

## Information Seeking Anxiety Amongst Postgraduate Students of Punjab Agricultural University, Ludhiana

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### ABSTRACT

This paper is envisioned to investigate the Information Seeking Anxiety (ISA) among postgraduate (masters' and PhD) students of Punjab Agricultural University, Ludhiana. The Information Seeking Anxiety Scale (ISAS) developed by Erfanmanesh, *et al.*, containing 47 statements representing ISA under seven components having Cronbach alpha values reported to be at 0.902, was used as a data collection tool. 108 students participated in the survey. About 70 % respondents experienced mild level of anxiety. The gender-based difference in ISA associated with 'Computer and the Internet' was found to be significant at .05 ( $t= 2,426$ ), females being less anxious. The location of the students did not influence their ISA, and different components of the ISAS were found to be interrelated, affecting the overall anxiety level. Prevalence of low to severe levels of ISA amongst students mandated the need for planning and execution of well-prepared information literacy programmes.

**Keywords:** Information seeking anxiety; Anxiety; Agriculture; Information seeking behaviour

### 1. INTRODUCTION

The academic and research pursuits entails access to and retrieval of relevant and up-to-date information for apropos comprehension of the subject matter. In the rampant information technology driven milieu, where plenteous global information is just a click away from users, hunting right information at the right time is a mountainous task. In higher education system, students are required to gather information from plethora of information resources for their academic and research pursuits. In this endeavour, while deciding and selecting the topic of research, writing a research proposal, collecting related but relevant studies to get apprised about the background of the problem, and finalising the research topic may cultivate the feeling of anxiety and frustration amongst students<sup>1-2</sup>.

One may encounter Information Seeking Anxiety at various stages, viz. during his/her searching for information, during preparing to search for information and even when he/she just thinks to conduct search

process. Kuhlthau<sup>3</sup> called anxiety a natural feeling during the information seeking process, as most of the people have experienced anxiety from time to time.<sup>4</sup> Regulated and moderate anxiety may serve as an adaptive function<sup>5</sup>. Amongst different forms of anxiety, viz., library anxiety<sup>6</sup>, research anxiety<sup>7-8</sup>, computer anxiety<sup>9-10</sup>, trait anxiety<sup>11-12</sup> etc., the ISA encompassing frustration with respect to search for information seems to be the most predominant, as students have to find information at some point during their study programme(s)<sup>13</sup>. The fundamental, pervasive and tenacious features of information search lead to cognitive, emotional and behavioural influence on learners<sup>14-16</sup>.

In the discipline of Library and Information Science (LIS) majority of the theories and models have been grounded in use of libraries, albeit these are being considered in the context of self-contained information seeking<sup>17</sup>. Though ISA may affect the academic performance of students, the exclusive exploration of this construct has been very limited as in majority of the studies it has been examined as general library anxiety<sup>18-20</sup>.

The major objectives to the present study are:

- Identification of the level of ISA amongst postgraduate students.
- To find out the difference amongst students on ISA across gender, educational level and locale.
- To reveal correlation between various components of ISA and age of students.
- To suggest remedial measures for mitigating the ISA.

## 2. LITERATURE REVIEW

Digital environment has led to irresistible manifestation and prevalence of ISA amongst students<sup>21</sup>. Several congruent studies have been conducted globally to assess the ISA and associated factors. Amongst various dimensions, “barriers associated with libraries” were most important source of ISA in a study of 11000 postgraduate students in a university at Kuala Lumpur, Malaysia<sup>22</sup>. Generation of student, *i.e.*, parents going to college or not, also plays an important role in levels of ISA exhibited by students. First-generation students were found to have the higher levels of ISA as compared to continuing generation students<sup>23</sup>.

The impact of anxiety can also spill-over to areas not related to source of anxiety. A study of students of University College London reflected that anxiety leads to an increase in information seeking inquest in response to larger changes, even if cause of anxiety was not related to such changes<sup>24</sup>.

