

Exploring Information Seeking Anxiety among Research Students in Khyber Pakhtunkhwa Universities

Rahim Jan ^a Mir Bahadar ^b Ghalib Khan ^c Muhammad Hussain ^d

Abstract: This study investigated information-seeking Anxiety (ISA) among postgraduate students in Khyber Pakhtunkhwa, Pakistan, using a sample of 367 students from three prestigious universities. Employing a correlational research design, the study utilized the Erfanmanesh Information Seeking Anxiety Scale and considered the Grand Point Average (GPA) for academic success. Data collection involved a standardized questionnaire, and statistical analyses included reliability checks and descriptive and inferential statistics. Results revealed a significant inverse relationship between emotional intelligence and information-seeking anxiety. The study emphasizes the importance of emotional intelligence in reducing information-seeking anxiety, suggesting implications for information literacy curricula and the potential for improvement through training and consultant interventions. The findings contribute to addressing information-seeking anxieties and enhancing emotional intelligence skills among postgraduate students, benefiting academia, psychologists, library practitioners, and information professionals.

Keywords: Information Seeking Anxiety, Library Anxiety, Correlation, Relationship, Research Students, University, Khyber Pakhtunkhwa, Pakistan.

Introduction

Anxiety is a feeling of apprehension whereby a future-oriented miss-happening is perceived as a threat to the ego of an individual (Freud, 1989). It is considered a source of motivation in normal conditions; however, in severe form, it leads to malfunctioning of the personal, social, vocational, academic, and sexual life of an individual, leading to mental and psychological disorders. Anxiety is different from fear. Anxiety is future-oriented, a state of mind in which escape is not possible. On the other hand, fear is experienced in the present, and one can get out of it by avoiding the stimulus creating it (Zeinder & Roberts, 2002).

Information is the sequential arrangement of data in an understandable and communicable form. It can be of primary, secondary, or tertiary origin, depending upon its source. Man gets knowledge through the use of information either personally or by relating it to the experiences of others. Many sources of information have been established, including personal experiences, logic, authority, revelation, intuition, and others. However, to validate the information and to ensure its consistency, several techniques are utilized. Coherence is a technique by which the upcoming new information is validated by relating it to the existing pool of knowledge, which is considered true, provided the existing knowledge is true. Similarly, correspondence is considered another important technique to validate new knowledge by practical

^a Assistant Professor, Department of Library & Information Sciences, Khushal Khan Khattak University, Karak, Khyber Pakhtunkhwa, Pakistan. Email: rahimjanrajjar@gmail.com

^b Librarian, Army Burn Hall College, Abbottabad, Khyber Pakhtunkhwa, Pakistan.
Email: mirbahaderkhattak@gmail.com

^c Assistant Professor, Department of Library & Information Sciences, Khushal Khan Khattak University, Karak, Khyber Pakhtunkhwa, Pakistan. Email: ghalibkhani@yahoo.com

^d Lecturer, Department of Library & Information Sciences, Khushal Khan Khattak University, Karak, Khyber Pakhtunkhwa, Pakistan. Email: mhustb@gmail.com

experimentation or observation through the use of the five senses. Information utility ensures the authenticity of a source and whether it is applicable and valid to solve a problem.

Information Seeking Anxiety (ISA) is a state of mind whereby an individual experiences an apprehension or worry during the process of seeking information (Erfanmanesh et al., 2014). In other words, feeling uneasy in searching for relevant sources of desired information by an individual is termed ISA. The ISA perceptions may not only affect various emotional, cognitive, and behavioral effects, but they can also influence performance, particularly searches for the desired information. The practice of seeking information may either be man-made or technology-driven and may be executed anywhere.

The Concepts Of Information Seeking Anxiety

Information Seeking Anxiety can be defined as "the feelings of discomfort that an information seeker experiences while searching the needed information. The course of information seeking may be either manual or computer-based and may be performed anywhere either at home or at a library in the university" (Erfanmanesh et al., 2012). The analysis of the published literature review revealed various anxieties like library anxiety, ISA, and information anxiety. Anxiety is a general term that encompasses many notions; however, in the present study, the term anxiety is used in the context of academic anxiety while interacting with the information-seeking behavior of the students. Anxiety has been defined as "a fundamental, ubiquitous and persistent characteristic of the information search process causing various cognitive, emotional and behavioural effects on students" (Kuhlthau, 1991; Naveed & Ameen, 2016a). It not only affects the students' information-seeking self-efficacy but is also a major hindrance in educational pursuit (Mellon, 1986). A huge majority of postgraduate students manifested various types of anxieties that might affect their academic performance and research output; the most common among them is ISA, which may adversely affect a learner's accomplishments (Naveed & Ameen, 2017).

