A. P. (2020). The Principal's Leadership and its Effect on the Teacher's Teaching Performance. *Journal of Educational Management and Leadership*, 1(2), 68-71
- Taherdoost, H. (2016). Validity and Reliability of Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research, *SSRN Electronic Journal*, 5(3):28-36.
- Thomas, H. G. (2001). Funding mechanism or quality assessment: Responses to the research assessment exercise in English institutions. *Journal of Higher Education Policy & Management*, 23(2), 171-179
- Ullah, M. H., Ajmal, M., & Rahman, F. (2011). Analysis of quality indicators of higher education in Pakistan. *Canadian Journal of Social Sciences*, 1(1), 1-5. United Nations. 2003. Asian Highway Handbook. United Nations Publications.
- Vanek, J. G (2012). Education and Environmental Awareness through University Sport workbook. Thousand Oaks: Sage Publications.
- Wye, L., Brangan, E., Cameron, A., Gabbay, J., Klein, J. H., & Pope, C. (2015). What do external consultants from private and not-for-profit companies offer healthcare commissioners? A qualitative study of knowledge exchange. *BMJ Open*, 5(2).
- Zafar, B. (2013). College major choice and the gender gap. *Journal of Human Resources*, 48(3), 545-595.
- Zaidi, S.A. (2002). Dismal state of social sciences in Pakistan. *Economic and Political Weekly*. 3644-3661.
- Rasool, T., & Dilshad, M. (2023). Factors Influencing Research Culture at Public Universities in Pakistan. *Research Journal for Societal Issues*, 5(2), 41-58.