Trainings/courses/workshops etc. are pivotal in reducing information-seeking anxiety. In a study of postgraduate students of Isfahan University of Medical Sciences, ISA was lower than average due to availability of different training workshops for students<sup>25</sup>. Evaluation of information has been considered as a basic strategy to deal with stress and anxiety associated with information-seeking. A study of Doctor of Veterinary Medicine (DVM) students in North America showed the lack of skills amongst them to evaluate information<sup>26</sup>, and emphasised the need to help them in evaluating information by integrating information literacy skills in managing information.

Agricultural education comprises of extensive coursework throughout academic programmes and students have to complete the dissertation work in addition to other courses of study, as requirement for completion of degree. Studies have been conducted to assess the ISA of students in other domains, however, no known attempt has been made to examine this facet amongst students of agricultural education system.

This study would be the first attempt to have an understanding of the ISA amongst agricultural university students through examination of different components leading to the gross level of anxiety. Thus, it would abridge the research gaps in this area of LIS.

## 3. METHODOLOGY

The study aims to assess the prevalence of ISA amongst postgraduate students of Punjab Agricultural University, Ludhiana through a survey of masters’ and doctorate

degree students. Participation in survey was voluntary and attention was paid to the fact that participants’ ethical considerations are regarded fully. Over the period, the educationists have developed various tools for assessing the prevalence of ISA amongst stakeholders. In present study, the Information Seeking Anxiety Scale (ISAS) developed, used and validated by Erfanmanesh, *et al.*<sup>12</sup> was used as a data collection tool. The questionnaire consists of 47 statements based on Likert’s five point scale, from strongly agree to strongly disagree, investigating the six factors of ISA (Table 1). The reliability of ISAS was acceptable with Cronbach alpha values reported to be at 0.902 for scale, holistically. A test-retest was conducted confirming the internal reliability of overall scale ( $\alpha= 0.74$ ). The instrument contains six components as given below:

**Table 1. Components of ISAS**

| S. no. | Barriers associate with                  | Number of items | Cronbach’s alpha |
|--------|--|-----------------|------------------|
| 1.     | Information resources                    | 14              | 0.868            |
| 2.     | Computer and the internet                | 6               | 0.726            |
| 3.     | Library                                  | 11              | 0.815            |
| 4.     | Searching for information                | 5               | 0.802            |
| 5.     | Technical barriers                       | 6               | 0.809            |
| 6.     | Topic identification                     | 5               | 0.825            |
|        | <b>Information seeking anxiety scale</b> | <b>47</b>       | <b>0.902</b>     |

Based on the number of seats for admission to masters’ and Ph.D. programmes at Punjab Agricultural University, Ludhiana, the total number of students in these programmes were estimated to be 576. Random sample of 20 % of the total population under study (576) was chosen for the survey. Data collection tool, using Google Forms was sent to 115 students of masters’ and doctorate degree programmes with a request to participate in the survey from May 16, 2022 to May 30, 2022. The respondents were required to give responses for each statement on ISAS on five-point Likert scale with respect to their level of agreement with the statements. In total 108 responses of students were recorded and analysed using descriptive viz. mean values and inferential viz. t- test, and correlation coefficient statistical techniques through Statistical Package for Social Sciences (SPSS). Prior to data analysis, the negative statements were reversed to arrange all the statements in the same direction. The composite mean score for overall ISAS was calculated by summing up the responses of each participant for determining the level of ISA amongst students’ vis-à-vis to examine the correlation amongst various components of ISA.

## 4. RESULTS

### 4.1 Respondents’ Profile

The mean score for ISA of students was found to be 135.03 and the value of Standard Deviation (SD) for the same variable was 22.127. Gender wise distribution of

respondents was almost equal as 55 comprised of males and 53 females. Majority of the respondents were students of masters' degree programme(s) and remaining 23 were pursuing doctorate degree programme. Responses revealed almost equal representation of locale of respondents as 53 represented rural spheres and 55 belonged to urban regions.