Outline of the Three Concepts

The study by Naveed and Anwar (2019), captioned "*Modeling Information Anxiety*," provided the *three concepts* of information anxiety that students use during information searches. The three concepts include (i) *Library Anxiety*, (ii) *Information Seeking Anxiety*, and (iii) *Information Anxiety*; the details of these concepts are as follows.

First Concept (Library Anxiety): This concept emphasizes the information anxiety of the users within the boundary of library walls. The term library anxiety is used in the field of Library and Information sciences, interacting in the academic context of the students. Library anxiety factors may include users, feelings of discomfort with the library facilities (Library space, lighting, furniture, etc.), the provision of library services and resources, and interactions with the library staff. Thus, the first concept of library anxiety is associated with the patrons' of a particular setting and is limited to the Library.

Second Concept (Information Seeking Anxiety): The second concept focuses on dealing with users' ISA and searching for needed information at any time, anywhere in the course of information. Information Seeking Anxiety is a broader term than library anxiety, as library anxiety is a limited phenomenon that deals with a particular setting, while ISA is beyond the boundaries of the library. Information Anxiety may result from various sources like the Library, digital resources (web), and humans while looking for information.

Third Concept (Information Anxiety): The term Information Anxiety is broader than Library Anxiety and that of ISA and even more in general in a sense that encompasses multiple aspects of information. Information anxiety includes many other factors, such as need recognition, usage, synthesis, evaluation of information, access, and many task definitions.

Statement of the Problem

Research students in Khyber Pakhtunkhwa universities grapple with an evolving academic environment where proficient information-seeking is crucial for scholarly success. However, a significant concern is the

potential presence of information-seeking anxiety, impeding their ability to navigate and extract pertinent information for research. This study aims to assess the levels of information-seeking anxiety among these students, pinpoint contributing factors, and explore strategies for mitigation. By addressing this issue, the research aims to improve our comprehension of challenges faced by research students in information access, contributing to the development of effective support mechanisms for their academic journey.

Significance of the Study

High levels of information-seeking anxiety can adversely impact academic performance. By uncovering the factors contributing to this anxiety, institutions can implement strategies to alleviate stressors, thereby fostering a more conducive learning environment for research students and enhancing their overall academic outcomes. The assessment of information-seeking anxiety provides insights into potential barriers that research students in Khyber Pakhtunkhwa may face in their educational journey. Understanding these barriers is crucial for educators, administrators, and policymakers to develop targeted interventions and support mechanisms.

Objectives of the Study

1. To assess levels of information-seeking anxiety among research students at universities in Khyber Pakhtunkhwa.

Method and Procedure

The study used a survey research methodology. Since the study adopted a quantitative approach, non-experimental and correlational, a research design with a survey questionnaire has been adopted for collecting data. According to Creswell (2003), a survey collects a huge quantity of data from the geographically dispersed population in a shorter span of time and estimates the percentage of the population. Surveys minimize the observer's subjectivity and thus provide precise measurement for analysis (Creswell, 2003 & Babbie, 2001). The study employed a correlational research design. Correlation research design is a statistical procedure that determines the relationship between two or more variables (Bold, 2001). The purpose of the correlational research design is to study the differences in the characteristics of the two groups or variables (Leedy & Ormrod, 2001). As the correlational design measures two or more variables, the same was purposively used to investigate the relationship between the two variables under study, i.e., EI and ISA.

Population

The study population consisted of all the universities located in Khyber Pakhtunkhwa, Pakistan. According to Schutte et al. (2009), the prime purpose of the research is to find out about a large group of people by identifying a much smaller group of people. This group is termed as "Population," "Target population," or the "Universe," which means all the respondents of a real or supposed set of people, events, or substances to which the investigator desires to generalize the results of the study. So, all the research students of postgraduate programs enrolled in MPhil & PhD from the Peshawar University KP, Agriculture University Peshawar (Agriculture), and University of Engineering Peshawar (Engineering) were the target population of the current study. The reason behind preferring this population was that the postgraduate students (MPhil & PhD) use ample information to fulfill their various academic needs, such as class assignments, course materials, synopsis preparation, and thesis writing. Thus, they face ISA. The selection of multiple populations and diverse cultures, such as Social Sciences (UOP), Agriculture (AUP), and Engineering (UET), will establish a deep insight into the phenomena under study.

Sample and Sampling Technique

There were three thousand three hundred forty (3340) students registered in MS/MPhil and PhD programs in the three universities (information obtained from the Directorate of Admissions UOP, AUP, and UET Peshawar, verbally). The sample size for the present study was calculated as three hundred and sixty-seven (N=367) by using the Krejcie & Morgan (1970) sample table, determined by using a 95% confidence level with (a 5% error rate). Convenient sampling techniques were used to approach the desired population

due to time constraints and accessibility issues. The convenient sample may be defined as "it allows the researcher to draw a sample from the desired population where he/she gets comfortable and easy to contact subjects" (Creswell, 2004).

Tool for Information Seeking Anxiety

The research measured the information-seeking anxiety of research students using the ISA Scales (ISAS), initially developed by Erfanmanesh et al. (2012) and later modified by Naveed and Ameen (2017b). This study utilized the 40-item modified version of ISAS, assessed on a 5-point Likert scale. The scale demonstrated soundness and stability, being recommended for Pakistani culture. Internal reliability analysis yielded a Cronbach's alpha value of 0.90, indicating 90% reliability. Additionally, Cronbach's Alpha for the entire 40-item scale in this study was .82%, signifying 82% reliability and good internal consistency. The ISAS, employed across diverse cultures, locales, and samples, has consistently shown strong internal consistency in previous research.

Data Analysis Procedure

A total of 367 completed questionnaires were processed for data analysis with the help of SPSS version 22. No missing value was found in all the entries. Descriptive statistics, percentages, mean, mode, median, minimum, maximum, and standard deviation were utilized to understand the EI, ISA, and demographic characteristics of the respondents. Visual inspection of the frequency distribution (Histogram), P-P Plots, Q-Q Plots, and Shapiro-Wilk test were employed to analyze the normality of data. The reliability of both scales was also calculated with the help of Cronbach's Alpha value, which was found to have good internal consistency. Descriptive statics were employed to measure the respondents' level of EI and ISA. Inferential statistics such as Pearson Correlation were used to determine the correlation between the EI, ISA, and academic achievement of the students in terms of GPA.

Normal Distribution of Data

The present study employed methods of visual inspection, i.e., histograms and plots, which are the most preferred, simple, and easy ways to check the normality of data. The normality of data with respect to ISA and its Sub-factors (Resource Anxiety, Information and communication Technology Anxiety, Search Anxiety, Library Anxiety, Mechanical Anxiety, and Thematic Anxiety) was checked through the use of histograms and plots shown in the figures. Similarly, the normality of data regarding EI and its Sub-factors (Perception of Emotion, Managing Own emotions, Managing other's emotions, and Utilization of Emotions) is shown in the figures below and was calculated through the use of histograms and plots. The figures indicated a normal bell-shaped curve along with a Q-Q Plot of the straight diagonal line, which confirms the normality of the data. According to Field (2009), if the data are normally distributed, it would be bell-shaped and will make a straight diagonal line. In the present study, both conditions (normal bell shape and straight diagonal line) are observed, and thus, the normality of the data is confirmed.