#### 4.2 Level of Anxiety

Anwar<sup>27</sup>, *et al.* suggested different levels of library anxiety ranging from 'no anxiety' to 'severe anxiety' as a useful criterion to identify levels of ISA, also used successfully by Erfanmanesh<sup>22</sup>, *et al.* for determining the levels of ISA for different components of the ISAS vis-a-vis total composite scale. Based on the criterion suggested, the average anxiety score within standard deviation of the mean,  $M \pm SD$  represents mild anxiety level. An individual having average anxiety score of  $\geq$  one standard deviation but  $\leq$  two standard deviations from the mean, i.e., between  $M - 2SD$  and  $M - SD$  has low anxiety level. Conversely, an individual has moderate anxiety if his anxiety scores fall within  $M + SD$  and  $M + 2SD$ . The average anxiety score below  $M - 2SD$  indicate the prevalence of no anxiety. The average anxiety score above  $M + 2SD$  reflects severe anxiety level. This criterion was used to determine the level of ISA amongst respondents, as given below:

**Table 2. Level of information seeking**

| Level            | Round scores | N  | %     |
|------------------|--------------|----|-------|
| No anxiety       | Below 91     | 3  | 02.78 |
| Low anxiety      | 91-113       | 12 | 11.11 |
| Mild anxiety     | 114-157      | 75 | 69.44 |
| Moderate anxiety | 158-179      | 16 | 14.81 |
| Severe anxiety   | 179+         | 2  | 01.86 |

Table 2 indicates that majority of the students (69.44 %) had mild level of ISA, followed by 14.81 % participants having moderate anxiety. A total of 11.11 % students experienced low level of ISA and 02.78 % had no anxiety. Two participants experienced severe anxiety.

#### 4.3 Gender Based ISA

Table 3 shows the gender-based difference in ISA amongst students of both master's and doctorate degree programmes. The mean value of total six barriers associated with ISA was 135.55 for males and 134.49 for females having standard deviation of 22.254 and 22.195 for male and female genders, respectively. The difference in ISA associated with 'Computer and the Internet' amongst males and females was found to be significant at .05 ( $t= 2,426$ ), females being less anxious. Based on gender of students, no significance was observed in other five components of ISAS.

#### 4.4 Education Level Based ISA

Ph.D. scholars have higher mean anxiety than masters' students as they have to seek extensive information in the broader sphere of topic of their research, whereas masters'

programme(s) have only thesis work as a component of the academic programme (Table 4). Both groups of students have almost an equal level of ISA, as no significant difference was observed between both the groups statistically. On the other hand, masters' students have comparatively higher level of ISA with respect to 'Library' component, significant at .05 ( $t= 2.607$ ). The ISA related to both these components reflects that Ph.D. scholars seek information for research work from information resources beyond library.

All students, irrespective of the level of education use computer and the Internet for accessing information online and the millennial students are usually well versed with these technologies. Hence, they are less ought to be anxious in using computers and the Internet. The Internet has made access to information very easy. The different portals provide various search options usually permitting the use of Boolean Operators for retrieving relevant results. These robust features of databases/ portals reduces the stress level of students while searching information. 'Technical Barriers' comprises of statements primarily related to barriers associated with use of computers. As the young generation is tech savvy and frequent users of information technology gadgets, this may influence their level of anxiety associated with the 'Computer and the Internet' component. Students seek guidance of advisor(s) while choosing topic for research, which may ease up their stress level resulting into mild/low level of ISA.

#### 4.5 Locale Based ISA

The results of *t*-test on six factors in creating anxiety based on locale of respondents indicate no significant difference in ISA amongst students of rural and urban background (Table 5). Admission to agricultural education programmes is based on competitive grounds and students are from non-medical/medical background at school level. At undergraduate level, they go through 4 years college/university level education. Thus, background of the students is less likely to influence their information seeking behaviour after meticulous study programmes at school and graduation level.

#### 4.6 Correlation Between Different Components of ISA

The mean scores for 'Information Resources' and 'Library' component of ISAS were higher than the average scores for other factors, reflecting prevalence of anxiety amongst students of agricultural sciences associated with these two factors (Table 6).