Figure 1

Histogram of average anxiety score for overall ISAS

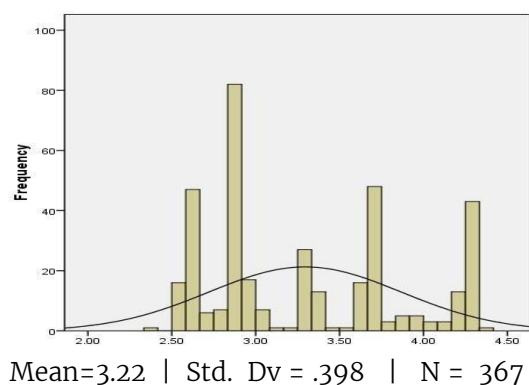


Figure 2

Normal Q-Q Plot of Information Average Anxiety Score for overall ISAS

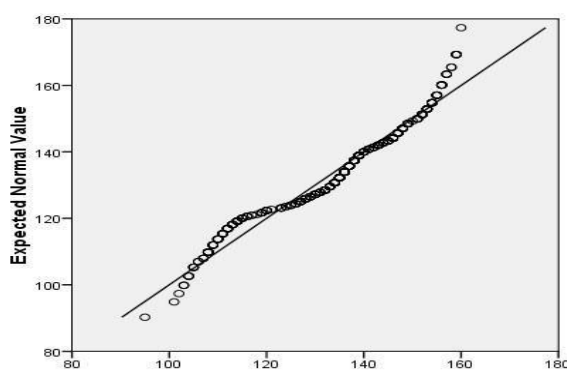
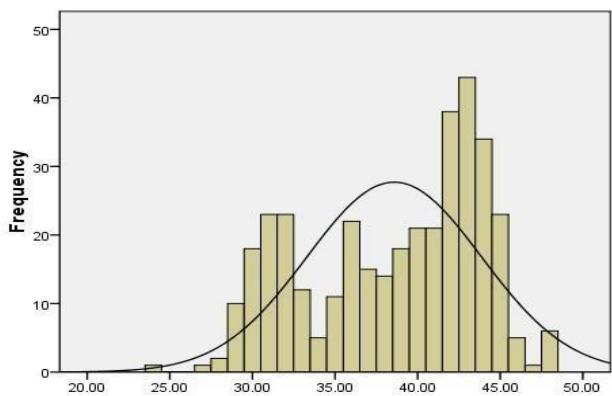


Figure 3
Histogram of Sub-Factor 'Resource Anxiety' Score



Mean=3.561 | Std. Dv = .498 | N=367

Figure 3
Normal Q-Q Plot of Information Average Anxiety Score for overall ISAS

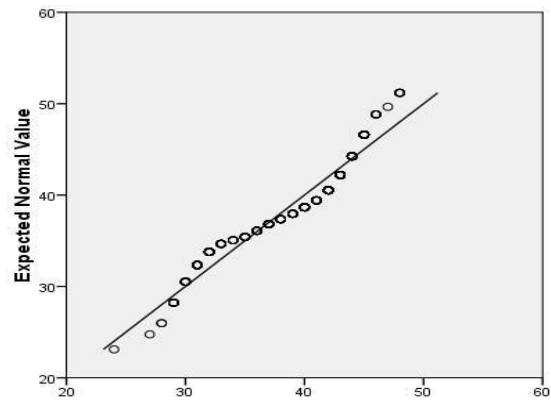
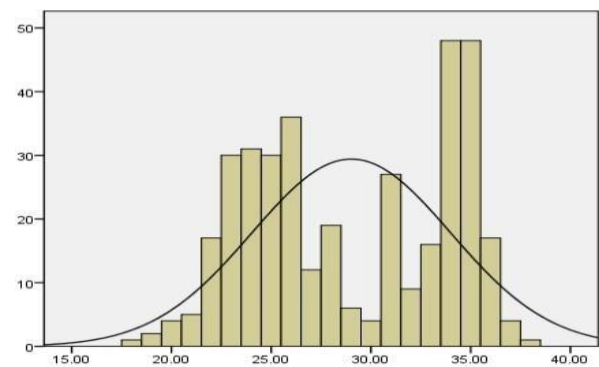


Figure 5
Normal Q-Q Plot of Sub-factor 'Resource Anxiety'



Mean=3.11 | Std. Dv = .502 | N = 367

Figure 6
Normal Q-Q plot of Sub-factor ICT Anxiety

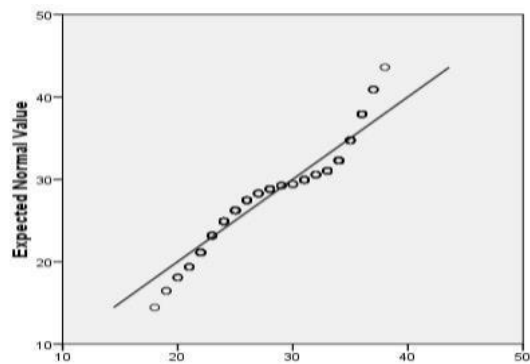
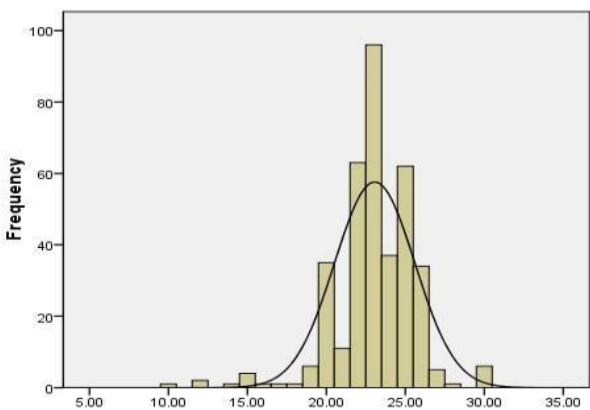


Figure 7
Histogram of Sub-factor of 'Library Anxiety'



Mean=3.101 | Std. Dv = .312 | N=367

Figure 8
Normal Q-Q plot of 'Library Anxiety'

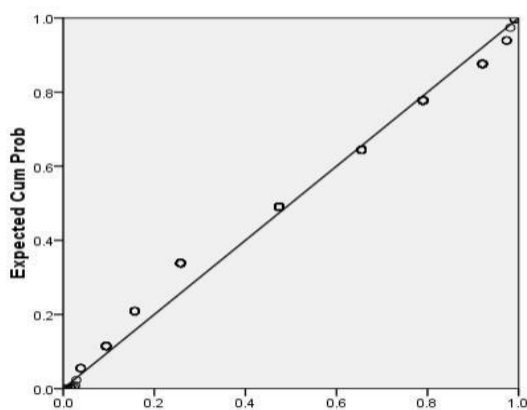


Figure 9
Histogram of Sub-factor of 'Search Anxiety'

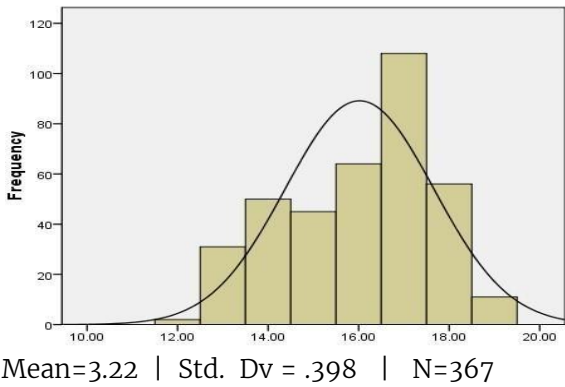


Figure 8
Normal Q-Q Plot of Sub-factor of 'Search Anxiety'

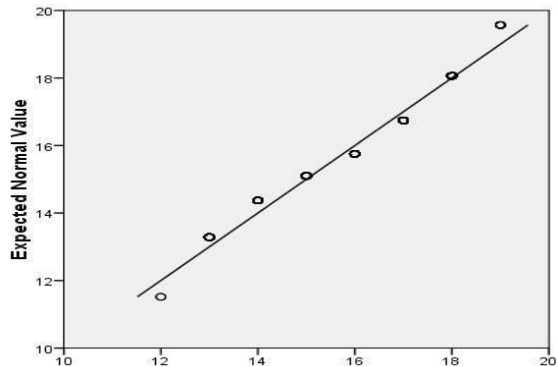


Figure 9
Normal Histogram of 'Mechanical Anxiety'

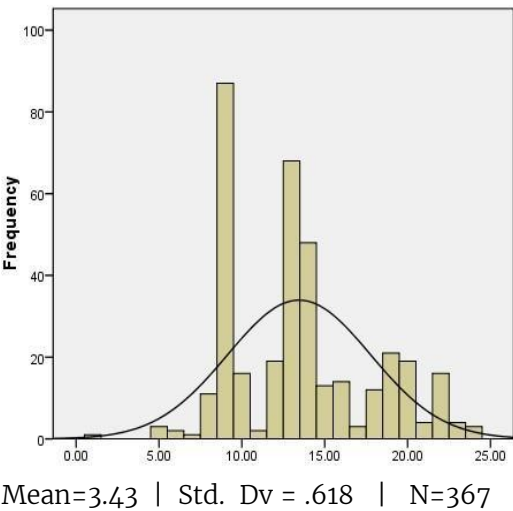


Figure 10
Normal Q-Q Plot of 'Mechanical Anxiety'

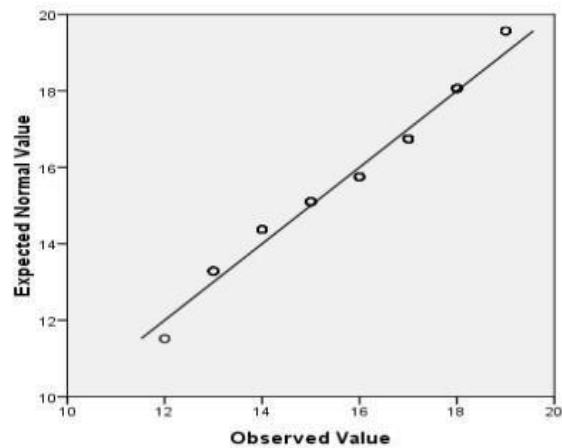


Figure 11
Histogram of 'Thematic Anxiety'