The correlation coefficient of different components of ISAS and age of respondents is as follows:

It can be observed from Table 7 that the age of respondents and different components of the ISAS are interrelated. In other words, the level of anxiety pertaining to one component influences the anxiety for other components. The age of respondents is significantly but negatively related to anxiety for 'Library' (-.246) and 'Topic Identification' (-.190) at .05 significance level. Age of students has negative but non-significant relation with their overall ISA. Anxiety pertaining to 'Information Resources' is directly

**Table 3. Gender-based ISA amongst students**

| Barriers associated with            | Strata | N  | Mean   | S.D.   | Std. error mean | T- value | Significance |
|-------------------------------------|--------|----|--------|--------|-----------------|----------|--------------|
| Component 1                         | Boys   | 55 | 45.18  | 7.763  | 1.047           | .670     | NS           |
|                                     | Girls  | 53 | 46.28  | 9.235  | 1.269           |          |              |
| Component 2                         | Boys   | 55 | 15.13  | 3.372  | .455            | 2.426*   | Sig at .05   |
|                                     | Girls  | 53 | 13.55  | 3.394  | .466            |          |              |
| Component 3                         | Boys   | 55 | 29.27  | 6.329  | .853            | .402     | NS           |
|                                     | Girls  | 53 | 28.74  | 7.489  | 1.029           |          |              |
| Component 4                         | Boys   | 55 | 14.02  | 3.424  | .462            | 1.907    | NS           |
|                                     | Girls  | 53 | 12.75  | 3.458  | .475            |          |              |
| Component 5                         | Boys   | 55 | 17.96  | 4.136  | .558            | 1.195    | NS           |
|                                     | Girls  | 53 | 18.87  | 3.726  | .512            |          |              |
| Component 6                         | Male   | 55 | 13.98  | 3.124  | .421            | .536     | NS           |
|                                     | Boys   | 53 | 14.30  | 3.080  | .423            |          |              |
| Information seeking anxiety (total) | Boys   | 55 | 135.55 | 22.254 | 3.001           | .247     | NS           |
|                                     | Girls  | 53 | 134.49 | 22.195 | 3.049           |          |              |

**Table 4. Education level-based ISA**

| Barriers associated with            | Strata         | N  | Mean   | S.D.   | Std. error mean | T- value | Sign. level |
|-------------------------------------|----------------|----|--------|--------|-----------------|----------|-------------|
| Component 1                         | Masters        | 85 | 45.48  | 8.635  | .937            | -.584    | NS          |
|                                     | Ph.D. scholars | 23 | 46.61  | 8.078  | 1.684           |          |             |
| Component 2                         | Masters        | 85 | 14.46  | 3.692  | .400            | .776     | NS          |
|                                     | Ph.D. scholars | 23 | 13.96  | 2.440  | .509            |          |             |
| Component 3                         | Masters        | 85 | 29.74  | 7.153  | .776            | 2.607*   | Sig at .05  |
|                                     | Ph.D. scholars | 23 | 26.30  | 5.112  | 1.066           |          |             |
| Component 4                         | Masters        | 85 | 13.53  | 3.500  | .380            | .758     | NS          |
|                                     | Ph.D. scholars | 23 | 12.91  | 3.450  | .719            |          |             |
| Component 5                         | Masters        | 85 | 18.36  | 4.177  | .453            | .258     | NS          |
|                                     | Ph.D. scholars | 23 | 18.57  | 3.028  | .631            |          |             |
| Component 6                         | Masters        | 85 | 14.24  | 3.127  | .339            | .636     | NS          |
|                                     | Ph.D. scholars | 23 | 13.78  | 2.999  | .625            |          |             |
| Information seeking anxiety (total) | Masters        | 85 | 135.81 | 22.996 | 2.494           | .794     | NS          |
|                                     | Ph.D. scholars | 23 | 132.13 | 18.738 | 3.907           |          |             |

related to anxiety towards 'Library' (.436), 'Searching for Information' (.540), 'Technical Barriers' (.613) and 'Topic Identification' (.583), with correlation a significant correlation at 0.01 level of significance (.822) with overall anxiety components. 'Computer and the Internet' has correlation with all other components of ISAS except 'Information Resources' with overall correlation .583 at 0.01 level of significance. 'Library', 'Searching for Information', 'Technical Barriers' and 'Topic Identification' have significant correlation with the overall ISA amongst students at significance level 0.01 (.764, .768, .707 and .773, respectively).