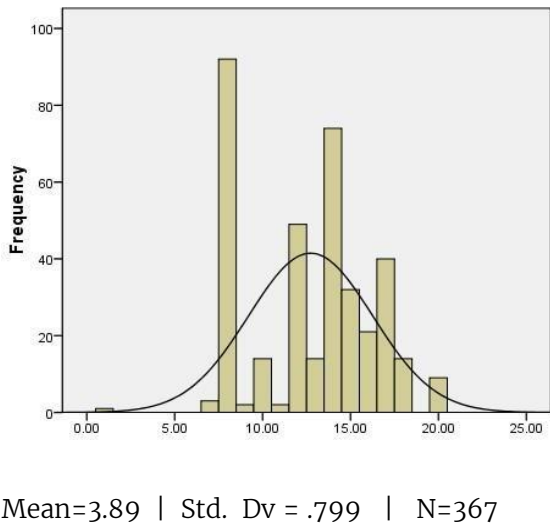


Figure 12
Normal Q-Q Plot of 'Thematic Anxiety'

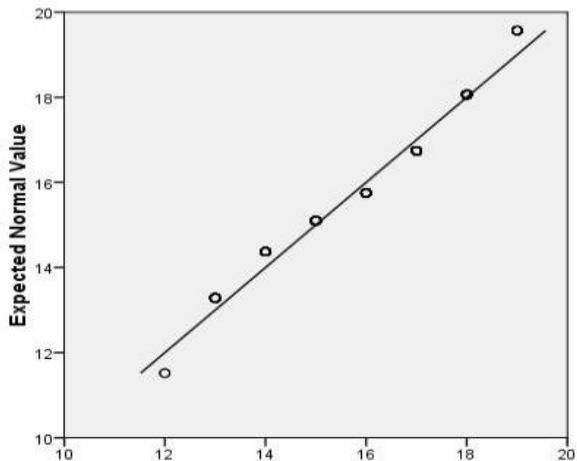


Table 1

Proposed Level of Information Seeking Anxiety (N = 367)

Levels of Anxiety	Ranges of Averages Score	Frequency
No Anxiety	0.00 - 2.64	23(6%)
Low Anxiety	2.65 - 3.01	81(22%)
Mild Anxiety	3.02 - 3.74	226(62%)
Moderate Anxiety	3.75 - 4.10	29(8%)
Severe Anxiety	4.11 - 5.00	8 (2%)

Engineering University (UET), Agriculture University (AUT), and Peshawar University (UOP) were compared on the proposed level of ISA scale to find out the differences among the three areas of study. Figures in Table 2 reveal that all three areas commonly possessed (n=226, 61.58%) mild anxiety. However, among the three areas, engineering university students have the least (n=18, 5%) No anxiety, (n=48, 13%) Low anxiety, and none (0%) severe anxiety as compared to Agriculture university students and Peshawar University. Additionally, the proportion of the ISA anxiety of social science students (UOP) was higher than that of agriculture and engineering students. Thus, it can be concluded, based on the data, that no significant differences were found in the area/subject-wise level of ISA of the post-graduate students of the three major universities.

Table 2

Area/subject-wise level of information-seeking anxiety of the respondents (N=367)

Area of Study	Proposed Level of Information Seeking Anxiety					Total
	No Anxiety	Low Anxiety	Mild Anxiety	Moderate Anxiety	Severe Anxiety	
Social Science (UOP)	2(0.54)	11(3)	83(22.61)	17(4.63)	7(2)	120
Agriculture (AUP)	3(1)	22(6)	99(27)	6(1.63)	1(0.27)	131
Engineering (UET)	18(5)	48(13)	44(12)	6(1.63)	0(0)	116
Total	23(6.54)	81(2@)	26(61.58)	29(8)	8(2.27)	367(100)

The figures in Table 3 indicate the kind of ISA among the respondents on the sub-dimension of ISAS. The table reveals that a large majority (n=91, 24.79%) face Thematic Anxiety, followed by

Mechanical anxiety (n=81, 22.07%) and Search anxiety (n=68, 1.52%) on the proposed level of ISAS. However, among the 367 respondents, library anxiety (n=15, 4.08%) was found to be the lowest level in the sub-dimension of ISAS, which reflects that library anxiety is not common among the respondents. These results confirm the findings of the earlier studies conducted by Naveed & Anwar (2019), Naveed & Ameen (2016a), Naveed (2016), Erfanmanesh et al. (2014), who also reported similar results for the level of ISA and sub-dimension of ISAS.

Table 3

Respondents level of anxiety for sub-dimension of ISAS (N=367)

Area of Study	Proposed Level of Information Seeking Anxiety				
	No Anxiety	Low Anxiety	Mild Anxiety	Moderate Anxiety	Severe Anxiety
Resource Anxiety	4(1.8)	8(2.17)	45(12.26)	2(.54)	1(0.27)
ICT Anxiety	3(.81)	18(4.90)	25(6.81)	5(1.36)	1(0.27)
Library Anxiety	1(.27)	5(1.36)	8(2.17)	1(.27)	0(0.0)
Search Anxiety	7(1.90)	22(5.99)	28(7.62)	9(2.45)	2(.54)
Mechanical Anxiety	5(1.36)	16(4.35)	51(13.89)	7(1.90)	2(.54)
Thematic Anxiety	3(.81)	12(3.26)	69(18.80)	5(1.36)	2(.54)
Total	23(6.26)	81(22)	226(61.58)	29(7.90)	8(2.17)

Discussion

Regarding the level of library anxiety, the study found that the majority of the respondents (62%) experienced mild anxiety, followed by low anxiety (22%) and moderate anxiety (8%). A negligible percentage of the respondents, i.e. (6%), reported no anxiety, while the percentage of severe anxiety is near to none (2%). This result is in line with the study of Naveed & Anwar (2017), Naveed & Ameen (2016), and Erfanmanesh et al. (2014). However, on the sub-dimension of ISAS, it was found that a large number of the respondents $n=91$ (24.79%) faced Thematic Anxiety, followed by Mechanical Anxiety $n=81$ (22.07%) and search anxiety $n=60$ (17.50%), whereas library anxiety was found on the lowest level on the sub-dimension of ISAS. The result confirms the findings of the earlier studies conducted by Naveed & Anwar (2019), Naveed & Ameen (2016a), Naveed (2016), and Erfanmanesh et al. (2014).

In addition to these, the study also explored the relationship between EI & ISA and EI, ISA, and academic achievement of the participants. The study found that the higher the EI, the lower the ISA and vice versa. So, based on the results of the study, it can be concluded that students who have the ability to manage their own and other emotions and utilize and perceive emotions would have no or low ISA. In contrast, students with low EI will have ISA. Thus, an inverse relationship between EI and ISA was found. The results of the study are somewhat similar to those of Jan & Anwar, (2018); and Jan et al. (2016), but the results of SeyyedHosseini, Khosravi, & Basirian Jahromi, 2014 do not confirm the findings of this study as their study found a non-significant association between the two variables. However, many studies, including Roy, Sinha, and Suman, 2013 confirm the findings of the present study.

Conclusion And Findings

The current study investigates the relationship between EI and information anxiety among postgraduate students in three major universities in Khyber Pakhtunkhwa, Pakistan. A total of 430 questionnaires were administered to respondents, out of which 367 were received and were finalized. The findings of the study led the researcher to the conclusion that respondents were more intelligent with regard to perception of emotions and utilization of emotion on Schutte's EI Scale. Moreover, from the data, it can be safely concluded that the respondents were not only intelligent but they had the ability to manage their own emotions and the emotions of others, as the overall mean score of 367 participants was in the range of moderate level of EI. The study also found that the mean EI score of female respondents ($M= 3.81$ St. Div=41) was slightly higher than those of male respondents ($M= 3.65$ St. Div=52), so it can be concluded that female respondents were more intelligent in the use of emotions than male respondents.

Library anxiety was also found to be related to the EI score. Respondents whose EI score was below $\bar{x}-2s$ had no library anxiety, while those whose EI mean score was $\bar{x} \pm 2s$ had severe library anxiety.