## 5. DISCUSSION

The study was conducted with the aim to find out the level of ISA amongst postgraduate students and the relation between various factors creating anxiety. Descriptive survey method based on Likert's five-point scale was used to collect the data. The data was analysed

using mean values, t-test and correlation coefficient. The results of study reveal that the majority of the participants (69.44 %) experienced mild level of anxiety and 14.11 % had moderate level of anxiety while seeking information. Even two students experienced severe anxiety level. These findings are supportive to the research results of Erfanmanesh<sup>22</sup>, *et al.*, reporting ISA as a prevalent phenomenon, with a large majority of the postgraduate students in Malaysia experiencing various levels of ISA. This finding is of paramount importance and may have bearing on the academic attainments and information seeking self-efficacy of stakeholders, as inability to access right information owing to anxiety may affect the academic and research performance of students adversely. This reflects the need for a well-planned and pragmatic information literacy programme for honing up the skills of students to enable them to hunt for right information timely as and when required. The coordination between Library and Information Science Professionals and postgraduate

**Table 5. Locale based ISA**

| Barriers                    | Strata | N  | Mean   | S.D    | Std. error mean | T- value | Significance of difference |
|-----------------------------|--------|----|--------|--------|-----------------|----------|----------------------------|
| Information resources       | Rural  | 53 | 45.64  | 8.830  | 1.213           | .096     | NS                         |
|                             | Urban  | 55 | 45.80  | 8.240  | 1.111           |          | NS                         |
| Computer and the internet   | Rural  | 53 | 14.77  | 3.490  | .479            | 1.246    | NS                         |
|                             | Urban  | 55 | 13.95  | 3.412  | .460            |          | NS                         |
| Library                     | Rural  | 53 | 29.02  | 6.672  | .917            | .014     | NS                         |
|                             | Urban  | 55 | 29.00  | 7.165  | .966            |          | NS                         |
| Searching for information   | Rural  | 53 | 13.77  | 3.614  | .496            | 1.099    | NS                         |
|                             | Urban  | 55 | 13.04  | 3.344  | .451            |          | NS                         |
| Technical barriers          | Rural  | 53 | 18.51  | 4.445  | .611            | .261     | NS                         |
|                             | Urban  | 55 | 18.31  | 3.442  | .464            |          | NS                         |
| Topic identification        | Rural  | 53 | 14.09  | 3.212  | .441            | .146     | NS                         |
|                             | Urban  | 55 | 14.18  | 3.001  | .405            |          | NS                         |
| Information seeking anxiety | Rural  | 53 | 135.81 | 23.023 | 3.163           | .359     | NS                         |
| (Total)                     | Urban  | 55 | 134.27 | 21.413 | 2.887           |          | NS                         |

**Table 6. Descriptive statistics**

|                           | Mean   | Std. deviation | N   |
|---------------------------|--------|----------------|-----|
| Age                       | 24.57  | 2.930          | 108 |
| Information resources     | 45.72  | 8.495          | 108 |
| Computer and the internet | 14.35  | 3.460          | 108 |
| Library                   | 29.01  | 6.895          | 108 |
| Searching for information | 13.40  | 3.483          | 108 |
| Technical barriers        | 18.41  | 3.948          | 108 |
| Topic identification      | 14.14  | 3.092          | 108 |
| Total                     | 135.03 | 22.127         | 108 |

students needs to be emphasised for effectiveness of such programmes. Due to a wide range of online resources and databases, the readers quickly search information they need. However, unlimited search hits confuse the users about which information they need to search for and how they have to use it. The widespread information is not easy to handle and access. “Viewing and producing blogs, videos, tweets and other units of information called memes has become so cheap and easy that the information marketplace is inundated”<sup>28</sup>. Information overload may also cause ISA, as “Most of the time students do lots of search and save the files in their computers, while they do not know what to do with the collected materials at the end of their search”<sup>29</sup>.