References

- Babbie, E. (2001). *The practise of social research*. Belmont, CA: Wodworth.
- Bold, M. (2001). *University of North Texas center for parent education*. Retrieved December 19, 2022.
- Creswell, J. (2003). *Research design: qualitative, quantitative and mixed methods approaches* (2nd ed.) Thousand Oaks, CA: SAGE Publications
- Erfanmanesh, M. A., Abrizah, A., & Karim, N. (2012). Development and Validation of the Information Seeking Anxiety Scale. *Malaysian Journal of Library & Information Science*, 17(1), 21–39. <https://mjlis.um.edu.my/index.php/MJLIS/article/download/1880/4162/14035>
- Erfanmanesh, M. A., Abdullah, A., & Abdul Karim, N. H. (2014). Information seeking anxiety: Concept, measurement, and preliminary research. *International Journal of Information Science and Management (IJISM)*, 12(1), 47–64. https://ijism.isc.ac/article_698201.html
- Erfanmanesh, M., A., A., & Abdul Karim, N. H. (2017). Development and validation of the Information Seeking Anxiety scale. *Malaysian Journal of Library and Information Science*, 17(1), 21–39. <https://malindojournal.um.edu.my/index.php/MJLIS/article/view/1880>
- Field, A. (2009). *Discovering statistics using SPSS* (Vol. 3). SAGE publications Ltd.
- Freud, S. (2016). Introductory lectures on psycho-analysis. In *Myths and Mythologies* (pp. 158–166). Routledge.
- Jan, S. U., Anwar, M. A., & Warraich, N. F. (2017). Emotional intelligence and academic anxieties: A literature review. *New Review of Academic Librarianship*, 23(1), 6–17. <https://doi.org/10.1080/13614533.2016.1270839>
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610. <https://doi.org/10.1177/001316447003000308>
- Kuhlthau, C. C. (1991). Inside the search process: Information seeking from the user's perspective. *Journal of the American Society for Information Science*, 42(5), 361–371. [https://doi.org/10.1002/\(SICI\)1097-4571\(199106\)42:5<361::AID-ASI6>3.0.CO;2-%23](https://doi.org/10.1002/(SICI)1097-4571(199106)42:5<361::AID-ASI6>3.0.CO;2-%23)
- Mellon, C. A. (1986). Library anxiety: A grounded theory and its development. *College and Research Libraries*, 47(2), 160–165. https://doi.org/10.5860/crl_47_02_160
- Mellon, C. A. (2015). Library anxiety: A grounded theory and its development. *College and Research Libraries*, 76(3), 276–282. <https://doi.org/10.5860/crl.76.3.276>
- Naveed, M. A. (2016). Exploring information seeking anxiety among research students in Pakistan. *Libri*, 66(1). <https://doi.org/10.1515/libri-2015-0047>
- Naveed, M. A. (2016). Information seeking anxiety among postgraduate students of university. *Journal of Behavioural Sciences*, 26(1), 142. <https://pu.edu.pk/images/journal/doap/>
- Naveed, M. A., & Ameen, K. (2016). A mixed-method investigation of information seeking anxiety in Pakistani research students. *Pakistan Library & Information Science Journal*, 47(2), 24–33.
- Naveed, M. A., & Ameen, K. (2016). Measuring levels of students' anxiety in information seeking tasks. *Pakistan Journal of Information Management & Libraries*, (17), 56–68.
- Naveed, M. A., & Ameen, K. (2017). Determining the prevalence and correlates of information seeking anxiety among postgraduates in Pakistan. *Libri*, 67(3). <https://doi.org/10.1515/libri-2016-0017>
- Naveed, M. A., & Anwar, M. A. (2019). "Modelling Information Anxiety". *Library Philosophy and Practice* (e-journal). 2758. <https://digitalcommons.unl.edu/libphilprac/2758>
- Naveed, M. A., & Ameen, K. (2017a). A cross-cultural evaluation of the psychometric properties of information seeking anxiety scale in Pakistani environment. *Malaysian Journal of Library & Information Science*, 22(3), 35–51. <https://doi.org/10.22452/mjlis.vol22no3.3>
- Schutte, N. S., Malouff, J. M., Price, I., Walter, S., Burke, G., & Wilkinson, C. (2008). Person–situation interaction in adaptive emotional functioning. *Current Psychology (New Brunswick, N.J.)*, 27(2), 102–111. <https://doi.org/10.1007/s12144-008-9027-9>
- Zeidner, M., Roberts, R. D., & Matthews, G. (2002). Can emotional intelligence be schooled? A critical review. *Educational Psychologist*, 37(4), 215–231. https://doi.org/10.1207/s15326985ep3704_2