The gender-based difference in ISA associated with ‘Computer and the Internet’ was found to be significant at .05 ( $t= 2,426$ ), females being less anxious. This supports the findings of Erfanmanesh<sup>22</sup>, *et al.* and Abusin and

**Table 7. Correlation between components of ISAS and age of respondents**

| Variables                 | Age    | Information resources | Computer and the internet | Library | Searching for information | Technical barriers | Topic identification | Total  |
|---------------------------|--------|-----------------------|---------------------------|---------|---------------------------|--------------------|----------------------|--------|
| Age                       | 1      | -.031                 | -.138                     | -.246*  | -.144                     | -.120              | -.190*               | -.181  |
| Information resources     | -.031  | 1                     | .172                      | .436**  | .540**                    | .613**             | .583**               | .822** |
| Computer and the Internet | -.138  | .172                  | 1                         | .471**  | .604**                    | .296**             | .469**               | .583** |
| Library                   | -.246* | .436**                | .471**                    | 1       | .487**                    | .365**             | .500**               | .764** |
| Searching for information | -.144  | .540**                | .604**                    | .487**  | 1                         | .414**             | .591**               | .768** |
| Technical barriers        | -.120  | .613**                | .296**                    | .365**  | .414**                    | 1                  | .489**               | .707** |
| Topic identification      | -.190* | .583**                | .469**                    | .500**  | .591**                    | .489**             | 1                    | .773** |
| Total                     | -.181  | .822**                | .583**                    | .764**  | .768**                    | .707**             | .773**               | 1      |

\*, \*\* Significant @ 0.05 and 0.01 level, respectively (2-tailed)

Zainab<sup>30</sup> who found gender to have impact on ISA. The masters' students have comparatively higher level of ISA with respect to 'Library' component, significant at .05 ( $t=2.607$ ), depicting that level of knowledge and experience to handle research work impacts ISA. Location of the students did not influence their ISA. The age of respondents was found to be significantly but negatively related to anxiety for 'Library' and 'Topic Identification', the young students being less anxious with these components. The different components of the ISAS were found to be interrelated, as the components are interlinked and one affects the anxiety level for other. Since, all the factors of ISA are linked and create low to moderate level of anxiety amongst majority of students, the professionals and educationists need to draw attention on various facets to curb it, as given below:

- Reforming the curriculum by including advanced information literacy skill programmes in Library and Information Services course, mandatory for all postgraduate students of agricultural sciences.
- Organising the skill development programmes for library staff so that they may guide and help the anxious students.
- Availability of staff on all required points so that the students may easily and quickly ask them to assist in information evaluation and retrieval.
- Analysing the importance and usage of available resources and strengthening the collection with addition of more relevant resources for the students.
- Finding out the ways for collaboration with other institutes for free flow of resource sharing.
- Appointing dedicated Information Liaison Officers to pool relevant resources for the students to release their anxiety level
- Regular students' feedback on library resources and user surveys on their requirements may help to cope up with the anxiety issues of the students.

## 6. CONCLUSION

The comprehensive courses and applied research work require the students of agricultural sciences to surf through vast sea of information and hunt for right information to support their pursuits. In the pressing academic ecosystem students encounter anxiety while seeking information. This entails the student centric information literacy programmes to equip them with capabilities to realise the need for information, analyse and retrieve relevant information for using it for academic and research endeavours. Consequently, information-empowered students would be able to perform better in academics and will produce high-quality research to uplift the agricultural sector. Library and Information Science Professionals have a pivotal role to play in execution of such programmes. The scope of this study is confined to postgraduate students of Punjab Agricultural University, Ludhiana only. An exhaustive study encompassing various agricultural universities will provide a broader picture at national/regional level on the subject.

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